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Ten-Year Urban Forestry Action Plan

Executive Summary of Preliminary Key Issues for the Draft Action Plan

Work on America's next Ten-Year Urban Forestry Action Plan began in April 2014 by a collaborative Project Team of facilitators, researchers, and economists with guidance by a national Strategic Advisory Team. Required by federal legislation, the next national Ten-Year Urban Forestry Action Plan, which will cover 2016-2026, is intended to guide the work of the National Urban and Community Forestry Advisory Council (NUCFAC) in its development of grant categories for the Forest Service's National Urban and Community Forestry Challenge Cost Share Grant Program and advisory role, as well as the broader urban and community forestry community of practice at all levels of work for the coming decade. The following is a synthesis of key issues facing urban and community forestry in the next ten years, based on research and in-depth interviews conducted with 26 key thought leaders during the summer of 2014 by the Project Team. These key issues will be vetted and prioritized through community engagement to inform the Draft Ten-Year Urban Forestry Action Plan in early 2015, and are not yet presented in any particular priority order. The full Key Issues Report, available at www.urbanforestplan.org, contains ideas for action for each key issue.

Key Issue #1: Building Human Health and Welfare through Urban and Community Forestry

The next decade brings both an important opportunity and need for actively improving human health and welfare through urban and community forestry.

Key Issue #2: Expanding Utilization of Technology

The explosion of technologies in the last decade is expected to continue, and will facilitate important opportunities to improve urban forest development, maintenance, and health, as well as increase multiple modes of community engagement with their forests.

Key Issue #3: Enhancing Collaboration and Communication in the Field: Build on Existing Work and Partnerships

Increasing collaboration with allied professions, and the community at large, is both an opportunity and significant need in the coming decade.

Key Issue #4: Making Urban Forestry a Central Element of Community Planning at the Regional Scale

For the full range of human and environmental benefits of urban forests to be realized, cities need to be planned with trees and urban forests as a core feature of community infrastructure, instead of as an afterthought.

Key Issue #5: Increasing Urban Forest Health, Biodiversity and Resilience

Increasing urban forest health, biodiversity and resilience is a key need. Challenges of climate change (including pests and invasive species) will offer both key challenges and opportunities.

Key Issue #6: Expanding and Targeting Urban and Community Forestry Research

Research needs for the coming decade are to validate and replicate key studies; identify value-added research; and make the science accessible and relevant to leaders and educators.

Key Issue #7: Building Effective Leadership to Champion Urban and Community Forestry

Vocal and visible champions need to be developed in the next decade, to bring attention to the ability of urban forests to offer cost-effective solutions to critical community issues.

Key Issue #8: Increasing Funding for Urban and Community Forestry

As we enter the “age of the city,” funding needs to keep pace with the growth of urban forests, particularly as they are core infrastructure for sustainable and resilient communities.

Key Issue #9: Expanding Public Awareness, Education and Environmental Literacy

Urban forests are key infrastructure at the regional, municipal, neighborhood, and home scale across America, and public education is needed to align public perception with reality.

Key Issue #10: Improving Urban and Community Forestry Management and Maintenance

Maintenance is a core essential need for ensuring that urban forests deliver their full benefits, and forest design and maintenance should reflect regional soil and environmental conditions.

Key Issue #11: Enhancing Stewardship of Both Trees and Their Urban and Community Forests

As urban forests are growing, stewardship in future decades will not be possible without community engagement and support, including development of stewardship programs.

Key Issue #12: Building Professionalism and Broader Access to the Field

The demand for trained urban forestry professionals has outpaced the supply, so there is a need for more professional training programs along with increased access to the profession.

Key Issue #13: Increasing Diversity for Social Justice and Inclusivity

To successfully address all of the other key issues, there is an urgent need to increase diversity within the urban forestry profession as well in citizen leadership and engagement.

Key Issue #14: Fostering Federal Agency Collaboration and Program Improvement

As urban forestry is a core solution to so many emerging community challenges, its placement in the federal structure needs to be shifted to a more central and visible role, and collaboration with other federal agencies is urgently needed to leverage program goals and scarce resources for mutual gain.

SPEAK UP!

You can influence the next Ten-Year Action Plan. If you have experience in urban and community forestry or a related field, please participate in our ongoing community engagement at the project website. Additional information and the full Key Issues Report are available as well.

www.urbanforestplan.org

I. Introduction and Background for Ten-Year Urban Forestry Action Plan

Federal legislation¹ requires that an Action Plan for America's urban and community forests be developed every ten years. The next national Ten-Year Urban Forestry Action Plan, which will cover 2016-2026, is intended to guide the work of the National Urban and Community Forestry Advisory Council (NUCFAC) in its development of grant categories for the Forest Service's National Urban and Community Forestry Challenge Cost Share Grant Program and advisory role. The Ten-Year Urban Forestry Action Plan also serves as a guide for the urban and community forestry (UCF) community of practice at all levels of work, from grassroots nonprofits to academic researchers, private practitioners and local and state governments.

A core Project Team was assembled under the leadership of American Forests Foundation (AFF) in April 2014, with the University of Virginia's Institute for Environmental Negotiation (IEN) serving as the project leader, and including other team members from Dialogue + Design Associates, University of Maryland Center for Economic Finance, University of Washington, and UVa McIntire School of Commerce. A national level Strategic Advisory Team was also convened to help provide guidance and direction to the action planning process. A listing of Project and Advisory Team members may be found in *Appendix C*.

The development of the next Ten-Year Urban Forestry Action Plan is considered a significant opportunity to step back to look at the big picture. What has been happening with our nation's urban and community forests over the past ten years, what have we learned, where have we made progress, and what are emerging needs? It is also considered a significant opportunity to engage the UCF community of practice, to learn from people working at all levels and to elicit their needs, insights, visions and hopes for the next ten years.

This report presents preliminary findings from the first phase of work conducted in the summer of 2014, and will serve as the basis for further comprehensive community engagement, outreach and prioritization for the development of the next Ten-Year Action Plan. During the summer, the IEN team reviewed more than 70 key UCF documents gathered, including the 2010 Vibrant Cities Report and the 2010 Federal analysis of the 50 state Forest Resource Assessments, entitled "Urban and Community Forest Related Content in 2010 Statewide Forest Resource Assessments." In a second path of research, the team also scanned available resources (documents, websites, tools, etc.), which were identified through outreach to the NUCFAC board members, state UCF coordinators, and other leaders. In a third path of research, the team conducted a series of personal interviews with 26 key thought leaders who represented diverse sectors, regions and interests. These interviews proved to be the most

¹ Congress passed legislation for Cooperative Forestry Program of the State and Private Forestry (S&PF) mission area of the Forest Service, U.S. Department of Agriculture, as amended through 2008. One of the laws included is the Urban and Community Forestry Assistance.

productive and useful line of inquiry, as they offered nuanced and diverse insights and a rich trove of ideas for the Action Plan, and they form the foundation of this Key Issues Report.

As a whole, there is much hope for the future in the field of urban and community forestry. The thought leaders who were interviewed expressed a wide range of ideas, fears, excitement, challenges, possibilities for collaboration, and hopes that urban and community forestry will be a strong pillar for healthy, strong, and vibrant futures in communities across America.

The 26 key thought leaders who were interviewed were all asked the same set of questions, which prompted them to share ideas and feedback about the most significant areas of progress that UCF has made in the last decade; the top opportunities, challenges, gaps and needs facing UCF in the next ten years; hopes for the next Ten-Year Urban Forestry Action Plan; ideas for how to engage underserved communities and others; and specific action ideas for the next Action Plan. (*See Appendix A for the list of thought leaders and questions.*) A synthesis of these interviews, combined with ideas gleaned from the broader assessment, has led to the preliminary identification of 14 key issues that UCF will face in the next ten years. These are summarized in the Executive Summary. A more detailed summary of top opportunities and challenges for each key issue, ideas for possible action, as well as other preliminary findings from the UCF assessment and more detailed information may be found in Section IV of this report. Finally, *Appendix B* contains weblinks to key programs and resources that were discussed by thought leaders during the interviews.

Please note that the key issues are not presented here in any particular priority order. The Project Team will both ground-truth and prioritize these key issues through a digital engagement with the UCF community of practice and stakeholders in Fall 2014 and in early 2015. If you would like to contribute to this planning effort by participating in the digital stakeholder engagement, please contact the Project Team or see more information at www.urbanforestplan.org (*see Appendix C for contact information*).

II. Progress in Urban and Community Forestry during the 2005-2015 Action Plan

In the last ten years, since 2005, urban and community forestry has grown from an infant profession that often needed to justify its place at the table to a young adult that is often, but still not always, invited to the community planning table—though many thought leaders noted that UCF should have a seat at the head of the table. Urban population centers are growing, with 83% of Americans now living in cities. Urban forests in the United States are estimated at 138 million acres, and are expected to continue to grow. To put this in perspective, urban forests are approaching the size of our national forests, which encompass 177 million acres. But in some ways, urban forests could be said to exert a far more profound influence on American health and welfare because their circle of influence is both extensive (through impacting four-fifths of our nation’s population) and intensive (through repeated exposure on a daily basis). Thought leaders expressed a range of ideas about the areas of the most significant progress in the UCF field in the past decade, primarily around the following ideas.

Public Awareness

The maturation of urban forestry is evident at all levels in a community. Most thought leaders felt that over the past ten years the public has gained significant awareness of the trees in their environment and the benefits they provide. One thought leader pointed to climate change as one contributing factor for this increasing public awareness about urban forests. Many others noted that there is significant need to expand public awareness in the next decade with a national leader and a unified field moving ahead, particularly around the threats from climate change and a continued net loss of urban tree canopy in America.

Community Planning

An additional area of progress in the field is around collaboration in planning – community planners and decision-makers now frequently discuss the nature, extent, role and maintenance of their tree canopy and urban forests, whereas ten years ago most did not see the need or relevance. This heightened awareness among planners has also led to greater awareness and interest in urban forests among decision-makers such as mayors and policy makers, who are responding to pressures to develop sustainability plans. Evidence of the increasing attention to the role of urban forests are the thousands of communities that did not have tree ordinances ten years ago but now do.² Additionally, evidence that concern for community trees is that demand for tree work has reached an all-time high.

Paradigm Shift

Another area of significance is that the paradigm for understanding urban forests has matured from a focus on tree selection and placement to a broader focus on forest and ecosystem management. The latest step in this progression, some suggest, is the emerging understanding of cities as urban ecosystems in which urban forests are assuming a central role as the first point of defense for urban human and environmental health. Additionally, there has been a significant shift in the increased understanding for the need for highly functioning, connected urban forests and functional, interconnect urban ecosystems. Moreover, broader considerations such as the psycho-social, health, and resilience benefits of trees are being strongly considered when looking at the value of urban forests through the lens of ecosystems services, beyond solely the environmental health services of urban forests. Many noted that considering the potential benefits of trees, especially around psycho-social and health benefits, will catapult the field ahead in the coming decade.

Collaborative Partnerships

In the past ten years the number of collaborative partnerships between nongovernmental organizations (NGOs) working in urban forestry and a wide range community partners has greatly increased, according to interviewed thought leaders. Because of these partnerships, urban forestry has created linkages to a variety of public services and urban stewardship

² Over 3,400 communities are currently a Tree City USA, for which having a tree ordinance is a key requirement. <http://www.arboday.org/programs/treeCityUSA/about.cfm>

causes, which was not widely evident ten years ago. Thought leaders noted that there are many opportunities to build on the existing network of partnerships in the next decade. Thought leaders also noted that the creation or expansion of umbrella organizations, such as Sustainable Urban Forest Coalition (SUFC), the Alliance for Communities Trees, and Arbor Day Foundation, has been and will be very important, particularly for increasing communication and collaboration in the field.

Professionalism

Over the past ten years urban forestry has come into its own as a recognized profession. Universities and schools of forestry offer more programs in urban forestry than before, and more young foresters are aware of career opportunities in urban forestry. Arboriculture, a specialized field within urban forestry, has also made significant strides in safety equipment and standards of practice. Improvements in tree planting technologies involving soils, species selection, infrastructure, have helped tree planting initiatives be more successful. Thought leaders observed that the field of urban forestry has broadened its tent to include more disciplines such as stormwater management, urban and environmental planning, and potential threats from climate change, thereby strengthening the knowledge base. One thought leader suggested that the field has made advancements by using webinars and professional training such as the week-long Municipal Forestry Institute training and the Tree Board University. Lastly, interviewees noted some gains have been made in professional diversity, with more people of color in the profession thanks to different university scholarships and programs like that offered by Southern University. However, all seemed to agree that there is still a long way to go in this arena.

Research

The primary advancement in research in the past ten years cited by thought leaders was in the arena of social science research, particularly research on the public health, mental/psychological, and other social benefits of trees. Research by Ming Kuo, Bill Sullivan and Kathy Wolf were frequently cited as pioneering and groundbreaking contributions. Thought leaders felt this kind of research has helped communicate the benefits of trees to both the public and policy makers, and is more powerful than research on just the biophysical benefits of trees alone. Thought leaders noted several opportunities for collaboration and advancement around specific research needs, as well as ideas to build on the existing body of research in UCF in the coming decade.

Technology, Tools and Resources

Perhaps most importantly, the tools, resources, programs and activities to support this growing field have literally exploded in the last decade. These resources have allowed for a more integrated understanding of the urban forest, as well as the opportunities and challenges facing UCF. Many thought leaders noted the progress made with new valuable tools and technology. In particular, most interviewees highlighted the importance of the i-Tree tools suite, the Stew-Map, and Urban Forest Canopy assessment. These tools are readily available to communities and have made the biggest difference in enabling communities to communicate the benefits of trees, to survey the current status of their urban forest canopies, and to identify possible

locations for increasing urban tree canopy cover in specific locations. Additionally, many technology advancements have drastically reduced costs of local data gathering on urban forests and have helped communities prepare for threats such as the Emerald Ash Borer as it moves west.

Grant Funding

Many thought leaders suggested the NUCFAC grant program has been helpful for strategically supporting innovation and addressing real needs in urban forestry. However, there were mixed feelings about NUCFAC's cost-share grant program. Some felt that the grant program has greatly improved in the last four to five years by placing an emphasis on strategic priorities. However, others noted that the grant process is cumbersome and doesn't sufficiently help build the capacity of fledgling initiatives or urban forestry maintenance programs. Others noted and applauded the recent effort by NUCFAC to support grants for communities that haven't been previously reached. However at least one thought leader felt that NUCFAC has lost the ability to fund new and innovative ideas and is now only funding green infrastructure. Outside of NUCFAC, another change in the last ten years is that private foundations have increased their funding for urban forestry. Virtually all interviewees noted that funding is not keeping pace with either the physical growth of our urban forests or the rising importance of urban forests as a core tool for improving urban health. One example given by several interviewees is that, without funding for maintenance, urban forests may limp along and fail to provide needed community benefits in air quality, water management, or human health. Thought leaders noted the need to look to new funding sources for UCF, to look to public/ private partnerships for new opportunities, as well as making connections around the benefits and needs of UCF with non-traditional sources of UF funding.

III. Overarching UCF Themes and Challenges In the Next Ten Years

A number of overarching UCF themes emerged from early discussions with the Project Team, the Advisory Team, and key thought leaders. These themes help inform and frame the key issues, revealing the complexity of the challenges that lie ahead in the coming decade. Some of these themes reflect global trends and needs that will influence the field in the coming decade, and some reflect emerging values within the field. Many of these could be considered issues in their own right, requiring their own set of actions. However, in an effort to make the next Action Plan as useful as possible to the UCF community of practice, a decision was made to focus on the key issues that are specific to urban and community forestry, while recognizing these themes as a cross-cutting and overarching framework. (Also note that some thought leaders suggested the Vibrant Cities Task Force 12 suggestions, which may be found in *Appendix B* as core suggestions for the next Ten-Year Urban Forestry Action Plan.)

- Community health and resilience (obesity, diabetes, etc.)
- Recreation opportunities accessible to all community members
- Environmental education and literacy (e.g., preventing nature deficit disorder)
- Climate variability and change (including threats such as new pests, diseases, increased storms, increased urban heat island effect, changing plant adaptation capacity, drought, etc.)
- Natural disasters (prevention and crisis management)
- Invasive species, especially insects
- Social and environmental justice
- Water (e.g., shortages, stormwater management, and water quality)
- Impacts of development
- Continued net loss of urban tree canopy in the United States
- Green infrastructure
- Natural capital / ecosystem services (public health, economic)
- Multi-functional urban forests (e.g., urban orchards, edible forests, agroforestry, permaculture)
- Professionalization of UCF/ Building expert urban forestry capacity within the field
- Urban Forest Health (e.g. “Asset management” approaches)
- Community education
- Connected with underserved community members
- Funding to keep pace with role and growth of UCF
- UCF as a tool for community solutions
- Growth of “big data” – large data sets that can be utilized for multiple purposes for community and regional UCF planning
- Social benefits/ services
- Incentives for UCF
- Collective Impact

IV. Key Issues: A Look At Opportunities, Challenges, Gaps And Ideas For Action In The Next Decade

Below, the key issues that emerged from our discussions with 26 thought leaders and other assessment research are explored more fully. Each issue reflects a variety of opportunities, challenges, gaps, needs as well as potential actions suggested by thought leaders. These ideas are seen as a beginning platform for building the next Ten-Year Urban Forestry Action Plan for NUCFAC and the UCF community of practice. Again, please note that the key issues are not presented here in any particular priority order and they will continue to be refined and change with input from NUCFAC and the community of practice.

Key Issue #1: Building Human Health and Welfare through Urban and Community Forestry

The opportunities for building human health and welfare through urban and community forestry are numerous. Interviewees noted that this is an area that is likely to grow significantly in the coming decade through increased awareness and understanding of human health and welfare benefits from UCF, and thus an increased demand for them. Thought leaders noted the need for expanded research around opportunities in human health and welfare as this has been a largely untapped area thus far, and to make stronger connections between the health care field and urban and community forestry. Research is needed to support this emerging area of collaboration in the coming decade as well.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Create a national campaign related to trees and health.
- Connect to the health community through a message from Surgeon General, as well as other health care professionals, about the promise and potential of UCF to improve health outcomes.
- Promote UCF as a means to enhance public health, decrease the urban heat island effect, reduce energy consumption and decrease carbon production.
- Plant large shade trees in areas most needed for increasing urban health, using technology, community needs and ground-truthing to determine locations.
- Find ways to partner with the health care community around the benefits of UCF and linking them to preventative care, and potential incentives for health connected to UCF.
- Expand opportunities for collaboration with the health community, and the need to create more collaboration with people working on public health and human well-being as it relates to the natural world.

Key Issue #2: Expanding Utilization of Technology

Increased use of technology was cited by many thought leaders as the primary area of progress in urban and community forestry in the last decade. However, technology is also an area ripe for continuing important progress in the next ten years. We may not be able to foresee the emerging technologies in the coming decade, but we do know that new technologies will emerge to significantly improve urban forest development, maintenance, and health. Also, given the explosion of tools that enable greater public engagement through social media and smart phones apps, it is likely that new technologies will emerge to enable greater public interest in and stewardship of urban forests. Many thought leaders noted that development of tools that enable identification of ideal urban forest placement for both forest and human health is a strong need for building public awareness.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Expand the utilization of the three UCF primary tools – the i-Tree tools suite³, the Stewardship Mapping and Assessment Project (STEW-MAP)⁴, and Urban Tree Canopy Assessment⁵ – developed in the last ten years for communities, agencies and organizations – have built significant capacity to analyze and quantify numerous aspects of our urban forests. In the next ten years, the hope is that tools like these will be used to assist better placement of urban forests to maximize their functions and benefits at the neighborhood, city and regional scale.
- Develop more technologies to address pests and other climate change threats; share best practices among communities and researchers nationally.
- Translate the data collected by communities in Urban Tree Canopy Assessments (UTC) into actions, so that they will be implemented, monitored, and outcomes measured.
- i-Tree data collected during assessments needs to be available to UCF managers, stewards and planners for continued and expanded planning and monitoring.
- Encourage more communities to conduct urban tree canopy assessments, and support the development of consistent methods for urban tree canopy assessments.
- Connect the i-Tree suite of tools to schools, particularly at the middle and high school level, to enable youth to conduct actual assessments in localities and to foster partnerships between schools, municipalities and NGOs.
- Establish a single platform to enable broad access to these technology tools. One possibility might be to use the “EcoPiazza” UF communication website that Ed Macie and others of the USDA Forest Service is developing.

³ The i-Tree tools suite: www.itreetools.org

⁴ The Stewardship Mapping and Assessment Project: www.nrs.fs.fed.us/nyc/focus/stewardship_mapping/

⁵ Urban Tree Canopy (UTC) Assessment tool: www.nrs.fs.fed.us/urban/utc/

- Develop tools that can use “big data” (large data sets such as UTC canopy data sets for an entire city) for improving the ability to manage complex urban ecosystems. For example, Milwaukee is utilizing aerial photography to identify ash trees across the city, ground-truthing the location of those trees, and developing treatment strategies to address the threat of Emerald Ash Borer at the city-scale.

Key Issue #3: Enhancing Collaboration and Communication in the Field: Build on Existing Work and Partnerships

Increasing collaboration in the field, from both allied fields and those in related but currently non-engaged fields, was noted as a significant opportunity and gap. Urban and community forests influence and impact virtually every aspect of community life, from human health and safety to carbon sequestration, air filtration and stormwater management. As a result, there is a very strong need for increased dialogue and collaboration with allied professionals such as landscape architects, city planners, architects, engineers, public works officials, and other design professionals and their professional organizations. Similarly, improving dialogue and collaboration with the community at large is equally important, using networks and groups that include nonprofit organizations, churches, schools, and community groups. Thought leaders noted that collaboration and dialogue are needed both for a host of purposes: raising public awareness; strengthening the cohesiveness of the UCF field; developing a shared agenda for working on UCF challenges and building opportunities together; increasing urban forests on the ground; increasing the capacity for maintenance and care of UCF; and also increasing the demand for and knowledge about UCF across the country. Building on existing work within the field, especially the efforts of the Vibrant Cities Task Force, was discussed by many as both an opportunity and need moving forward. Additionally, interviewees noted that the Vibrant Cities report could serve as a strong base for the future Ten-Year Urban Forestry Action Plan. NUCFAC has done valuable and positive work to advance UCF nationally, and there is an opportunity for an increased role for NUCFAC as a leader in the field in coming decade.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Build on existing work within the field, especially the efforts of the Vibrant Cities Task Force. Support more joint, collaborative initiatives and processes like Vibrant Cities, which bring together people from different fields. The Vibrant Cities Report contains key ideas to combat threats from climate change and to build resiliency, but needs sustained funding and support. Preliminary funding estimates to make it a reality range from \$100 to \$300 million.
- Work through existing umbrella organizations, such as the Sustainable Urban Forests Coalition (SUFC), to reach out to member organizations to boldly and effectively communicate the top needs, opportunities and actions for the field and the next Ten-Year Urban Forestry Action Plan. Then follow-up, to align the needs of the UCF community with those of allied professionals.

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Nurture current relationships: it is very important to maintain the existing network of partnerships and agencies that already exist within the USDA Forest Service (USFS) structure.
- Actively connect and network with other professions. Develop opportunities to work as interdisciplinary teams at city, state and federal levels to focus on UCF program development, urban forest installation and maintenance.
 - Focus on partnerships and network with related professionals, such as landscape architects, arborists, the health care community, engineers, and mayors. Network and collaborate with all levels of government foresters.
 - Foster a shift in educating related professions (e.g. urban planners) from managing pieces of the urban system to managing urban ecosystems.
 - Go beyond the “usual suspects” and build bridges with other professions that are doing parallel work, such as public health and medicine, as well as groups working on intersecting issues, such as food justice and environmental justice.
 - Creating interdisciplinary teams is both a big opportunity and a challenge, as educational systems do not adequately prepared foresters to effectively work in teams.
 - Foster networking among UCF organizations especially at the local level: too often UCF groups are not aware of what others are doing, competing for limited local resources, and feeling like others are “encroaching on their territory.”
 - Create opportunities for cross-sector learning between the private and public sectors.
 - Create opportunities to learn from and connect with international urban forestry professionals.
 - Host UCF conferences that span silos, reach out to broader audiences, and create opportunities for learning from each other.
 - Expand awareness of UCF groups and organizations working both locally and nationally, and develop joint opportunities for working collaboratively to maximize UCF resources (instead of competing for resources at the local or federal level). Provide means for each organization to retain their organizational autonomy, effective collaboration and shared funding opportunities.
- Improve communication between the community of practice and lay audiences.
- Build the capacity of USFS staff and traditional foresters to connect with urban core issues.

- Provide training and opportunities for USFS staff to increase their capacity to connect more directly with communities of color, low-income communities, and around urban issues. Forestry has traditionally focused more on rural settings, and there are opportunities to build foresters' skills and capacity to engage in urban settings. *(Related to Key Issue 14 as well.)*
- Foster sharing between USFS regions: Create opportunities for USFS regions to share their work with other regions, and encourage adaptation of their work for the broader nation. For example, a training video developed for one region could be equally useful to other regions. *(Related to Key Issue 14 as well.)*
- Disseminate the next Ten-Year Urban Forestry Action Plan to a broad range of professional organizations, such as the American Planning Association (APA), the American Society of Landscape Architects (ASLA), the American Public Works Association (APWA), and others for feedback, goal alignment, and to foster collaboration.

Key Issue #4: Making Urban Forestry a Central Element of Community Planning at the Regional Scale

For the full range of human and environmental benefits of urban forests to be realized, cities need to be planned with trees and urban forests as a core feature of community infrastructure, instead of as an afterthought. Thought leaders suggested that a shift is needed in how trees are understood – from thinking about individual trees to managing urban forests at a regional scale. There is a need to find new ways to manage trees and urban forests as central infrastructure both within municipalities and at the regional level. For example, the urban forestry department in the city of Milwaukee is located within the public works department, and trees are considered any time a decision affects the city's infrastructure. Lastly, to maximize urban forest health and function as well as the ecological and psycho-social benefits of community forests, forests needs to be approached and managed across political boundaries on a larger scale, at the bioregional or watershed scale.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Encourage and train foresters to become part of the decision-making process at the local level. Foresters need to be at the table with the planners, municipal utilities, landscape architects, and developers from the beginning, so that soils and trees are part of the planning process from the beginning.
- Support the development of master plans at the regional scale for urban forests, which include planning for resilience and biodiversity.
- Support inclusion of urban and community forestry as central elements of all community comprehensive or master planning efforts.

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Develop template goals for urban forests and parks to be accessible to all community members.
 - Develop metrics and standards for urban forest access, such as a metric that everyone should be able to access an urban forest within a five minute walk or one-quarter mile.
 - Consider encouraging bioregional or watershed level planning for urban forests through Planning District Commissions, or at a Federal agency planning level, to ensure that urban forests are managed for optimal health.
 - Support development of adequate funding for regional planning and urban forest installation and maintenance.
 - Develop metrics for measuring how well urban forests are being managed for resilience, sustainability, health and safety.
- Through an effective public awareness and education campaign, increase the value placed on trees and urban forests as an integral piece to sustainable infrastructure. Increase UCF visibility in public space planning, infrastructure and private development. Develop design standards for UCF to have a higher priority over development, and focus on no net loss of existing urban and community forested areas.
 - Create measureable means for both urban trees and site preparation (maintenance, preparation, watering and pruning needs) to be an integral part of a city's planning process. Urban and community planning, as well as architect and landscape architect-driven designs need to pay particular attention to designing for urban trees and forests as it is not possible to put them in as afterthoughts.
 - In the development process, foster the expectation that architects should specify urban forests at the outset of a development process so they are not eliminated if budgets are cut. Also, encourage reduction or elimination of impervious surfaces that fragment and threaten urban forests.
 - Expand opportunities for urban foresters to be part of the decision making process at the locality level. There is a strong need for foresters to be at the table with the planners, municipal utilities, landscape architects, and developers at the beginning of decisions affecting community infrastructure, development, and urban trees and forests.
 - Highlight the benefits of contiguous urban forests for wildlife, habitat, feeding grounds, active and passive recreation, and psycho-social benefits of urban forests, especially with regionally-adapted native trees and plants.
 - Encourage use of urban conservation easements as a means to preserve remaining forested lands in urban areas. Casey Trees in Washington D.C. has just started this program.

Key Issue #5: Increasing Urban Forest Health, Biodiversity and Resilience

Increasing urban forest health, biodiversity and resilience is a key need, as all thought leaders noted that stresses on urban forests will only worsen in the next decade. Climate change, including pests and invasive species threats, were cited frequently as both a primary challenge and opportunity for urban forests. Many interviewees detailed the multiple potential threats from climate change including changing weather patterns, increased storm severity, increased heat and drought, changes in plant distribution patterns and plant adaptability. They emphasized that additional science, professional collaboration, and planning to prepare for future decades need to start today. To ensure that urban forests will continue to serve their core functions, thought leaders suggested that another strong need is to enhance urban forest tree biodiversity—especially with regionally appropriate native plants.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Develop metrics for urban tree canopies to catalyze collective impact.⁶
- Develop an “Integrated Command Center” approach for urban ecosystem management, to manage, adapt and protect the UCF to rebuild local economies.
 - Use USFS Fire Scope as a model: it has one standard, one language.
 - Support use of arborists as first responders after storms.
 - Foster or initiate federal inter-agency collaboration for managing urban forests after natural disasters.
- Encourage more use of locally grown, regionally-adapted native species by private homeowners, and public urban forests.
 - Work with nurseries to increase the supply of native species appropriate for urban spaces. For example, large shady trees such as hickory are an ideal urban tree species, but are not frequently available because they are hard to start and slow to grow.
 - Work with nurseries to increase the quality of cloned trees that are more disease and pest resistant.
 - Replant urban forests with insect and pest-resistant trees.
 - Support adoption of ordinances that encourage or require use of appropriate native species. Native street trees are important to create stability and functional food webs for a diverse array of animals, insects, and birds.
 - Support data collection and tracking of canopy loss to invasive species, such as the Emerald Ash Borer.

⁶ See this link for additional information on Collective Impact: <http://www.vee.org/wp-content/uploads/2013/10/collective-impact-basics.pdf>

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Assist communities in developing their own nurseries of native biodiverse trees.
 - This might be accomplished through partnerships with schools, cemeteries, botanic gardens and parks, using simple accessible technology such as hoop houses and bare-root planting. Tree Pittsburgh's program can be used as a model for this.
 - Work with Cooperative Extension to expand its programs to include urban forestry, and to assist in constructing nurseries and hoop houses.
- Build on existing partnerships the permaculture community has developed to build new or expanded UCF programs, especially for multi-functional urban and community forests.
- Reengage all sectors of communities to reforest cities as resilient, vibrant urban ecosystems.
- Support development of region-specific climate change plans, for both short and long-term. The potential consequences of climate change for urban forest health and resilience are significant, and can also vary significantly between regions.
- Plan for regional UCF management and planning; different regions have different urban forest needs for planning for water, soil health, species selection and management regimes and should be taken into account at the city, state and federal levels.
- Support research into urban forest tree species that are most resilient for a number of future climate change scenarios (e.g. drought, heat).
- Support community education to increase UCF accessibility and program implementation.
- Support education about and use of trees for effective stormwater management alternatives as well as wastewater treatment facilities.⁷
- Support education about the important of soil types for ensuring urban tree health.
- Promote the reduction of lawn area in America, which contributes to air, noise, and waterway pollution, and replacing these with trees. Plant half of America's lawns – 20 million acres – in well-planned naturalized areas, to create a "Homegrown National Park."
- Support use of urban forests for increasing community food resilience, by designing and creating urban orchards, edible forests, permaculture and agroforestry in public and private urban settings.
- Create a ranking of all plant genera by region in terms of: 1. Ability to support food webs; 2. Carbon sequestration potential; 3. Pollination capacity; 4. Watershed

⁷ Arcata, California, has an innovative wastewater treatment facility that has a wetland and community forest with education and recreation as core components.

management. This ranking is currently being done for food webs, and could be expanded to forests.⁸

Key Issue #6: Expanding and Targeting Urban and Community Forestry Research

Expanded research was cited as both an area of progress in the last decade and also a strong continuing need in the next ten years. Thought leaders noted three primary needs around science and research: 1) validating and replicating research, 2) creating value-added research – conducting research in areas it is most needed, and 3) science delivery – how to use the science and make it accessible and relevant to leaders in community groups, municipalities, and across sectors and agencies. Areas of urgent research needs were suggested in both technical and human arenas, such as improved soil tree pit design for UCF sustained health, climate change impacts, regionally-adapted biodiverse plant species, and replication and expansion of existing studies about psycho-social impacts on human health and safety. The delivery and accessibility of research continues to be a challenge, so a priority for the next ten years is to develop ways to make research results relevant and accessible to community members and professionals.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Conduct further social research on understanding potential human health benefits, including economic benefits of UCF, in a more comprehensive and sustained manner. Other research needs include:
 - Conduct more core base research into UCF benefits, to answer simple questions such as “what do birds eat?” which are critical yet little understood.
 - Connect UCF design, placement, and management strategies with Best Management Practices identified in existing and emerging research.
 - Conduct research on the barriers to entry into the UCF field and how to reduce them for young people entering the arboriculture and urban forestry profession.
 - Conduct research on UCF in tropical regions; build on and expand past collaborative research agendas such as a past NUCFAC meeting in Puerto Rico.
 - Expand the availability and accessibility of data and research related to the psychological, health, and ecological benefits of UCF.
- Conduct more technical long-term studies to address the effects of climate change planning on a ten, 20, to 30-year horizon instead of only a six to 12-month horizon.

⁸ See Doug Tallamy’s research for additional information.

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Gather and utilize data for urban tree canopy assessments; develop a national protocol for how to utilize UTC data nationwide.
- Make research and data accessible to community members, advocates and practitioners so they can regularly utilize it. For example, i-Tree tool data should be able to be shared among different agencies and NGOs within a municipality.
- Increase the number of UCF researchers within the USFS. For example, there are 273 scientists in the USFS but only seven are urban forest scientists. *(Related to Key Issue 14 as well.)*
- Connect research efforts by different federal agencies that have urban forests programs to leverage dollars, and to thereby enable more difficult research into causation rather than correlation.
- Utilize social media in research to gather information from the community of practice and from the general public, being mindful of using appropriate protocols to ensure quality and reliable citizen-collected data. For example, it should be possible to use trained volunteers to help count ash trees in communities, monitor those trees for Emerald Ash Borer, and upload data via a smart phone app.
- Develop an “i-Tree Anthro” to quantify the human health benefits of trees; this could open significant possibilities for potential increased awareness and funding.

Key Issue #7: Building Effective Leadership to Champion Urban and Community Forestry

Most thought leaders felt that urban and community forestry is still vastly underutilized as a source of solutions to issues communities face, primarily because it has lacked vocal and visible champions in the past. While this tide has started to turn, strong national leadership is needed to bring attention to the ability of urban forests to offer cost-effective solutions to critical community environmental and human psycho-social issues, from stormwater management to nature deficit disorder. Working through public and private partnerships, expanding the capacity of existing nonprofit organizations, and clarifying the purpose and function of existing groups (such as NUCFAC or the Sustainable Urban Forest Coalition) was discussed as an urgent need in the next decade to foster greater collaboration, communication, and public awareness around UCF. Developing a strong national voice would help mature the field, foster effective collaboration and dialogue, elevate public awareness of urban forestry, and advance the use of urban forests as a core go-to solution for community problems, of equal importance to housing and transportation.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Develop effective leadership, collaboration and coordination of the variety of local, state and federal partnerships, in addition to nonprofit and industry partners. Utilize and maintain the existing network of partnerships and agencies that exists to build a national voice for UCF.

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Develop methods for national UCF leaders to understand and connect to UCF needs at the grassroots level in communities on an ongoing basis for issues such as increased funding for UCF maintenance, protocols for data management, and opportunities to share best practices at the city and regional scale.
- Build on the leadership work of SUFC, in collaboration with SUFC and NUCFAC.
- Expand and clarify NUCFAC's role and identity to continue to advance UCF nationally.
 - Align research goals and agendas between The National Research Advisory Council (NRAS) and NUCFAC.
 - Advance and communicate the Vibrant Cities Task Force recommendations – this could be a possibility for NUCFAC or NUCFAC and SUFC working in partnership.
 - Increase the representation of nonprofits in NUCFAC.
- Work in a coordinated manner with a national leader to highlight the importance of UCF in the political arena; clear leadership at a national level will help increase funding opportunities and create partnerships with elected officials for UCF.
- Build nonprofit leadership to increase outreach and networking efforts.
- Enlist constituent groups to lobby for improved and expanded UCF programs.
- Enlist a national UCF leader to engage health advocates, educators, youth, and community groups, going beyond those already engaged to broaden the base of allies in UCF.
- Bring federal agencies together to collaborate and communicate to better understand what each agency does and how agencies can work together to meet cross-agency objectives by shared means. Strengthen the role that USFS plays in this regard, increasing convening, leadership and facilitation opportunities by USFS with other federal agencies.

Key Issue #8: Increasing Funding for Urban and Community Forestry

Increasing funding at all levels – from federal agencies, foundations and municipalities – was discussed by almost all thought leaders as a strong need to advance urban forestry in the next Ten-Year Urban Forestry Action Plan. If community forests are to provide the infrastructure support needed to create sustainable and resilient communities, then forests need to be maintained properly, canopies need to be expanded, and emerging uses and functions for these forests need to be understood and utilized. Funding for urban forestry has been cut significantly in many localities throughout the nation, and sometimes even eliminated, since 2008. Interviewees noted that federal funding for urban forestry has not increased substantially in the past decade. If this community asset is to fulfill its potential, more funding is strongly needed,

both from federal sources as well as more public-private partnerships. Thought leaders noted the need to look to new funding sources for UCF, to look to public-private partnerships for new opportunities, as well as connecting the benefits and needs of UCF with non-traditional sources of UCF funding. For example, interviewees noted the new policies around carbon in California have become a significant source of funding for UCF organizations and agencies. Other new sources of funding could include the health community and other federal agency programs such as EPA's stormwater program.

IDEAS FOR ACTIONS - Gaps, Needs, Opportunities

- Use funding to guide and reward appropriate ecosystem management, including proper maintenance.
- Invest in the human component of UCF (human energy, intelligence, systems), using community engagement and facilitation.
- Use "seed funding" for support resources and staff, to encourage cities and states to support UCF programs.
- Increase funding and grants for planting and, more importantly, maintenance of trees and urban forests; trees are often maintained in a reactive rather than proactive basis which can be detrimental to tree life and UCF health.
- Maintain a dedicated source of UCF funding at the USFS. UCF funds should not be directed toward fire control. The USFS UCF program needs to be viewed as having a greater level of importance by state foresters and USFS leadership to retain and expand funding levels.
- Foster collaboration around funding resources between municipal forestry institutions and nonprofits, and among nonprofits – "a rising tide lifts all ships."
- Increase public awareness about the benefits and needs of UCF so they are more likely to support increased funding for UCF at the community, state and federal level. *(Related to Key Issue 9 as well.)*
- Revise the current USFS cost-share program grant structure for how funding is distributed. Currently all funds go through state foresters, but the USFS frequently isn't aware of how effective that funding is or where it is having the greatest impact. State foresters may not want to direct funding toward cities, potentially preferring to fund non-urban projects. Develop more opportunities for federal funding to go to NGOs and municipalities. *(Related to Key Issue 14 as well.)*
- Increase federal funding for UCF to support developing state and local programs (especially those that were most severely cut during the economic downturn). An increase of the current budget by tenfold was mentioned as an important target. Develop a sustainable long-term source of funding to support new higher program dollar amounts. Sustainability of this funding is important, including for continuity of the program itself.

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Develop new innovative sources of funding for UCF from private foundations, a small tax on gas/fuel, carbon sequestration legislation, redirecting redirect a portion of the existing gas tax from gray infrastructure to focus on green infrastructure, or utility businesses. Look for funding opportunities that have overlap with UCF but are not strictly focused on UCF. Examples of these funding opportunities might include:
 - Projects related to city infrastructure requirements.
 - Linking tree work to stormwater management fees, regulatory processes, and permitting processes.
 - Funding from Climate Change grants or programs, taking advantage of the use of trees as carbon sinks. Thirty percent of the *States National Assessment* respondents also suggested utilizing UCF for climate change mitigation and carbon market trading.
 - Air quality funding offers other sources of new funding for UCF, to implement Federal legislation such as the EPA Clean Air Act. For example, in California, the UCF program received \$17 M from the state's Greenhouse Gas Initiative for cap and trade (the nationwide budget was \$25M). Also, California approved the use of Urban Forestry as a mitigation measure to improve clean air, and in Sacramento urban forestry is used as a common method to comply with the new air quality laws.
 - Connect federal agencies to share cross-agency funding and connect program goals.
 - Look for funding opportunities to go beyond existing partnerships to organizations and fields in which trees and urban forests play an integral (but perhaps under-recognized role) regarding funding. For example, the nonprofit Trees Pacific partners with the NFL pro-bowl in Hawaii who does fundraising for them as a way to offset the environmental impact of games. They also partner with utility companies, who have a vested interest in the management of urban trees.
 - Seek funding from private foundations such as Kresge Foundation, whose grant program gives \$100,000 to five cities to advance resiliency.
 - Apply a carbon tax as a funding resource under the premise of paying for what we take from the environment.
 - Dedicate 1/100th of a cent from every gasoline sale to fund UCF.
- Develop standards for and require Best Management and Design Practices (such as the Sustainable Sites Initiative⁹) for urban forestry in federal infrastructure programs. Federal infrastructure programs should require UCF where applicable and as standard practice.

⁹ See www.sustainablesites.org for more information.

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Refocus and refine NUCFAC’s ability to fund new and innovative ideas in the grant program.
 - Conduct UCF cost-benefit analyses by broadly-focused multi-disciplinary groups (not only advocacy groups) to increase credibility of the analyses.
- Connect UCF to top wildlife issues such as the need for additional habitat and food for pollinators. For example, Trees Forever did a strong public relations campaign that connected the role of trees with pollinators which was very successful.
- The National Forest Foundation could serve as a fiduciary body for Forest Service Research and Development as it does for the National Forest. *(Related to Key Issue 14 as well.)*
- Implement the model of how Jim Lyons’ USFS Urban Resources Program, which could appropriate resources to help leverage additional funding; this program captures dollars from different fields (i.e. stormwater management), combines them in a large pot, and redirects them to where they are needed and can make the most difference—i.e. trees—in UCF funding opportunities across the field.

Key Issue #9: Expanding Public Awareness, Education and Environmental Literacy

Most thought leaders noted the need and opportunity to raise public awareness of UCF and increase UCF educational opportunities at both the community and national level. Urban forests need to be viewed as key infrastructure at the municipal, neighborhood, and home scale across America. A national-level public awareness campaign is needed with celebrity participation, social media, and a strong public relations campaign. A strong “boots on the ground” approach by nonprofit and community groups is also needed to connect communities with their urban forests and to highlight the role and benefits of urban forests. For example, giving away and planting fruit trees has successfully started many UCF programs in places such as Pittsburgh and Los Angeles. Most thought leaders also viewed creating or expanding programs in natural resource education, environmental education, and environmental literacy as a key need at multiple scales – in the home, in all levels of education, with school and community groups, in municipalities, and within the field itself.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

Public Awareness

- Develop a massive collective effort to create a national public awareness/education campaign, re-branding UCF with a pop-culture driven public relations campaign, with social media, radio, TV, billboards, and advertising to significantly increase national awareness of UCF. Develop a catchy campaign title such as “Not Just a Tree Hugger.” Develop a website with celebrities promoting UCF, and pathways for practitioners to collaborate to a greater level. Utilize well known public relations companies to develop this, or potentially USFS public relations staff members.

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Use an icon like Smoky the Bear or Lorax type of character that speaks to kids and adults alike.
- Focus on social media to reach a wide audience in a short period of time around key UCF issues.
- Take advantage of existing networks like SUFC and the Alliance for Community Trees to build a public awareness campaign.
- Focus on public awareness at the community, state and federal levels.
- Use multiple avenues to highlight the importance of trees and UCF through ideas such as happy hours to school program education.
- Market the *benefits* of trees and not just the trees themselves.
- Increase the focus on climate change in the discussion around UCF and planning for the future of communities. Focus on how UCF and plants create climate resilience at a basic level, which is a strong need in public awareness and communication.
- Focus public awareness efforts on how urban forests are the habitat for urban citizens. For example, the bald eagle didn't rebound until its habitat was restored and protected. Focus on the effects of the destruction or loss of function of our human habitat – urban forests – and how to take action to halt its destruction.
- Engage citizens in UCF awareness and education opportunities with a focus on understanding trees and urban forests as a vital part of a community's health, essential services and infrastructure. Communicate the benefits of trees in health care and energy savings to citizens.
- Translate key UCF documents and resources to other languages so they are accessible to a wider range of citizens and practitioners.
- Develop an urban forestry communication hub (such as the "Eco Piazza" independent web-based communications website under development by Ed Macie of the USFS and others) for practitioners to discuss UCF issues, acquire resources, and where communication and cross-pollination of ideas can take place.
- Focus UCF outreach by theme and by population to increase efficiency of communication.
- Implement fruit tree giveaway and planting programs, potentially with shade trees as well. This has been a highly successful approach in some communities for increasing UCF interest and awareness.
- The Faces of Urban Forestry program from the Arbor Day Foundation is a model resource for public awareness. They are working on telling the story of different individuals whom have benefited from local, state and federal programs and investments.

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Support the professional standards of the International Society of Arboriculture and the Society of Municipal Arborists to increase recognition of these safety and professional standards in the field.
- Create a youth-focused UCF conference with a focus on both raising awareness of UCF, increasing environmental literacy and stewardship, and building awareness for the next generation of UCF leadership.
- Develop environmental literacy programs to create a more informed citizenry who will influence our natural resources in the future. For example, in 2014, the high school Envirothon competition 2014 theme is Urban Forestry. This type of activity helps raise public awareness of the field of urban forestry and with youth.
- Address the misperception of the costs and hazards of urban trees in a public awareness campaign (such as trees falling on top of houses, bikes running into trees); the actual risk of urban trees and urban forests is extremely low.
- Develop a strong public awareness effort around the biophysical needs of trees, geared toward planners, designers and architects, such as creating sufficient space, healthy soil, and efficient watering and maintenance programs for urban trees and community forests.
- Create a UCF public awareness campaign that is specific to policy makers to impart the importance of urban forestry and to make UCF research relevant. Create model ordinances or model legislation to promote UCF and share it with local, state and federal elected officials as they frequently don't have the UCF expertise but do have a design to "green" their cities or focus on sustainability efforts. *(Related to Key Issue 6.)*
- Increase communication opportunities between researchers and policy makers at a local, state, and federal levels. *(Related to Key Issue 6.)*

Educational opportunities and Environmental Literacy

- Develop opportunities for students in schools to utilize urban forest tools in their communities, especially at the middle and high school levels. These opportunities should include learning about the function and design of urban forests. Children will help educate their parents—for example children who grow up in a home without trees are less likely to plant trees around their homes when they are older.
- Develop urban education programs for children where they are already living and learning, with a focus on cities as urban ecosystems, urban and community forestry issues, and environmental educational opportunities in cities. (Thought leaders noted that many children may not ever make it to a national or state park, and will learn about natural resources and stewardship in the urban environment.)
- Develop a dedicated source of federal funding for a national urban and community forestry education program. Extension services could help implement this education program.

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Foster the development of UCF education from the elementary to graduate school level, but especially at the college level within planning, landscape architecture, engineering, and public works fields to ensure UCF literacy.
- Design outreach programs for academics, and for public works managers, to help them understand the function and appropriate design of UCF.
- Implement tree planting programs in schoolyards where children spend most of the day and where there are existing programs for tree care stewardship and maintenance. Connect with SOLs, common core science standards, and other teaching standards around UCF, environmental education, and opportunities to engage youth in UCF.
- Connect UCF with existing educational programming and resources, such as the Children and Nature Network (Richard Louv's organization -- www.childrenandnature.org), and environmental and outdoor education schools.
- Plant urban orchards and urban forests at schools as both demonstration sites, outdoor classroom laboratories for science and environmental education, as a vector for teaching about STEM (science, technology, engineering and math topics), urban ecology, and around urban and community forestry.
- Connect UCF and urban ecosystems educational opportunities to the new Next Generation Science Standards (national teaching standards), Standards of Learning, and other national school testing focus areas.
- Connect UCF issues and ideas for the next Ten-Year Urban Forestry Action Plan with educational leaders at events such as the Children and Nature Network 2015 conference.

Key Issue #10: Improving Urban and Community Forestry Management and Maintenance

Many thought leaders noted that current urban forestry funding and programs focus on tree *planting*, but not maintenance. Many noted the need for a shift in focus to maintenance and management of urban *forests*, rather than just trees, along with supportive funding. Regionally appropriate design and maintenance strategies for these forests need to be developed to reflect regional soil and environmental conditions. Further, these design and maintenance strategies also need to take into account and safeguard specific eco-services provided by urban forests, such as wildlife corridors, urban orchards ("food forests"), air quality, water quality, and stormwater management. Thought leaders noted that urban forest design, maintenance, and management strategies need to be developed before planting initiatives are started. For example, soil pits need to be designed for trees that require soils specific to Rocky Mountain West-adapted trees, and watering strategies need to take into account the needs of regionally-adapted trees (i.e. trees native to Denver have different water needs than trees native to Boston). Finally, the benefits of regional-scale urban forests to humans and the environment need to be taken into account when planning their planting, maintenance and management.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Increase funding for UCF maintenance and management; programs need to be developed with maintenance and management planned for at least three years to ensure survivability of urban trees and forests. *(Related to Key Issue 8.)*
- Focus on the quality and not necessarily on the quantity of trees being planted – it is much better to have incremental and strategic growth of tree canopy to obtain the greatest impact.
- Focus on appropriate urban forestry placement in a community for maximum benefit, overall tree species composition, and connection to habitat and people (such as providing wildlife corridors, recreation areas, or shading for neighborhoods).
- Include trees in the municipal accounting systems. Trees "appreciate" instead of depreciate.
- Offer cities USFS technical expertise on how to utilize the data from the UTC and implement it to be able to measure results over time. *(Related to Key Issue 1.)*
- Encourage development of urban forest programs as part of the municipal public works office, which may be the best place to manage the UCF. Increase the awareness of the importance of trees so they are viewed as a part of the city's core infrastructure.
- Create a model policy for municipalities to adopt that provides incentives to protect trees so they cannot be cut down if they are greater than 15 inches in diameter.
- Manage UCF at a regional scale rather than by municipality. For example, it is much more cost and time effective to control pests regionally *(related to Key Issue 4)*.
- Focus on ways to increase awareness and training for how to properly establish and maintain both existing and newly planting trees, how to utilize technology and data for best UCF placement, and to implement UCF Best Management Practices for optimal urban tree health so there is no net loss of canopy in communities.
- Focus on soil health to increase urban tree and urban forest health. Soil replacement is frequently needed when planting new trees in previously hard-capped soil because it is so highly damaged.
- Develop programs to decrease the amount of impervious services in municipalities. Models for achieving this include the Urban Conservation Easement program that Casey Trees has developed, through water quality enhancement policies, or incentives for planting and protecting urban forests. There is a continuing increase of impervious surfaces in most urban areas; in New York City, impervious surfaces have reached somewhere around 60-70%.

- Develop a national UCF management and maintenance plan for sustained UCF planning, health and maintenance in collaboration with NGOs, and state and federal governments. This program should not be directed from the federal level only as federal priorities change and program implementation could be threatened over time. Work on the ground with the communities to implement such a program, asking for help from nonprofits to work as bridges between the federal and state governments and the local communities.
- Expand the Forest Inventory and Analysis (FIA) to include urban forests to gather information on the structure, function and value of urban forests; there is a significant amount of private land in urban areas, so this offers an opportunity to identify private lands where tree canopy could be increased.
- Increase utilization of UCF for biomass and wood products instead of wasting urban forest wood.
- Utilize the technological advances in remote sensing to improve the UTC Assessment.

Key Issue #11: Enhancing Stewardship of Both Trees and Their Urban and Community Forests

Stewardship of urban forests is seen as more than just a maintenance task for community staff. Most thought leaders suggested that stewardship in future decades will not be possible without community engagement and support. Thought leaders suggested that more focused funding and programming for stewardship and volunteer engagement is most needed at the local level. Programs such as Tree Pittsburgh's Tree Tenders training program was cited as a model example for volunteer urban forest care and stewardship. Training was cited as a strong need for professional arborists, municipalities, and community groups.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Use the Asset Based Community Development (ABCD) tool to approach communities around increasing UCF programs.
- Focus on UCF planning and maintenance models that can be replicated in other communities to create efficiencies and cross-jurisdictional learning.
 - Develop programs for training and education around proper care for urban trees in private yards and properties.
- Utilize the successful Tree Tenders Program from Tree Pittsburgh as a model to teach volunteers how to work with trees (<http://treepittsburgh.org/become-tree-tender>).
- Develop incentives for homeowners to plant larger trees in backyards; to do so, focus on benefits for private landowners and homeowners to plant urban trees.

One example is the Virginia Cooperative Extension program to plant native fruit trees in riparian buffers.¹⁰ Several thought leaders suggested fruit tree planting and giveaway programs as a means to engage community members in urban tree planting and then possibly as a means to also plant larger shade trees.

- Incorporate into a national public awareness campaign ways to increase public involvement in valuing, actively participating in, expanding and caring for UCF. Twenty-six percent of States report in the *National States Assessment* that a lack of community involvement or capacity is a serious challenge.
- Develop multiple means for UCF stewardship including trained volunteers and municipal engagement for sustained UCF care. For example, in Portland, Oregon all municipal trees are maintained by citizen volunteer groups, whereas in Milwaukee trees are cared for as part of the Public Works department urban forestry maintenance program.
- Connect civic stewardship examples with UCF educational opportunities: people will care for something they understand. For example, when people learn that a chickadee needs 6,000 to 9,000 caterpillars for one clutch of chickadees to grow, they may place an increased value on urban trees and their ability to support urban wildlife.

Key Issue #12: Building Professionalism and Broader Access to the Field

Enhancing professionalism and increasing access to urban forestry is a core need in the next decade. The more communities recognize the multiple cost-effective ecosystem and human health services provided by urban forests, the more urban forests will become an essential element in community infrastructure. In turn, proper maintenance of urban forests to ensure that they are delivering these benefits will become a more urgent community priority, creating a need for knowledgeable, trained staff. Already many cities, companies and NGOs aren't able to fill tree care positions, and this demand is only expected to continue growing in the next decade. New training programs are needed in both academic settings, within communities, and among professionals, as well as the opportunity to learn about international arboriculture practices. Internship and professional exchange programs were suggested as a strong need, as well as developing urban forestry programs in urban areas, with outreach particularly to those that may be unfamiliar with the field and to increasingly diverse groups.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Increase the funding base for urban ecology education programs in state universities.

¹⁰ See this link for more information: <http://www.jswnonline.org/content/69/2/140.refs>

- Increase the number of UCF professional training programs at multiples scales including university undergraduate and graduate levels, continuing education opportunities for professionals in allied fields, as well as vocational tree care work programs in vocational schools or at the community college level. Connect these programs with real world UCF experience and training. Ensure that these opportunities include African-American colleges with programs such as the one at Southern University, which are key to engage traditionally underserved community members in urban forestry and arboriculture (*connected with Key Issue 13*).
- Expand existing successful private sector UCF professional training programs and college internship programs such as that offered by Society of Municipal Arborists.
- Rebrand and increase awareness about the tree care profession as it is not well known and is often misrepresented and as a result, there is difficulty recruiting people to enter this profession. Increase the connection around how the tree care profession is a “green job” and to federal programs around green jobs.
- Replicate the USFS Southern Region program of scholarships for urban forestry studies in other regions.
- Hold one significant UCF conference that has a large audience to create more professional cohesion, coordination, and collaboration, instead of multiple smaller conferences.
- Build on existing and new partnerships to innovate UCF educational opportunities with allied professionals such as planners, landscape architects, and engineers (*connected with Key Issue 3*).
- Increase awareness of the UCF profession so it has higher recognition and importance at the municipality level, within allied professionals, and the public. UCF professionals should be consulted when decisions within a community will affect the urban forest, such as clearing for a new roadway.
- Develop connections and collaboration opportunities with international urban forestry professionals, such as through the International Society of Arboriculture chapters abroad.

Key Issue #13: Increasing Diversity for Social Justice and Inclusivity

In order for significant headway to be made in addressing these key issues in the next ten years, it will be imperative to increase diversity within the urban forestry profession as well as to increase diversity in citizen leadership and engagement. For community forests to be stewarded by their communities, their communities must assume ownership of their forests. Residents of all ages, cultures, race, and gender need to relate to their own neighborhood trees, and understand that these trees are part of a larger whole that creates a healthier community. Whether business owners, property owners, homeowners, tenants, commuters, or youth, all have a role and all need to be engaged. Achieving diversity in both the profession and

citizen leadership and engagement is seen as a pivotal baseline, without which urban forestry will continue to struggle to achieve its other key goals. In order to do this, thought leaders noted that working through existing NGOs, community groups, schools and churches is key to engaging people in underserved communities, as is increasing awareness of the importance of UCF. Meeting people where they are and connecting to what is important to them is key to increasing both awareness and canopy cover particularly in underserved communities. Additionally, increasing the number of UCF training programs in African-American colleges, as well as in urban areas and new venues in partnership with established community groups and NGOs, was suggested as a means to increase diversity in the field.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Focus on underserved communities as a top priority in the next Ten-Year Urban Forestry Action Plan.
- Increase the capacity of USFS staff members to work in underserved communities where the USFS has not traditionally had numerous programs. Expand UCF programs to connect USFS staff with community groups and nonprofit organization leaders in urban areas and to increase capacity for collaboration.
- Initiate a dialogue about the nature, extent and impacts of institutional racism in UCF, a term describing differential access that stems from the perpetration of existing networks of influence. The challenge of institutional racism is that it appears as if collective action is being taken, but with no individual, identifiable perpetrator. The goal of the dialogue would be to raise awareness about this difficult issue while enabling people to discuss it in a safe and open manner.
- Develop partnerships with the human health, food justice and environmental justice movements to learn from their knowledge about community empowerment and how to work effectively in underserved communities.
- Develop relationships and work with existing nonprofit organizations, school, church and community groups to building partnerships and opportunities to collaborate around UCF in underserved communities and especially low-canopy or low-income areas. Invest in these existing nonprofits to expand their capacity for UCF programs, including their ability to educate their communities, establish and maintain urban forests, and address other UCF opportunities and challenges. Use their communication streams and networks to learn and develop culturally appropriate engagement methods for UCF.
- Direct UCF funding to underserved communities and low-canopy neighborhoods. Focus on UCF expansion and maintenance in low-canopy and low-income neighborhoods.
- Use fruit tree giveaway and planting programs as a means to engage community members in urban tree planting and possibly as a means to also plant larger shade trees (*connected with Key Issue 9*).

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

- Develop “shovel-ready job” UCF opportunities, similar to the Civilian Conservation Corps, to find green job placement for unemployed or underemployed citizens in urban forest tree planting, maintenance, data collection and program collaboration. Often, underserved communities have the highest levels of under-employment, thus training in specific aspects of urban forestry would offer an excellent way to engage and build awareness while also building stewardship capacity and real job skills. Offering bilingual training will also help expand access. Lastly, training programs for youth will develop youth confidence, leadership and job skills while also serving as a prime avenue for educating parents.
- Focus on strategies to make urban forestry conferences and volunteer and professional opportunities in the field more inclusive and diverse at the community, state and federal level. These need to be long-term sustained efforts for real change. For example, create more scholarships made available to youth of color to attend UCF conferences. Another example is to create more UCF internship opportunities focused on youth from underserved and low-income communities.
- Use communication and outreach means that are familiar to those in diverse communities around UCF opportunities, noting that these communication means may not be ones that USFS or UCF professionals commonly use, such as face-to-face engagement, social media, and community group outreach. For example, one UCF nonprofit organization has very successful block parties with music from different cultures, speakers, and where they also plant and maintain urban forests during the block party.
- Utilize the program EnviroScreen as a way to highlight underserved neighborhoods and provide an opportunity to direct funding to places of greatest need.
- Provide training for urban foresters to gain skills in asset-based approaches for more effective community outreach. One example of a successful program is MERGE – *Methods to Engage Residence and Grassroots and the Environment*. Important features of asset-based approaches are that urban foresters would work with established networks of trust and channels of communication (e.g., nonprofits, schools, churches), and facilitate the identification of neighborhood needs and strengths, building on these in ways identified by the neighborhood (e.g., starting with fruit trees), as opposed to coming in with pre-established goals and plans. One example of success was an effort in a low-income Los Angeles neighborhood to interest residents in tree planting by beginning with fruit trees. Another example of a successful approach is the Western Watershed Alliance (WAWA) initiative to work in blighted urban neighborhoods and tackling core environmental issues like controlling mosquitoes and stream bank restoration
- Identify policy barriers for effective engagement in underserved communities, such as zoning ordinances.

Key Issue #14: Fostering Federal Agency Collaboration and Program Improvement

Many thought leaders suggested that urban forestry may reach its potential only when federal agencies are able to collaborate across silos, to leverage their different programs and sources of funding, and to ensure that policies across programs are aligned and streamlined for maximum effectiveness. Since urban forestry was recognized by the federal government as an important program 20 years ago, the role of urban forestry has evolved and grown dramatically. Now, for example, community forests are seen as a cost-effective long-term solution for numerous human and environmental ills – producing cleaner air, cleaner water, reduced stormwater, and a healthier psycho-social environment. Urban forestry is now a central solution to central community problems. But urban forestry isn't fully utilized as a cost-effective solution, and opportunities are lost, because of its programmatic conceptualization 20 years ago. To address this structural weakness, thought leaders suggested several possible strategies. First, federal agencies should be brought together to identify ways that overlapping program goals and funding can be leveraged – e.g. for cleaner air, cleaner water, healthier communities. Additionally, thought leaders noted that the UCF program needs to receive a higher amount of federal funding, and the need for more opportunities for direct involvement and connection with urban communities and the program (for example, many noted that traditional rural-focused forestry models of management are still being utilized by some USFS foresters, and new programming is needed to directly connect foresters with the opportunities and needs in urban communities, which frequently differ from those in rural communities). Finally, there is a need for more oversight of state programs to determine if the needs of urban communities are being addressed (for example, for state foresters to provide information about key UCF tools, resources, and highlights in current research to urban communities and NGOs).

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Foster increased opportunities for dialogue in the field such as the Vibrant Cities Task Force to bring together people from different fields. NUCFAC is in a perfect position to foster more of this dialogue and collaboration within the field.
- Consider the best placement for urban and community forestry in the USDA Forest Service (USFS) – perhaps moving it to a more central, integrated location within the USFS or to consider partnerships with other federal agencies.
 - Consider moving the UCF program to another federal agency or maybe to a Department Level to elevate its importance and effectiveness at the Federal level – possibly collaborating with other land management organizations such as the Natural Resources Conservation Service (NRCS) or to a higher level within the USFS.
- Increase the importance of the USFS UCF program within the agency to a Deputy-level program; one option would be to bundle all programming related to urban natural resources management at a Deputy Chief level called Urban Natural Resource Stewardship, and this Deputy Chief would report directly to the USFS Chief.

- Improve communication between federal agencies, the community of practice and the lay audience. See Key Issues 3 and 7 for specific ideas for action.
- Provide cultural sensitivity training opportunities for USFS staff members to continue to be aware of and responsive to urban contexts which have a very different set of issues than rural issues (such as ways to effectively work in inner city neighborhoods, engaging underserved communities, and partnering with nonprofit organizations and community groups).
- Develop opportunities within federal agencies for cross-sector engagement to reach different audiences, not just the “usual tree suspects” but ways to “get outside the urban forester identity silo.” Greater federal inter-agency collaboration and communication are needed, as well as a need for federal agencies to reach out and connect with nonprofit organizations and the grassroots level.

V. Ideas for Community Engagement

One explicit goal of the next Ten-Year Urban Forestry Action Plan, established by the NUCFAC in its original Request for Proposals for the next Action Plan, is that it must be based on effective and authentic community engagement. When asked about the next Action Plan during their interviews, thought leaders independently confirmed the importance of community engagement when they expressed hopes that the next Ten-Year Urban Forestry Action Plan will reflect thoughts and ideas of the community of practice and general public. Most suggested that the IEN team attend national or regional conferences in order to have a face-to-face engagement. Some suggested that college and association publications be used to disseminate information about the process and broaden stakeholder engagement. Some also suggested enlisting key professional and nonprofit organizations that have long experience in engaging urban forestry stakeholders. Many also offered specific ideas for the “how,” not only the “who,” to engage.

While the IEN team will be able to personally attend one or two conferences, numerous stakeholder conferences were identified as opportunities for stakeholder engagement as part of the ongoing effort of outreach, collaboration, and increased communication in the next Ten-Year Urban Forestry Action Plan. The IEN team will seek to disseminate information to as many of these conferences as possible to encourage stakeholders to participate in the ongoing digital engagement such as the Partners in Community Forestry Conference; American Planning Association (APA); American Society of Landscape Architect (ASLA); Society of Arboriculture (ISA); North America Congress for Conservation Biology; Good Jobs, Green Jobs National Conference; Canadian Urban Forest Conference; International Union of Forest Research Organizations (IUFRO): XXIV IUFRO World Congress 2014; Children and Nature Network Conference in 2015; and Society of American Foresters (SAF) Conference.

Frontiers, a monthly publication from the Ecological Society of America (ESA) was suggested as a good means to disseminate information to encourage stakeholder engagement. Several

thought leaders agreed to serve as contacts with related fields such as the permaculture community and National Society of Professional Engineers.

A specific concern raised by a number of thought leaders in developing the next Action Plan is the importance of engaging underserved communities. Southern University was mentioned as a good resource, as well as Sustainable Urban Forestry Coalition (SUFC) and the National Alliance for Community Trees (ACTrees), as well as other community groups.

These thought leaders suggested that engagement with underserved communities has not been effective in the past two decades for several reasons. First, they suggested that the profession itself is not diverse and has not developed a high comfort level or experience in working with low-income or multi-cultural communities of color. This led to recommendations for the next decade for diversifying the profession and providing professional training to increase both comfort and experience in this arena. A closely related issue is that networks of trust between urban forestry and underserved communities are either rare or not yet established, which fundamentally undermines and renders ineffective efforts in underserved city neighborhoods.

This led to a recommendation that urban forestry professionals partner with nonprofits and other community groups that have established networks of trust with underserved communities. When people are approached through their networks of trust – friends, neighbors, trusted community partners – the ability to engage community members can be transformed from an uphill battle to one of enthusiastic participation. Using established networks of trust also enables creative points of entry. One thought leader gave an example of how an attempt to offer shade trees to an underserved neighborhood fell flat, until they decided to offer fruit trees, which caused a rush on the supply of fruit trees. As people were educated and had a greater understanding for the importance of trees, the demand then also quickly expanded to encompass shade trees. This example demonstrates the importance of finding entry points that are meaningful to neighborhood residents. The urgency of this need to reach underserved communities could not be overstated, according to these thought leaders, as forests are core infrastructure for healthy city ecosystems. If the next decade is to be successful, urban forests must be planted, stewarded, and fully functional in all parts of a community, not just in neighborhoods of means.

VI. Hopes for the Next NUCFAC Ten-Year Urban Forestry Action Plan and Conclusion

Thought leaders expressed numerous hopes for urban and community forestry and for its next Ten-Year Urban Forestry Action Plan. Many expressed the hope that the field will become more cohesive, building bridges to enable public and private practitioners to work together more effectively. Many noted the hope that funding will catch up with, and keep pace with the continuing growth in urban forestry. Lastly, many expressed hope that the field will find ways to share and leverage limited resources more effectively, to avoid duplication and share experiences.

In terms of how urban and community forestry is understood by others, many expressed the hope that the public will come to value trees for their role in the larger urban forest, and will understand that these forests provide important community services that need their attention as well as attention by professional “doctors.”

The Vibrant Cities Report was cited numerous times as an important starting point for the next Ten-Year Urban Forestry Action Plan. Many hope it will serve as a primary guiding document for the next Plan, while also expressing the hope that NUCFAC and other organizations will embrace implementation of the Vibrant Cities Report more aggressively. In terms of the next Action Plan itself, many articulated the need for a clear “short and sweet” plan, with specific achievable goals rather than vague or lofty goals. Yet others expressed the need to not “simplify” the ideas for actions and goals in the Action Plan to the point of losing their meaning and possibility for impact. Some even expressed the hope that the plan would become a kind of accessible “Bible,” or the go-to document for the broad community of practice, including state programs, professionals and planners who can take urban forestry to the next level. Hopes were expressed that the plan will contain specific actions and recommendations that each stakeholder can take on, including NUCFAC, and that it identify which actions might be best suited for which stakeholder in order to accomplish the broader ten-year goals. Finally, most thought leaders shared their hope that the next Ten-Year Urban Forestry Action Plan will inspire leadership within federal and state agencies, business and private sectors, and even Congress.

Another hope expressed by thought leaders is that the next Ten-Year Urban Forestry Action Plan should be inclusive, addressing the needs of all communities of all sizes, large and small, and of all means, privileged and underserved. A core hope for the next Ten-Year Urban Forestry Action Plan is that it will help urban forestry increase environmental justice throughout the country.

In terms of how the plan will be used by NUCFAC, several expressed the hope that the Plan will encourage or enable NUCFAC to fund innovation in the field, help clarify the Council’s identity, and help clear the way for NUCFAC to be a stronger leader in the field. They expressed the idea that innovation is an important way for advances to be made, and that funding shouldn’t be tied to programs that are only a sure success. It should be okay for an innovative effort to fail, as lessons can be learned from that, while those that do succeed can serve as a model for others to replicate or adapt in other parts of the country.

Finally, several expressed the hope that the Action Plan will be consistently utilized by NUCFAC during the next decade, with the capacity to offer a clear roadmap that will facilitate accountability, and enable it to be updated, revised and reported on annually at the Partners in Community Forestry Conference and within the USFS as well.

Conclusion

As a whole, thought leaders are acutely aware of the environmental, economic and political challenges facing urban and community forestry, and are stalwart promoters of the promise that urban and community forestry offers for the future of America. The future is bright for the field of urban and community forestry in the coming decade, as a core contributor to healthy, strong, and vibrant cities across our nation.

APPENDIX A – List of Questions For Thought Leaders and List of Thought Leaders Interviewed

Interview questions

1. What is your history with, or how do you work with urban and community forestry?
2. What are two or three things in which significant progress has been made in the last 10 years (programs/activities, tools/resources and research)?
3. What are the most important factors influencing the urban and community forestry field in the next 10 years?
4. What are the most important opportunities for the urban and community forestry field in the next ten years?
5. What are the most important challenges and issues for the urban and community forestry field in the next ten years (especially around how to engage underserved communities)?
6. What are the most important gaps and needs for the urban and community forestry field in the next ten years?
7. What are your greatest hopes for this 10 Year Action Plan?
8. What ideas do you have for how the community of practice could achieve these hopes and/or address the challenges? Are there specific goals and /or actions that you think are essential in the next 10 years?
9. Is there anyone else who should be consulted in this effort, who we should make sure to include in the community engagement part of the process (they could be invited to a conference, a webinar, a survey, or other methods)?
10. What suggestions do you have for our community engagement around how to best engage all the different stakeholder communities in contributing to the next Ten Year Action Plan? (ideas for reaching and engaging “underserved communities”)
11. Is there any other information or feedback about UCF that you would like to share with us?
12. Would you please send us links or PDFs of key summary, overview, or other important documents, surveys, conference reports, research – that you think could inform the next Action Plan?

1. **ADDITIONAL POTENTIAL QUESTIONS**

- a. What are the most important elements of the current Ten Year Action Plan?
 - b. What are the limitations of the current Action Plan?
 - c. What are your hopes for the next Ten Year Action Plan
2. Funding Issues and Trends
- a. How **could Forest Service funding become more effective?**
 - b. Are there any nontraditional sources for UCF funding that are being used?
 - c. What are the most important trends in funding for UCF? (i.e., are certain areas of research or activity being funded more than others?)

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

List of interviewed thought leaders

Last Name	First Name	Title	Organization	Geography	Sector (civic, public, private)
Buscaino	Mark	Executive Director	Casey Trees	Washington, DC	Nonprofit
Cline	Keith	Director- Urban Forestry Division	DPW and Environmental Services, Fairfax, Virginia	South	Government-Local
Cole	Preston	Director of Operations	Milwaukee Department of Public Works	Midwest	Government-Local
Crumrine	Danielle	Executive Director	Tree Pittsburgh	Eastern (East Coast)	Nonprofit
Davis	Sara	Program Manager	Office of the City Forester - City and County of Denver	Inter-Mountain West	Government-Local
Gallagher	Carrie	Executive Director	Alliance for Community Trees	Washington, DC	Nonprofit
Gonzalez	George	Chief Forester	City of Los Angeles	Eastern (East Coast)	Government-Local
Ina	Greg	General Manager	Davey Trees	Eastern (Midwest)	Private
Kruidenier	Bill	Former NUCFAC chair and President of ISA. Professor	U. of Illinois-Natural Resources and Env. Sciences	Eastern (Midwest)	Academia
Kuhn	Nick	Community Forestry Coordinator	Missouri Dept. of Conservation	Eastern (Midwest)	Government-State
LaHaie	Jerri	Executive Director	Society of Municipal Arborists	South	Nonprofit
Lambe	Daniel	Vice President, Programs	Arbor Day Foundation	Midwest	Nonprofit
Lipkis	Andy	Founder and President	Tree People	Pacific Southwest	Nonprofit
Macie	Ed	Regional Coordinator; Urban Forestry Group Leader	USFS, Southern Research Station	South	Government-Federal
Ortega	Lisa	Urban Forester	City of Henderson, Nevada	Inter-Mountain West	Government-Local
Rains	Michael	Director, Northern Research Station	USFS	Eastern (East Coast)	Government-Federal
Ramsay	Shannon	Founding President and CEO	Trees Forever, Iowa	Eastern (Midwest)	Nonprofit
Ries	Paul	Director, Graduate Certificate in Urban	Oregon State Dpt. of Forest Ecosystems	Pacific Northwest	Academia

KEY ISSUES REPORT: PRELIMINARY IDEAS for the DRAFT ACTION PLAN

		Forestry	and Society		
Shukur	Kemba	Executive Director	Oakland Releaf	Pacific Southwest	Nonprofit
Shurtz	Steve	City Forester	Baton Rouge, Louisiana	South	Government-Local
Silvestri	Nikki	Executive Director	Green For All, Oakland	Pacific Southwest	Nonprofit
Skiera	Jim	President	ISA	Midwest	Nonprofit
Tallamy	Doug	Professor & Chair of Entomology and Wildlife Ecology	University of Delaware	Eastern (East Coast)	Academia
Tretheway	Ray	Executive Director	Sacramento Tree Foundation, CA	Pacific Southwest	Nonprofit
Trueman-Madriaga	Theresa	Executive Director	Smart Trees Pacific	Territories - West	Nonprofit
Westphal	Lynne	Project Leader/Research Social Scientist	USFS Northern Research Station	Eastern (Midwest)	Government-Federal

APPENDIX B – Weblinks of Resources Suggested By Thought Leaders

- Sustainable Sites Initiative: <http://www.sustainablesites.org/>
- Tree Board University <http://www.treeboardu.org/>
- T.R.E.E.S Project <http://www.treepeople.org/second-nature-adapting-LAs-landscape-sustainable-living>
- *Second Nature: Adapting LA's Landscape for Sustainable Living*
- Video: [Capture the Rain and Rebuild the Economy](#)
- Video: [The Miracle On Elmer Avenue](#)
- Video: [Smart Green Infrastructure](#)
- Faces of Urban Forestry Program <http://www.arboday.org/programs/faces/>
- Tree Tenders program
- MERGE – Methods to Engage Residence and Grassroots and the Environment
- I-tree tool: <https://www.itreetools.org/>
- Stew-Map: http://www.nrs.fs.fed.us/nyc/focus/stewardship_mapping/
- Urban Tree Canopy Assessment: <http://www.nrs.fs.fed.us/urban/utc/>
- Urban Forest Management Plan toolkit from California: <http://www.ufmptoolkit.com/>
- Regional Trees Initiative – The Morton Arboretum <http://www.mortonarb.org/science-conservation/regional-trees-initiative>
- Chicago Action Climate Plan <http://www.chicagoclimataction.org/>
- Urban Forest Management Plan toolkit from California <http://www.ufmptoolkit.com/>
- Vibrant Cities Report http://vcuf.files.wordpress.com/2012/11/vcuf_report.pdf

For reference, Vibrant Cities and Urban Forest Task Force suggestions include:

1. Create a national education and awareness campaign.
2. Foster urban forestry and natural resources stewardship and volunteerism.
3. Create sustainable jobs in urban forestry and green infrastructure.
4. Cultivate partnerships between public and private sectors.
5. Develop new public administration models for urban ecosystems.
6. Create comprehensive, multi-jurisdictional Urban Regional Natural Resource Plans.
7. Integrate federal agencies' green infrastructure goals.
8. Establish energy efficiency programs that emphasize the use of trees.
9. Ensure equal access to urban forestry and green infrastructure resources.
10. Support collaborative urban ecosystem-focused research.
11. Encourage open access to and use of social assessment tools.
12. Establish national Vibrant Cities Standards.

APPENDIX C –Project Overview

**Development of the 2016-2026
National Urban and Community Forestry Advisory Council (NUCFAC)
Ten-Year Urban Forestry Action Plan
for the UCF Community of Practice**

Project Overview

The purpose of this project is to review and assess the current state of urban and community forestry (UCF) in the United States, and to develop a Ten-Year Urban Forestry Action Plan with recommendations for improving the status of urban and community forestry. The Action Plan will provide goals and actions developed by and for the UCF community of practice. It is also intended to serve as a framework for funding priorities by the NUCFAC for the U.S. Forest Service’s National Urban and Community Forestry Challenge Cost Share Grant Program.

To accomplish this task, the project team will review trends and factors that will influence UCF in the next 10 years, as well as strengths, opportunities, issues and challenges. It will also review the current status of UCF programs, activities, resources, and scientific research. Contributing to this assessment will be key stakeholder interviews, guidance from the Strategic Advisory Team (see below), and diverse methods of engaging the UCF community of practice. The Project Team (see below) will synthesize all of these inputs to identify specific UCF needs and gaps and develop draft goals and actions for the next ten years. These draft goals and actions will be vetted through community engagement as well as guidance from the Strategic Advisory Team, and will be refined into the final Ten-Year Urban Forestry Action Plan.

Highlights of the Action Planning Process (see graphic below)

- **Multidisciplinary Project Team:** facilitation; community engagement; forestry; social psychology; planning; economics and finances; research.
- **National Strategic Advisory Team:** represents key stakeholder groups in community of practice.
- **Big Picture Key Issues report:** trends and factors influencing UCF in the next 10 years, strengths and opportunities, issues and challenges.
- **Inventory Nuts and Bolts Assessment:** programs and activities, resources, and scientific research.
- **Community Engagement:** a mix of key stakeholder interviews, workshops at key conferences, and online engagement using new technologies, to develop and refine recommendations for the next ten years.
- **Vision, Goals, Actions:** finalization of UCF ten-year priorities for its community of practice into the Ten-Year Urban Forestry Action Plan.
- **Costs of Implementation:** development of costs and resources needed to implement UCF ten-year priority goals.
- **Final Report:** includes two sections – a profile of UCF in the United States, and the Ten-Year Urban Forestry Action Plan.
- **Evaluation:** an online survey of all participants in the process.

Project Leadership

- American Forests Foundation, *Kathy McGlaufflin*: project oversight and contract management, expertise in UCF education programs.
- University of Virginia Institute for Environmental Negotiation, *Tanya Denckla Cobb*: project direction and lead, facilitation and community engagement. IEN graduate associates and staff: *Elise Cruz, Katie Gronsky, Tatiana Marquez, and Elizabeth Moore*
- Dialogue + Design Associates, *Christine Muehlman Gyovai*: senior project management, facilitation and community engagement.
- U.S. Forest Service, *Nancy Stremple*: project guidance, NUCFAC executive staff.

Project Team

The Project Team is drawn from the project leadership team and other key members, offering a range of expertise. The Project Team coordinate efforts, address key issues, and manages the strategic and logistical elements of the project to enable a smooth planning process. Project team calls are held monthly and supplemented by email correspondence for further coordination and planning.

- University of Washington, *Kathy Wolf*: expertise in socio-ecological research.
- University of Maryland Environmental Finance Center, *Jennifer Cotting and Eric Reed*: finance and costing.
- University of Virginia McIntire School of Economics, *Mark White*: economic finance and costing.
- Project Leadership members

Strategic Advisory Team

The advisors on the Strategic Advisory Team represent different types of stakeholder interests and have a national perspective on urban and community forestry to guide the planning effort. The Advisory Team serves as both the ear and voice for the broader urban and community forestry community, and they provide strategic guidance for ensuring the Action Plan planning process engages all stakeholders in a meaningful and appropriate way.

Strategic Advisory Team calls are held quarterly, supplemented by email for focused progress updates, upcoming project plans, and for discussing specific substantive questions.

Strategic Advisory Team Members are as follows:

- Federal Interests: *Ed Macie*, Forest Service Urban Forestry Coordinator,
- State Interests: *Nick Kuhn*, State Urban Forestry Coordinator
- Municipal Interests: *Angel Spell*, City of Spokane
- Broad Community of Practice Interests, and NUCFAC liaison: *Greg Ina* (current NUCFAC Ten-Year Urban Forestry Action Plan Chair) and *Liam Kavanagh* (incoming Ten-Year Action Plan Chair)
- Professional Association and Nonprofit Interests: *Jennifer Judd Hinrichs*, Convener: Sustainable Urban Forests Coalition
- Grassroots Community-Level Interests: *Carrie Gallagher*, Director, Alliance for Community Trees
- Scientific Community Interests: *Lynn Westphal*, Research Social Scientist, Northern Research Station, USDA Forest Service and *Beth Larry*, National Program Lead, Urban Research, USDA Forest Service
- Project Leadership members

If you would like to contribute to this planning effort by sharing your ideas in the digital engagement, please see the website www.urbanforestplan.org or contact Christine Gyovai, a facilitator with the Project Team, at 434-924-0263 or urbanforestplan@virginia.edu.

NUCFAC Ten-Year Action Plan

