



Leaves OF *Change*

A bulletin of Urban Forestry South/ Southern Research Station (SRS-4952) and the Southern Region/ USDA Forest Service

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Science Delivery

National Team Takes a Unique Approach to Urban Forest Technology and Science Delivery

TODAY, 54 PERCENT of the world's population is urban, and the United Nations projects that number will be close to 70 percent by 2050. The growing urban population will rely on their ecosystems for a wide range of environmental services and human health benefits that we are only recently beginning to understand. This has fed a growing desire to keep up with the rapidly developing science of urban ecosystems and the emergence of new data and technology for evaluating urban green space, understanding trends, and designing a healthier environment for urban residents.

The Forest Service's National Urban Forest Technology and Science Delivery Team (NTSD) was formed in November 2013 with the goal of improving the agency's ability to deliver state-of-the-knowledge information to city planners and natural resource practitioners, in the most rapid and accessible ways possible.

According to **Lauren Marshall**, co-lead for the NTSD team and national program manager for urban and community forestry, an important objective of the team is to help policy-makers recognize the benefits of urban forests.

"A big driver for us is the need for policy-makers to have the best available science in their hands," said Marshall. "We want them to have a complete understanding of the ecosystem services and health benefits provided by urban forests, and to make decisions with that knowledge in mind."

So far, NTSD is focusing on two science delivery products: a national webinar



US Forest Service

Members of the National Technology and Science Delivery Team take a break from a planning retreat to enjoy Chicago's urban forest.

series and "deep dive" science synthesis publications. The monthly webinar series created by the NTSD team takes a unique approach to urban forestry science, inviting multiple presenters – researchers, practitioners, and policy experts – to talk about the science of urban ecosystems and how findings are being applied in the field. A recent webinar on the role of the urban forest canopy in mitigating the urban heat island effect included presentations by Austin Troy, a researcher with the University of Colorado, and Sara Davis, an urban forestry program manager for the city of Denver.

"The urban ecology discipline has rapidly evolved and expanded over the past ten, twenty years – it's moving quickly. Practitioners have a huge appetite for this knowledge as they move forward in planning and designing a more sustainable city," said **Beth Larry**, co-lead for the NTSD team and national lead for Forest Service urban research. "They want to

know the state of the science.”

Another way that NTSD is addressing the need for real-time science is by providing syntheses – pulling the literature together on a variety of urban forestry topics to provide essential information for urban planners and natural resource managers. Their first synthesis products will be released in the coming year, covering urban tree canopy assessments, urban nature and human health, and green stormwater infrastructure.

Urban Forestry South’s **Annie Hermansen-Baez** is coordinating the effort to synthesize the latest research related to human health and nature. This effort will include a review of the literature, fact sheets for six health research categories (pollution and reduced risk, active living, mental health, stress reduction, and social health and cohesion), and case studies describing innovative projects that are using urban ecosystems, urban forests, trails, and paths to improve health and well-being.

Team members say that one of the most important outcomes of the team is a vibrant, internal network of urban researchers, program managers, and staff across Forest Service regions and

research stations. Linking Forest Service people and projects was one of NTSD’s first objectives, and this network mentality has enabled new internal relationships and new ways of doing business. According to Larry, networking urban experts across the Forest Service mission areas has streamlined the process of acquiring information and delivering research, technology, and applications internally and to Forest Service partners. She points to the national webinar series as an example.

“In the past, I’d find myself trying to put on a webinar – or wanting to – somewhat spontaneously and in response to a need to get information out. The regional urban program managers were in the same position, working independently and ad hoc,” said Larry. “Many of us didn’t have the time or technical ability to organize the webinars the way they should be done. It was stressful, and the webinars were a lot of work for a small audience. Now, we have one well-organized, national series with a small, dedicated team putting them on. We can attract renowned experts and innovators. We have a collective network of partners - we send the announcements out to over 1,000 people and regularly get well over

a hundred attendees.”

Ed Macie, the former regional urban forester for the southern region, explained how connecting across regions has led to innovation in the application of urban ecology tools. Macie points to the growth in the use of the iTree software suite for assessing urban ecosystems, as well as the evaluation of urban forests through urban tree canopy analysis.

“After urban tree canopy analysis became more readily available commercially, a lot of communities were doing urban tree canopy assessments with no real understanding of what they were for,” said Macie. “There was a lot of misapplication. But through our national network, we’ve been able to connect communities and improve understanding of the tools and how they are best applied. This has created feedback that has expanded and improved the tools themselves.”

One of the unique aspects of the NTSD team is that it is specifically designed to work across Forest Service mission areas with members in Research and Development as well as State and Private Forestry. According to **Dana Coelho**, the urban and community forestry program manager for the Rocky Mountain region, the cross mission area organization comes naturally to urban ecology.

“Urban research is very applied, so there is less disconnect between researchers and practitioners – fewer questions of how the heck are we going to apply this?” said Coelho.

“NTSD is a new model for how research and the applied side work together,” said Marshall. “And a lot of the innovation comes from organizing across Forest Service mission areas.”

Still, the organizational culture of the Forest Service occasionally presents challenges to a team that straddles the dividing line between two major agency mission areas. From setting up webpages to addressing budget and resource needs, the team members say they have become accustomed to creating new ways to counter “stovepipe” thinking and organization.

Ed Macie Retires from the Forest Service after 30 Years of Service

ED MACIE, regional urban forester for the Southern Region, retired from the Forest Service on May 28, 2016, after over 30 years of federal service. Ed spent his entire career with the Forest Service in the Southern Region office located in Atlanta leading the federal Urban and Community Forestry Program for the 13 southern states. He focused on building local capacity to protect and manage urban natural resources and strengthening the presence of urban forestry research and science delivery. He also helped establish a Southern Research Station work unit in Gainesville, FL, that focuses on urbanizing landscapes (which is now part of SRS-4952) and the Urban Forestry South science delivery center. Ed was the co-founder of the National Technology and Science Delivery Team, a member of the Tree Care Industry’s national standards committee (ANSI-A300), a Trustee with the Tree Research and Education Endowment, and on the founding committee of the International Society of Arboriculture’s arborist certification program. Ed will be greatly missed!



Urban Forest Strike Team Mock Disaster Exercise

THE NORTH CAROLINA (NC) Forest Service hosted an Urban Forest Strike Team (UFST) mock disaster exercise in cooperation with the City of Durham, the NC Division of Emergency Management, the Durham County Emergency Operation Center, and Urban Forestry South (SRS-4952 and Region 8) in Durham during the week of May 23, 2016. Participants were from the Virginia Department of Forestry, Fairfax County, VA, NC Forest Service, South Carolina Forestry Commission, Mississippi Forestry Commission, City of Raleigh, and the Town of Wake Forest. UFST personnel from West Virginia, New Hampshire, and Massachusetts also attended. The exercise provided UFST team leaders



Urban Forest Strike Team crew members enter tree risk data during the Durham mock exercise.

and crews with updated training on the current UFST data protocol, current TRAQ-based tree risk assessment, data collection using smart tablets and smartphones, and safety issues. For more information visit: www.UFST.org.

Urban Forestry Institute Takes Place in Tampa, FL

URBAN FORESTRY SOUTH coordinated the 2016 Urban Forestry Institute (UFI) at the University of South Florida in Tampa, May 23-27. This weeklong event brought together urban and community forestry program and partnership coordinators from 13 southern state forestry agencies for an intensive training using current urban forest management technology tools. The tools included components of the i-Tree suite, Urban Tree Canopy assessments using GIS, and a newly developed “Grey-to-Green” Decision Support Tool for stormwater runoff mitigation planning. The UFI was also open to professionals from other disciplines such as urban planners and stormwater engineers. The UFI



State urban and community forestry coordinators work with tree inventory technology at the Urban Forestry Institute.

is designed to give the state forestry agencies tools to convey the benefits of forest systems to municipalities. For more information contact Eric Kuehler, ekuehler@fs.fed.us.

The team has gained support from national leadership by demonstrating effective strategies for delivering science to the people who need it most. And this is right in line with the Forest Service’s new strategic plan, which calls for communicating new knowledge and making it widely available and accessible.

Retired Associate Chief **Mary Wagner** celebrated the team’s accomplishments before her departure: “Applying knowledge globally is one of our new Forest Service strategic goals. The national urban science delivery team is showing real initiative in addressing the need to share knowledge, technology, and tools across jurisdictional and cultural boundaries.”

NTSD team members say that the focus of the group is now shifting from internal network development to relationship building with partners. They are exploring how to best engage outside groups as key science delivery partners, such as the American Forest Foundation, the National Urban and Community Forestry Advisory Council, and state forestry agencies.

Margie Costa, the former urban and community forestry program manager for the northern and intermountain regions, said that the ultimate marker of success for the NTSD team will be when cities and municipalities recognize that urban ecosystems are just as important as roads, power lines, and storm water infrastructure, and they follow-up that recognition with investment.

In order to raise the visibility and perceived value of urban ecology programs, the NTSD team wants to become the go-to organization for information and science for a broad range of people, partners, and stakeholders interested in urban greening.

“Most urban forestry programs were initially started for purely aesthetic reasons,” Macie said. “Now, cities are looking to these programs as solutions to a wide range of problems related to urban life. We are finally working to put urban forestry on the pedestal where it belongs.” – *By Josh McDaniel, Guest Contributor*

In Our Next Issue

We will highlight US Forest Service SRS-4952 research related to disease ecology. Specifically we will focus on the influence of land use change on the occurrence of West Nile Virus and tick pathogens. The primary objective is to develop land-use management recommendations to reduce human risk from these pathogens.

Note: This will be the last printed issue of Leaves of Change. Future issues will only be available electronically on Urban Forestry South. If you would like an electronic copy emailed to you, please send your request to ahermansen@fs.fed.us.

Upcoming Events

Date	Description	Location	Contact
September 21-22, 2016	Urban Forest Strike Team Task Specialist Workshop	New Jersey	Dudley Hartel, dhartel@fs.fed.us
September 24-28, 2016	WEFTEC i-Tree Hydro Workshop	New Orleans, LA	www.weftec.org/workshops/
September 26-29, 2016	Urban Forest Strike Team Task Specialist Workshop	Rome, GA	Dudley Hartel, dhartel@fs.fed.us
October 24-27, 2016	Urban Forest Strike Team Task Specialist Workshop	Charlottesville, VA	Dudley Hartel, dhartel@fs.fed.us
November 16-17, 2016	Partners in Community Forestry	Indianapolis, IN	www.arboday.org/programs/pcf/



This issue and past issues can be found online at:
www.interfacesouth.org/products/leaves

Note: Urban Forestry South is a science delivery center associated with the USFS Southern Research Station work unit, SRS-4952: Integrating Human and Natural Systems in Urban and Urbanizing Environments (www.humanandnaturalsystems.org), and the USFS Southern Region.