

FORESTRY NOTES SPECIAL REPORT



National Association of
Conservation Districts

Urban Tree Canopy

Urban tree canopy can be defined as the layer of tree leaves, branches and stems that provide tree coverage of the ground when viewed from above. Improving a city's urban tree canopy can have numerous benefits, including reducing summer peak temperatures and air pollution, enhancing property values, providing wildlife habitat, providing aesthetic benefits, and improving social ties among neighbors. A robust tree canopy can also attract businesses and residents.

But studies have shown that most communities are losing tree canopy due to a wide range of threats, including insects, disease, natural disasters and development.

Communities around the country are taking steps to increase canopy. The starting point is often an urban tree canopy assessment, which provides a measure of a community's tree canopy cover as a percentage of the total land area and serves as a baseline for setting tree canopy goals and measuring progress. The first assessment was conducted in the city of Baltimore nearly two decades ago; today, almost every urban center has conducted an assessment, with countless projects underway.

Quantifiable data can be used so a tree canopy goal achieves specific objectives, such as reaching the canopy percentage necessary to reduce urban heat island temperatures to a specific range, or to reduce stormwater runoff by a projected amount. According to a national analysis by U.S. Forest Service researchers David Nowak and



Eric Greenfield, a 40-60 percent urban tree canopy is attainable under ideal conditions in forested states. Twenty percent in grassland cities and 15 percent in desert cities are realistic baseline targets, with higher percentages possible through greater investment and prioritization.

In a number of states, conservation districts are playing a key role in helping to reach these objectives (*several examples are highlighted in this Forestry Notes special report*). Educating local decision makers is critical; building partnerships and assembling community volunteers also helps. Conservation districts are well-positioned to contribute.

In early 2020, the city of Charlotte, N.C. created a Tree Canopy Action Plan Stakeholder team. City Planner Andrew Ausel approached Mecklenburg Soil and Water Conservation District to be part of that committee. "We saw the conservation district as an important thought leader, as well as a voice that should be involved in any strategy we come up with to preserve trees in Charlotte," Ausel said.

WATCH: NACD Urban Canopy Cover Webinar

This August 2021 one-hour webinar — produced by the NACD Urban and Community Resource Policy Group (RPG) — covered topics ranging from how to connect with your state urban forestry coordinator, tools available for urban canopy monitoring, and building partnerships.



To watch, visit the
NACD YouTube channel at
[https://www.youtube.com/
NationalAssociationof
ConservationDistricts](https://www.youtube.com/NationalAssociationofConservationDistricts).

4 ways conservation districts can support urban tree canopy efforts

While there are significant efforts to improve tree canopy cover throughout the country, many at the local level may be unaware of those efforts, or even the importance of tracking and improving canopy. Conservation districts have the potential to play an important role in a number of ways. Here are a few:

Inform civic leaders about tree equity

Conservation districts can help organize data at the neighborhood, city or regional scale to educate key stakeholders, like elected officials or community leaders, to set goals to address tree equity in order to focus resources to neighborhoods of high socioeconomic need and low tree canopy. “The critical need for urban tree canopy to protect our most vulnerable populations has never been greater or more widely recognized across the political spectrum,” said Ian Leahy, Vice President of urban forestry at American Forests.

Learn the selling points

Residents and city leaders are often unaware of the significant impacts a robust tree canopy can have on their community. Not only do urban trees lower energy costs, improve air quality, and provide overwhelming health benefits to citizens such as decreased rates of asthma, skin cancer, cardiovascular disease and obesity; trees also lead to an increase in home values, deter crime and help to maintain a plentiful and clean drinking water supply. “Trees in an urban setting are ready to tackle an array of different challenges” said Heather Doucet, Convener with the Sustainable Urban Forests Coalition. “Conservation districts can serve a vital role educating citizens about the tremendous benefits trees provide.”

Reach out to your state contact

Each state has an urban forestry coordinator through the state agency. These individuals often are a good starting point for conservation districts interested in urban forestry projects. The Arbor Day Foundation has a directory of state contacts on its website. Those contacts may be able to help districts become aware of existing efforts in the state or point them to available funding. “Reach out to them and ask if they have a competitive grant program,” said Cori Dolan,



program manager for the Arizona Department of Forestry and Fire Management.

Develop a climate and public health strategy

The Climate and Health Action Guide that the Northern Institute of Applied Climate Science (NIACS) and American Forests developed is a more technical guide that conservation districts can work with urban foresters to select a strategy and address climate change threats while mitigating public health crises. NIACS also provides urban forest climate vulnerability assessments to ensure tree species of today will be suitable to potential future climates in a region.

VIRGINIA: District seedling sale helping canopy goal

A partnership between Northern Virginia Soil and Water Conservation District (SWCD) and the Virginia Department of Forestry is building urban canopy and spreading the importance of tree canopy across boundaries.

The state is advancing toward its goal of planting nine million trees over a five-year period, contributing to increasing urban

canopy and balancing out canopy levels in differing socio-economic areas and neighborhoods. One way the SWCD is helping out is through its annual seedling sale.

“Being in an urban area, trees are very important,” said Laura Grape, Northern Virginia SWCD Executive Director. “We’ve worked collaboratively in looking at the green infrastructure throughout Fairfax County and throughout Virginia as assets to the development and planning process. It’s a very important relationship.”

The partners have joined efforts to increase tree canopy in part through the SWCD’s seedling sales — which sold out in 11 hours this spring — and encourage the additional agency and individual partners participating to add their plantings to a new app the Department of Forestry developed, “My Tree Counts.”

The app allows agencies and individuals to upload information on their tree plantings — location, how many, which types, stories about the experience — into the system. Maps and data are available through the app so people can search their own neighborhoods and learn whether more trees are needed. The app updates information quarterly; so far more than 5,000 trees have been planted.

“Because it’s spatially-related, we may be able to do some analysis to see what is happening locally,” Grape said. “We also have interests in focusing on equity, to look at the areas where we are the most vulnerable in Fairfax County and the areas with the poorest tree canopy coverage, so there’s a lot of overlap.”

The public can add their tree planting data to the app through Sept. 30, 2025.

King CD efforts aim to improve tree canopy numbers

As part of King Conservation District (KCD)'s interlocal agreement with King County, funding and staff time has been set aside to support urban forest health programming in municipalities throughout King County to address tree canopy decline in Washington and the inequitable distribution of urban forests and the benefits that they provide.

"We've been able to give the outside technical support to extend traditional reach and work in backyards, public easements and parks and open spaces," said Ellen Arnstein, KCD Forest Stewardship Program Manager. "We're building close relationships; we're proud to call our member jurisdictions partners."

According to the King County 30-Year Forest Plan, data showed a decline in tree canopy in cities from 23 percent to 18 percent over the past 24 years. Though it could take years to significantly increase the canopy, KCD's 2017 assessment will be updated for 2022 to determine whether efforts — including the urban forest program — have had any impact.

The natural resource conservation interlocal agreement between King County and the district initially was implemented in 2015, when county leaders decided to devote funding to KCD through the county's tax levy. This next round runs through 2024, with \$150,000 annually committed to the district specifically for urban forest stewardship for member jurisdictions identifying and implementing tree canopy projects.

Since 2015, the district has assisted with or implemented 19 projects and partnered with 31 of the 34 municipalities in the county — more than double the goal set for the first five years.

"One of the things we've done is reach out to all of our jurisdictions in the county — and they are all different, different sizes, different staffing numbers — so we meet them where they are," said Arnstein, who coordinates the urban forest program.

In 2020, the first of this second series of funding, COVID restrictions barred any movement to approve plans, so in 2021, pending



board approval, \$300,000 will be allocated to eight projects representing the next steps in KCD's conservation and tree canopy work.

"The majority of cities have now done a tree canopy assessment, so the most requested projects have leaned toward addressing canopy concerns with tree planting/tree giveaway programs and doing an inventory of individual park street trees to pinpoint planting locations and health management next steps," she said.

This year, part of the project selection process included developing criteria to prioritize projects that commit to BIPOC communities and traditionally underserved locations or address accessibility to speakers of other languages or persons with limited mobility, Arnstein said.

Some projects are in the process of developing a carbon credit program that areas with fewer resources available may be able to utilize as well, she said. Stormwater fees have also been examined as another source of funding.

Completed and initiated projects since 2015 include:

- ▶ Forest health analysis, stewardship planning and volunteer programming in cooperation with several community partners over 1,200 acres of public and private forest open space
- ▶ Citywide tree canopy assessment with analysis of land cover data for land use and other geographies, a stormwater benefits analysis, and online canopy planner software, available at <https://pg-cloud.com/KingCD-Cities/>
- ▶ Calculation of ecosystem services of the urban forest as it relates to stormwater mitigation services

- ▶ A "backyard stewardship" pilot to engage private property owners adjacent to forested restoration sites to empower them to manage their portion of the urban forest
- ▶ Programming to train and support homeowner's associations and residents in restoring and managing their neighborhood forested open spaces
- ▶ Invasive plant removal and native plant restoration with both WA Conservation Crew and volunteer participation

As managed growth concentrates development within the urban growth boundary, healthy urban forests, tree canopies and street trees become even more necessary. KCD is working to increase the urban tree canopy resilience and capture the ecological, recreational and other values of green infrastructure by helping residents and landowners actively manage urban trees in yards and public open spaces.

The district also hosts a web-based planning software, PlanItGeo's Tree Plotter Canopy, that its member jurisdictions can use to visualize their data. More than 15 have had their tree canopy assessed, which will help support planning, community development and urban forest management in those areas.

Other potential urban forest stewardship projects that KCD could support include tree inventory and risk assessments; street tree improvements such as tree guards, bioswale installation, structural soil, and air-spading; volunteer program development; diversity and equity efforts; wood utilization and/or firewood banking; carbon credits; forest health monitoring; and tree ordinance development.

OHIO: SWCD brings more awareness to canopy needs

Cuyahoga Soil and Water Conservation District (SWCD) is teaming with Cuyahoga County leaders through the Healthy Urban Tree Canopy Grant program to increase efforts to reverse the decline in tree canopy in Ohio.

Following a 2019 tree canopy assessment, county leaders committed \$1 million a year for five years to the district for funding grants for tree canopy projects across the county, awarding higher points to areas with low tree canopy percentages — some below 20 percent — and to bring higher equity to other areas.

“There’s more awareness and just better communication among partners who are working toward this,” said Jared Bartley, Cuyahoga SWCD Senior Program Manager of Education and Watersheds. “It’s allowed us to be able to fund some of our partners, communities, watershed-based organizations.”

A county assessment in 2019 utilized data from 2011-2017 and found a six percent loss of tree canopy. County leaders developed a



countywide Climate Change Action Plan that taps the district’s expertise in addressing the tree canopy concerns.

The district helps to award grants — 25 this year — and monitor and educate throughout the tree planting process. The first year of grants focused more on providing funds for communities for tree inventories or updating plantings. This year’s groupings are more for implementing plans and planting, Bartley said.

“We’re trying to stop the bleeding and increase the communities that are under 20 percent, 15 percent,” County Sustainability Director Mike Foley said. “This is an area that used to be called Forest City.

“The Soil and Water Conservation District has good staff, they understand the urban area and know what kind of trees grow and what don’t and the issues around setbacks and development pressures,” he said. “They make the overall tree canopy program more effective.”

In addition to this grant program, the district also operated the Legacy Tree Fund, tree-care programs and the ReLeaf program to increase urban forestry. ReLeaf has become the umbrella for the district’s planting programs, including the Native Urban Tree Starters. The district also partners with teachers and students to fight canopy decline.

ADDITIONAL MATERIALS RELATED TO THIS SPECIAL REPORT



Urban Tree Canopy Assessment: A Community’s Path to Understanding and Managing the Urban Forest

This 16-page report, released by the U.S. Forest Service in April 2019, provides five key steps to implementing an urban tree canopy project. To view this document, visit <https://www.fs.usda.gov/> and search 'Urban Tree Canopy Assessment.'



Vibrant Cities Lab: Climate & Health Action Guide

This action guide outlines a process for you to create an urban forestry project to optimize for climate and health outcomes. It will help you reduce climate risks and proactively respond to changing conditions while also providing important benefits to the health and well-being of your community. To learn more, visit <https://www.vibrantcitieslab.com/guides/climate-health-action-guide/>.



Sustainable Urban Forests Coalition (SUFC)

The Sustainable Urban Forests Coalition is the nation’s only network of nonprofits, businesses, associations, foundations and others who understand the value and return on investment of planting and maintaining trees where people live. NACD is one of the Coalition’s 35 members. To learn more, visit <https://sufc.org/>.



Tree Equity Score

Tree Equity Score calculates scores based on how much tree canopy and surface temperature align with income, employment, race, age and health factors in the U.S. Scores are available for 150,000 neighborhoods and 486 urbanized areas (places with at least 50,000 residents). To learn more, visit <https://treeequityscore.org/>.

