

## Urban and community forestry

Urban and community forestry is the field of practice that stewards trees and forests in cities, suburbs, and towns, often with substantial civic engagement and institutional partnership. Objectives encompass everything from maintaining and improving water quality, habitat, and biodiversity, to improving public health and safety and capturing carbon. Urban and community forestry has multiple origin points that are distinct, but often converge.

The fields of planning, natural resource management, and arboriculture bring expertise in tree care and green infrastructure design and maintenance. Community forestry as a unique practice has historical origins in international development and rural forest areas, where community development and organizing approaches shape the planting, care, and use of trees to enhance community quality of life. Today, we find urban and community forestry programs and practices taking place throughout the world.

The USDA Forest Service has developed a wide array of state-of-the-art toolkits, resources, and partnerships to enable productive engagement and stewardship by residents, civic associations, and local businesses and institutions.

Over 140 million acres of U.S. forests are located in and around cities, suburbs, and towns. Urban and community forests include trees in parks, along streets and boulevards, gardens, river and coastal promenades, greenways, riparian corridors, wetlands, nature preserves, buffer strips between land uses, and trees at institutional and former industrial sites.

The 2010 census reported that more than 80% of Americans now live in Census-defined “urban” contexts. This definition includes great diversity, and everything from the largest cities in the U.S., like Los Angeles and Houston to small communities like Atkins, Iowa, with population less than 1,000 people, are categorized under this broad definition of “urban.” Urban and community forests are more important than ever--they are the trees outside our front doors. They are a component of dynamic ecosystems that provide critical benefits to people and wildlife.

## History

Some notable developments in the history of urban and community forestry include:

### Late 19<sup>th</sup> and early 20<sup>th</sup> centuries

- *landscape architecture*: in the 1850s, Downing, Olmstead, Vaux and others advance landscape architecture and urban park planning in cities across America; von Haussmann integrated trees into urban planning and design in Europe.
- *Arbor Day*: established in 1872 to celebrate and raise visibility of tree planting at local and state levels.
- *arboriculture*: in the early 1900s the field of arboriculture advances; commercial firms Bartlett Tree Experts and Davey Tree Experts founded; Shade Tree Conference founded

in 1924 (later becomes International Society of Arboriculture). American Forests launches a memorial tree planting program in communities across the nation after the first World War; First Lady Florence Harding kicks off the campaign by planting the first tree in Washington, DC.

- *Dutch elm disease*: in the 1930s, Dutch elm disease leads to heavy losses in landscaped communities and results in a national shift to more comprehensive planning and management for a greater diversity of trees.

## Late 20<sup>th</sup> century

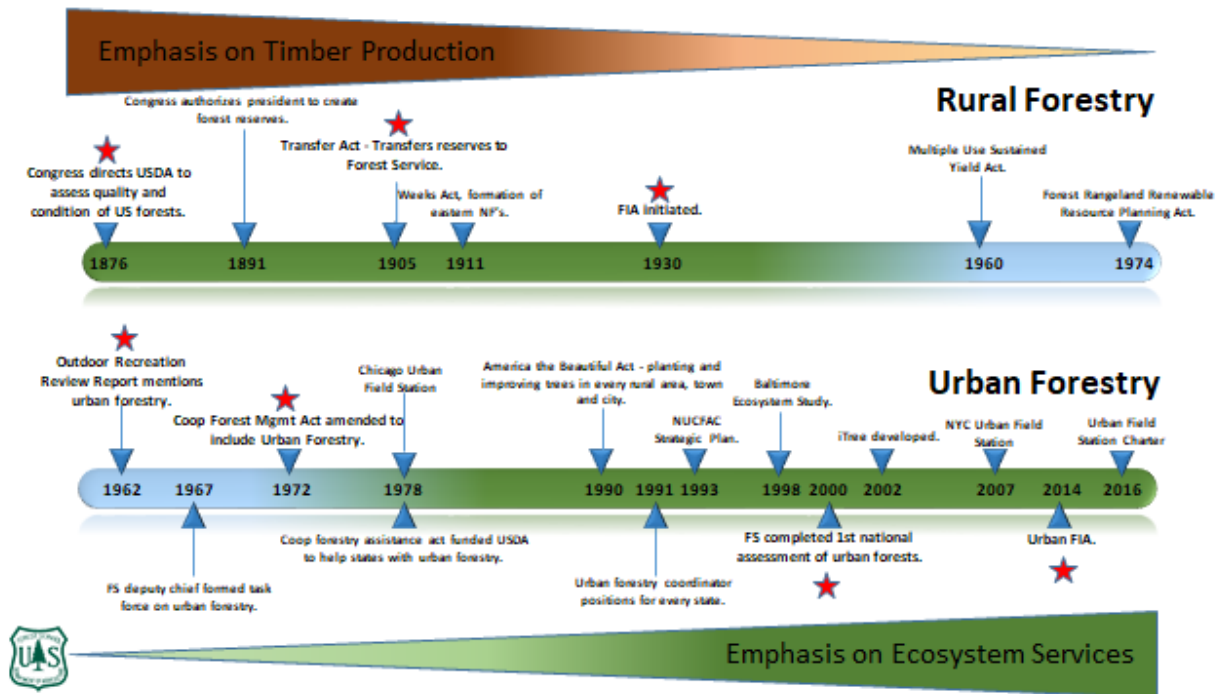
- [\*Tree City USA\*](#): launched in 1976 to give communities designation for meeting urban forestry standards.
- *Cooperative Forestry Assistance Act of 1978*: formally creates urban forestry program within USDA Forest Service. The agency's Research and Development hosts the first national conference.
- *American Forests, 1982*: launches its first official urban forestry program and hosts the second National Urban Forest Conference. They begin advocacy for Congress to create a national level urban forestry policy.
- *Farm Bill of 1990*: creates America the Beautiful program, Urban and Community Forestry program, and [National Urban and Community Forestry Advisory Council](#).
- *1990s-present*: Forest Service Research and Development increases investment in urban research, locations, and partnerships (i-Tree, Revitalizing Baltimore, Chicago Wilderness, Urban Field Station network). American Forest continues hosting national conferences.
- *1992 Earth Summit*: held in Rio de Janeiro, launches UN Agenda 21, which brings emphasis to urban sustainability planning across the globe to government and NGOs.
- [Urban Resources Initiative](#) began in Baltimore in 1989. At the invitation of Baltimore's Director of Parks and Recreation, Yale School of the Environment (YSE) Professor William Burch sent Yale students to Baltimore to apply the principles of social forestry to the education of teenagers and the development of neighborhood forestry groups. Since then, URI has provided a special opportunity for students to work alongside community members in many cities and small towns, including and especially, New Haven, CT.

## Early 21st century

- *organizations, movements, and institutions*: urban forestry civic organizations professionalize; rise of public-private partnerships; proliferation of urban conservancy movement; creation of urban stewardship science (e.g. STEW-MAP), formation of the

[Sustainable Urban Forests Coalition](#); development of urban forest mapping and monitoring tools.

- *Emerald Ash Borer*: 2002 to present, invasive beetle first discovered in Michigan, spreads across the country to decimate tree canopy, but leads to increased public awareness and support for funding among elected officials.
- *World Summit on Sustainable Development*: held in Johannesburg, South Africa, in 2002; further advances global attention on sustainability.
- *new challenges*: increasing, compounding, and amplifying pressures to urban and community forests including climate change, extreme heat and weather events, and insects and diseases. Urban forests may require ever more care in the years ahead to remain healthy and resilient and support the health and resilience of the people and communities that surround them.
- *Sustainable Development Goals*: creation of these by United Nations in 2016, which includes Goal 11: Sustainable Cities and Communities.
- *on the horizon*: emerging trends include systems-based approach to urban wood management and utilization across the lifecycle; biocultural stewardship approaches gaining recognition in urban contexts; ecological silviculture approaches to urban forestry on the rise.



## Urban and community forestry frame

To propel movement building and institutional field formation, “framing” has drawn upon a variety of ideas and metaphors.

### *Evolution of urban and community forestry*

In many ways, trees have always marked the establishment of our human settlements, from villages to grand palaces. Urban forestry, as a practice and profession, emerged in the United States from the late 19th Century field of urban horticulture, founded by Andrew Jackson Downing, Frederick Law Olmsted, and the cadre of city planners who shaped ideas around the “garden city” movement into the 20th Century.

Tree planting and the establishment of urban parks were emblematic of the ‘sanitary city,’ providing fresh air and open space to the masses of people who were living and working in the industrial and postindustrial city. During the 20th Century, it was quite common for cities and towns to establish Tree Commissions or citizen advisory tree boards who advocated for the planting and protection of trees, often focusing on their aesthetic benefits as well as their ability to ‘clean’ the city.

By the 1970s, community tree planting took hold in many cities throughout the United States as part of a larger environmental movement sweeping the country, as well as in response to the loss of the beloved American elm to the ravages of Dutch elm disease. Many urban residents planted trees as an active demonstration in ‘taking back their streets’ and taking pride in beautifying the city as a desirable and welcoming place to live.

Alongside this social movement, urban forestry grew into a technocratic profession of trained arborists who found steady employment in municipal parks and public works departments or in the growing urban tree care industry in the private sector. By the late 1980s, there was a widespread national constituency that pushed for the language in the 1990 Farm Bill that authorized the USDA Forest Service Urban & Community Forestry (UCF) Program. With this program, the Forest Service became a partner to 63 state and territory forestry agencies, more than 30 national partners, and hundreds of grassroots tree groups in restoring and sustaining the health of urban and community forests.

The history of community forestry has its origins in rural areas in the Global South where there was a communal need to improve access to firewood for fuel and to improve soil conditions. In addition to growing trees in communal lots, there were social goals of community forestry that included local organizing and collective action as well as the development of forestry institutions. Community foresters have historically worked to aid local people in the execution of projects that would range in a wide provision of goods, benefits, and services.

In the U.S., commercial forestry has primarily involved the growing and harvesting of trees by private operators, which declined over time, particularly in the Pacific Northwest,

including the turning of the Threatened Northern Spotted Owl controversy. Community forestry, by including a much broader set of activities and producing a variety of environmental, economic, and social goods, benefits and services, expanded the definition of Federal urban and community forestry to include these community-based actions and actors and to serve communities of all sizes

#### References:

Morgan Grove, William R. Burch, Jr., and S.T.A. Pickett, "[Social mosaics and urban forestry in Baltimore, Maryland](#)," in Robert G. Lee, ed., *Communities and Forests: Where People Meet the Land* (Corvallis, OR: Oregon State University Press, 2005), 250-274.

Michael M. Cernea, "The Social Actors of Participatory Afforestation Strategies," in Michael M. Cernea, ed., *Putting People First: Sociological Variables in Rural Development*, second edition (New York: Oxford University Press, 1991), 340-393.

### *Urban and community forestry today*

Today, the federal Urban and Community Forestry (UCF) Program supports the health of our Nation's forests across the whole landscape and helps to preserve the unique sense of place that forests provide in cities and towns. By delivering information and tools to community managers, the program supports research-based and data-driven best practices in urban and community forestry, ultimately improving people's lives by providing financial and technical assistance through state forestry agencies and creating jobs. The program serves close to 8,000 communities annually that are home to more than 200 million residents in the United States.

Alongside the work of the UCF Program, the USDA Forest Service Research & Development branch provides leading-edge science and decision tools to inform the stewardship of all the nation's trees and forests, many of which are located in urban, suburban, and community contexts. Key [urban sustainability research](#) areas include urban forest inventory, health, and management; stewardship and engagement; and public health and well-being.

An abundance of research has shown that urban and community forests are a critical resource not only to city dwellers but to the health of ecosystems well beyond their borders. And we now know that investing in tree canopy cover in communities offers a high return on many environmental, social and economic benefits.

Urban and community forests help to filter air and water, control stormwater runoff, conserve energy, and provide wildlife habitat. They add beauty, form, and structure to urban design, enhancing property value and community wealth. By reducing noise and providing welcome places to meet and recreate outdoors, urban and community forests strengthen social cohesion, spur community revitalization, improve public health, and reduce property crime and domestic violence.

Not all people in urban areas currently share in these benefits equally, and there is more work to be done to attend to tree cover in vulnerable communities. As we have moved from the ‘sanitary city’ to the ‘sustainable city’ in the 21st century, urban and community forestry has never been more important as communities are on the frontlines of a changing and extreme climate, population growth, and a growing demand for services. Still, the benefits of urban and community forests remain the same as they did centuries ago: to provide a wide range of benefits to communities, making them places where both the environment and people can thrive.

#### References:

Grove, Morgan; Ogden, Laura; Pickett, Steward; Boone, Chris; Buckley, Geoff; Locke, Dexter H.; Lord, Charlie; Hall, Billy. 2018. [The Legacy Effect: Understanding How Segregation and Environmental Injustice Unfold over Time in Baltimore](#). *Annals of the American Association of Geographers*. 108(2): 524-537.

David J. Nowak and Eric J. Greenfield, Eric J., “[US Urban Forest Statistics, Values, and Projections](#),” *Journal of Forestry* 116 (2018): 164-177.

Robert W. Miller, Richard J. Hauer, and Les P. Werner. [Urban Forestry: Planning and Managing Urban Greenspaces](#), third edition (Long Grove: Waveland Press, 2015).

Francesco Ferrini, Cecil C. Konijnendijk van den Bosch, and Alessio Fini, eds. [Routledge Handbook of Urban Forestry](#) (New York: Routledge, 2019).

Andreas Roloff, ed. [Urban Tree Management: For the Sustainable Development of Green Cities](#) (Hoboken, NJ: Wiley-Blackwell, 2016).

## USDA Forest Service

The Forest Service was officially established in 1905 within the U.S. Department of Agriculture (USDA). In 1920, urban and rural populations were roughly equal. Today, over 80% of the population lives in U.S. Census-defined urban areas. Urban land is projected to increase by 95.5 million acres between 2010 and 2060, an area larger than the size of Montana. Throughout the agency’s history, and especially in recent decades, the Forest Service has developed data, tools, and research to help sustain urban and community forests and the people who steward and depend on them. Among these are:

- [USDA Forest Service Urban and Community Forestry Program](#): supports forest health for all of our Nation’s forests, creates jobs, contributes to vibrant regional wood economies, enhances community resilience and preserves the unique sense of place in cities and towns of all sizes. By working with state partners to deliver information, tools and financial resources, the program supports fact-based and data-driven best practices in communities, maintaining, restoring, and improving the more than 140 million acres of community forest land across the United States.

- [USDA Forest Service Urban Sustainability Research](#): Forest Service R&D provides leading science and new technology that informs [urban natural resources stewardship](#) and improves environmental health and community well-being in urban areas. Research helps to create more livable, desirable, sustainable communities.
- [Urban Field Station Network](#): The mission of the Urban Field Station Network is to improve the quality of life in urban and urbanizing areas by conducting and supporting short-term and long-term research and science delivery about urban social-ecological systems and urban resource management.
  - [iTree](#) Tools: i-Tree is a free software suite that helps users to assess and understand the local, tangible ecosystem services that trees provide, linking forest management activities with environmental quality and community livability.
  - [STEW-MAP](#): the Stewardship Mapping and Assessment Project (STEW-MAP) is a research methodology, community organizing approach, and partnership mapping tool developed by scientists at the USDA Forest Service Northern Research station that answers the question: who takes care of the local environment?
  - [Urban Tree Canopy Assessment](#) (UTC) is a high-resolution mapping methodology that integrates green and gray land cover data with parcel data yielding critical social, economic, and environmental information to inform sustainability and resilience policy, planning, and management.
  - [Urban Forest Inventory and Analysis](#) (Urban FIA) is an extension of the traditional FIA program, and inventories and monitors urban forests on both public and private land across the nation, with a special emphasis on America's largest cities, to illuminate regional or national trends in urban forest health and status.
  - [Healthy Trees, Healthy Cities](#): Healthy Trees Healthy Cities (HTHC) is an urban tree health monitoring initiative developed by The Nature Conservancy and USDA Forest Service that seeks to protect the health of our nation's trees, forests, and communities by creating a culture of stewardship that engages people in long-term stewardship and monitoring of the trees in their local communities.
- [National Urban Forest Technology and Science Delivery Team](#): The Forest Service's National Urban Forest Technology & Science Delivery Team is comprised of urban program staff from across the nation, working collaboratively to deliver quality urban natural resources science, technology, and information to improve the long-term sustainability of urban ecosystems. The team's mission is to help inform environmental stewardship and sustainably sound decisions about urban and community lands and the broader watershed, for wildlife and people.

- [Urban Cross Pollinator](#): the Cross-Pollinator is a science synthesis publication produced quarterly in cooperation between the [Northern Research Station](#), the [Urban Field Station Network](#), [State and Private Forestry](#), and the [Urban Forest Technology and Science Delivery Team](#). It spotlights transdisciplinary collaborations among researchers and practitioners that “cross” forest research with urban and community forests at a landscape scale.
- [Urban Forest Connections Webinar Series](#) - The Forest Service Urban Forest Connections webinar series brings experts together to discuss the latest science, practice, and policy on urban forestry and the environment.
- [Vibrant Cities Lab](#): a joint project of the USDA Forest Service, American Forests and the National Association of Regional Councils, merging the latest research with best practices for implementing green infrastructure projects in your community.
- [National Urban and Community Forestry Advisory Council \(NUCFAC\)](#): a Congressionally designated advisory council (authorized under FACA) to the Secretary of Agriculture. NUCFAC serves as the steward of the [2016- 2026 Ten Year Urban Forestry Action Plan](#). The plan was developed with a broad range of stakeholders and members of the urban and community forestry community of practice.
- *International Programs*: for over a decade, the US Forest Service International Programs has worked in cities in the United States and overseas. The Urban Outreach and Partnerships Unit aims to conserve urban habitats for migratory species, along their flyways. In addition, to protect biodiversity and forest resources, the unit works with various audiences and communities – particularly underserved ones, people of all abilities, veterans, and youth – to instill a sense of connection to nature.

The Unit works closely with communities in Baltimore, New York City, Chicago, Pittsburgh, St. Paul, and Washington, D.C.

The program highlights the importance of migratory birds, butterflies, dragonflies and bats through demonstrations with live animals and experiential learning at schools, veterans’ hospitals, community-based organizations, science museums, and non-traditional conservation partners, such as faith-based organizations, enhanced learning groups, youth clubs, and others.

Overseas, International Programs has engaged local communities—including informal settlements, displaced populations and others—on conservation efforts through various approaches, such as youth empowerment and awareness, development of urban farms and gardens, building networks and collaborative projects to address a bevy of challenges and by bringing the tools of the Agency to practitioners and grassroots organizations overseas.



- Beyond Trees is a global network of conservation and stewardship organizations, government agencies, universities and research institutions, multilateral groups, and private industry. They work together to improve lives everywhere, but with a particular focus on communities in urban areas. Together with the US Forest Service International Programs, these member organizations from 90+ countries work on efforts around tree plantation, wildlife conservation, environmental awareness, equity, gender equality, rooftop farming, waste management, water conservation and youth and community engagement. The power of the Beyond Trees Network lies in collaborations that lead to a sharing of knowledge and resources, exponentially increasing the impact of each of the organizations.
- International Seminar for Urban Forestry and Community Engagement.

This annual seminar addresses emerging issues, tools, and approaches around urban natural resource management in order to improve lives in cities worldwide. The seminar emphasizes how technical tools and approaches impact communities and encourages participants to include the voices of community members in designing programs.

The seminar is designed for professionals with an interest in environmental stewardship, engaging urban audiences in the outdoors, and promoting sustainable environmental, conservation, and social justice practices in urban areas. The program takes place in Chicago and New York City and includes presenters from local, regional, and national NGOs, government agencies, and research organizations.

Since 2017, the program has engaged participants from 30 countries, including Cambodia, Georgia, Rwanda, Jamaica, India, Myanmar, Egypt, Mexico, Russia, Bangladesh, Ukraine, Thailand, Lebanon, Philippines, Cameroon, Jordan, Bhutan, Malawi, Uganda, Ethiopia, Dominican Republic, Colombia, Morocco, Canada, Tanzania, Uzbekistan, Vietnam, Peru, and Tunisia. One outgrowth of the seminar is the development of a platform for program alumni to continue collaboration and discussion, creating a new international network of urban professionals who engage in both forestry practices in the cities and in promoting stewardship among local citizens. Together, they are working to foster urban ecosystem viability and improve human health globally.

## National groups

[Sustainable Urban Forests Coalition](#): national network of nonprofits, businesses, associations, foundations and others working together to advance sound, effective urban forest policy and practices. Among its members are:

- [Alliance for Community Trees](#) Lincoln, NE
- [American Forests](#) Washington, DC
- [American Planning Association](#) Chicago, IL

- [American Public Works Association](#) Kansas City, MO
- [American Society of Consulting Arborists](#) Rockville, MD
- [Arbor Day Foundation](#) Lincoln, NE
- [Bartlett Tree Foundation](#) Stamford, CT
- [Center for Invasive Species Prevention](#) Bethesda, MD
- [City Forest Credits](#) Seattle, WA
- [Cleveland Clinic](#) Cleveland, OH
- [Corazon Latino](#) Washington, DC
- [Green Infrastructure Center](#) Charlottesville, VA
- [International City/County Management Association](#) Washington, DC
- [International Society of Arboriculture](#) Atlanta, GA
- [Keep America Beautiful](#) Stamford, CT
- [National Association of Clean Water Agencies](#) Washington, DC
- [National Association of Conservation Districts](#) Washington, DC
- [National Association of Landscape Professionals](#) Herndon, VA
- [National Association of State Foresters](#) Washington, DC
- [National Recreation and Park Association](#) Ashburn, VA
- [National Wildlife Federation](#) Merrifield, VA
- [Professional Grounds Management Society](#) Forest Hill, MD
- [Society of American Foresters](#) Washington, DC
- [Society of Municipal Arborists](#) Atlanta, GA
- [Student Conservation Association](#) Arlington, VA (National Office)
- [The Davey Institute](#) Kent, OH
- [The Nature Conservancy](#) Arlington, VA
- [The Trust for Public Land](#) San Francisco, CA
- [TREE Fund](#) Naperville, IL
- [U.S. Water Alliance](#) Washington, DC
- [Utility Arborist Association](#) Champaign, IL
- [Water Environment Federation](#) Alexandria, VA
- [Wildlife Habitat Council](#) Silver Spring, MD

## State government and associated organizations

State governments are critical implementation leaders in urban forestry, adding capacity, financial resources and technical expertise to communities across the nation. State governments manage and protect state and private forests, which encompass nearly two-thirds of the nation's forests. Four groups work together to represent state government leadership around urban forestry:

- [National Association of State Foresters](#): established in 1920, the National Association of State Foresters is a non-profit organization composed of the directors of forestry agencies in the states, U.S. territories, and District of Columbia.

[Northeast Midwest State Foresters Alliance](#): its membership is comprised of the state forestry agencies from 20 New England, Mid-Atlantic, and Midwestern states plus the District of Columbia.

- [Council of Western State Foresters](#): The Council of Western State Foresters is the leading voice and a trusted source of information and expertise on the most pressing issues facing western and Pacific Island forests.
- [Southern Group of State Foresters](#): Provides leadership in sustaining the economic, environmental and social benefits of the South's forests, and works to identify and address existing and emerging issues and challenges that are important to southern forests and citizens.

## Local and State level non-profit partners

There is a wide and diverse array of state level, municipal level, and civil society organizations involved with urban and community forestry around the county. These range from small, informal groups of friends and neighbors to highly professionalized organizations with large staffs and multi-million dollar budgets. Some, but not all, of these organizations are affiliated with the Alliance for Community Trees (below), others work across sectors and disciplines in the wider constellation of efforts involved in urban greening, sustainability and resilience planning, community development, and environmental justice.

- [Alliance for Community Trees](#) Network - includes 150+ state and municipal level urban and community organizations.
- More than 3,400 communities are recognized as a [Tree City USA](#). While run by the National level Arbor Day Foundation, this is a critical program for building local capacity and commitment to urban forests. To achieve Tree City USA status, communities must meet four core standards of sound urban forestry management: maintaining a tree board or department, having a community tree ordinance, spending at least \$2 per capita on urban forestry and celebrating Arbor Day. The Arbor Day Foundation launched the related [Tree Cities of the World](#) program in 2020.

## On-the-ground Arboriculture

In communities around the country, arborists and urban foresters are serving on the front line of tree care and community organizing to grow equitable tree canopies. [The Society of Municipal Arboriculture](#) boasts a wide range of members, including consultants, commercial firms, nonprofits, tree boards, tree wardens, allied professionals, and citizens who actively practice or support some facet of municipal forestry. The [International Society of Arboriculture](#) promotes the professional practice of arboriculture and helps people understand the benefits of trees.

## Case studies

Cities across the country are engaged in urban and community forestry practices. To see a compendium of case studies, visit [Vibrant Cities Lab](#). A few selected cases are featured here:

### New York City

New York City is an important case study of the evolution of urban and community forestry in America, including many waves of government, civic, and private investment in urban trees and greening over time. New York City has long-cultivated an urban landscape aesthetic born out of the late 19th Century horticultural movement led by Andrew Downing and which gave rise to Frederick Law Olmsted and Calvert Vaux's design of Central Park as well as many other designs for urban parkways, greenways, park trees and tree-lined neighborhood streets.

Currently, the New York City Department of Parks and Recreation (NYC Parks) is one of the largest and most advanced municipal natural resource management organizations in the country.

From 2007-2015, the MillionTreesNYC campaign raised the profile of urban forestry in the city and nationally by planting and managing one million new trees across the city, led by NYC Parks and the nonprofit New York Restoration project under the mantle of the city's first sustainability plan (see Campbell 2017 - link to book review on Civic Green; see also [NYC case on Vibrant Cities Lab](#)). Volunteer tree planting has been shown to strengthen other forms of civic engagement (see Fisher et al 2015 - add link to book review on Civic Green).

There is a broad and diverse network of civic environmental stewardship groups in New York City that engage in tree planting and care (see Landau et al 2019; [STEW-MAP NYC 2017](#)). These groups have various long histories dating to various eras of engagement with urban greening and community development, including the 19th century progressive era, the 1970s fiscal crisis, and the recent turn toward sustainability and resilience. Today, working alongside government agencies are hundreds of community-based groups that care for the urban environment and the well-being of its human and non-human residents.

New York City is also a hub for strengthening research and development in urban forestry and civic stewardship, particularly as catalyzed through the [NYC Urban Field Station](#), which was founded in 2006 as a partnership between the USDA Forest Service and NYC Parks to advance knowledge about cities as social-ecological systems.

Most recently, the urban conservancy movement has continued to mature and proliferate through citywide groups such as the Natural Areas Conservancy, neighborhood based groups like Gowanus Canal Conservancy, and hundreds of 'friends of' parks groups -- some of which may professionalize into more formal organizations, others which remain voluntary and informal civic groups. While the breadth and number of these civic organizations is greater in NYC than in other cities, it is emblematic of the cross-sector collaboration we see

in communities across the nation. The Alliance for Community Trees is an umbrella organization for non-profit friends of trees groups around the nation.

References:

Lindsay K. Campbell, *City of Forests, City of Farms: Sustainability Planning for New York City's Nature* (Ithaca, NY: Cornell University Press, 2017). [Full review](#) in [CivicGreen Bookshelf](#).

Dana R. Fisher, Erika S. Svendsen, E., and James Connolly, *Urban Environmental Stewardship and Civic Engagement: How Planting Trees Strengthens the Roots of Democracy* (New York: Routledge, 2015). [Full review](#) in [CivicGreen Bookshelf](#).

Laura Landau, Lindsay K. Campbell, Michele Johnson, Erika S. Svendsen, and Holly Berman, [STEW-MAP in the New York City Region: Survey Results of the Stewardship Mapping and Assessment Project](#). Gen. Tech. Rep. NRS-189. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station, 2019.

## Portland, OR

The City of Portland used data and city resources to plan for Tree Equity, working to prioritize equitable access to trees and urban forest services for communities of color, including low-income, refugee, and immigrant communities.

References:

Vibrant Cities Lab, [Portland Parks and Recreation: Planting an Equitable Forest](#).

Last updated: 11/16/20

We welcome suggestions and comments to help improve this entry: [civicgreen@tufts.edu](mailto:civicgreen@tufts.edu)