New Jersey Urban and Community Forests

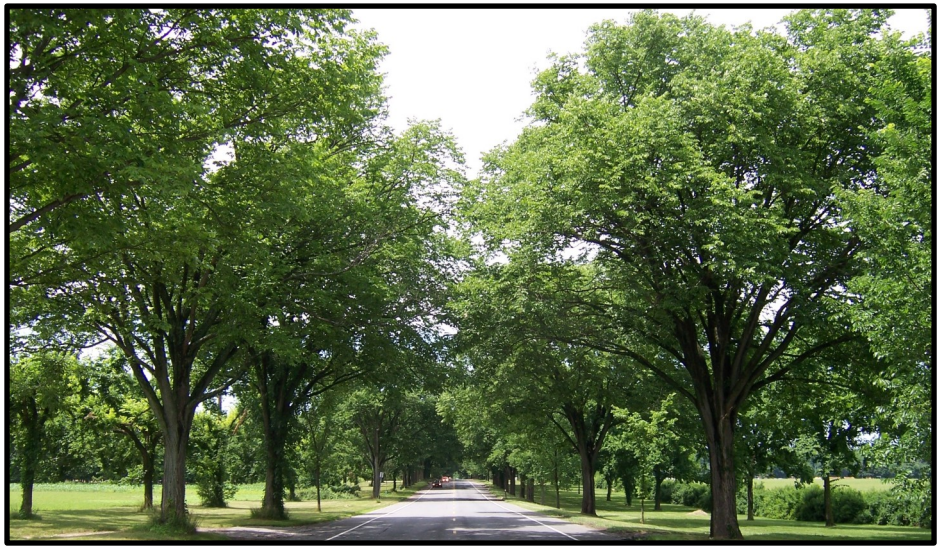
Background

Urban forestry is the art, science, and technology of managing trees and forest resources in urban communities for the physiological, sociological, economic, and aesthetic benefits.[1] The urban forest is a complex ecological network that combines the natural and built environments and includes all the trees and other vegetation in and around our cities and towns. Shrubs, wildflowers, ground covers, and wildlife in context with neighborhood streets, buildings, utilities, and most importantly – people are elements of urban and community forests.

Community forestry ensures more livable communities through the planting, care, and management of trees. The community forest provides a wide range of ecosystem services and functions including carbon sequestration, air pollutant removal, noise buffering, stormwater mitigation, energy savings, and reduction of pavement and building deterioration. Trees also add character to neighborhoods, creating an attractive and desirable living environment.

In 1893, the NJ Tree Ordinance Law gave towns the power to enact tree laws and establish Shade Tree Commissions (STCs). STCs of up to 7 members were created as an almost independent authority to manage the local tree resource. In 1990, major legislative provisions governing urban forestry were included in the federal Farm Bill. Provisions included those that stated, "forest lands, shade trees, and open spaces in urban areas and communities improve the quality of life for residents."[2] One purpose of this addition was to "provide assistance through competitive matching grants awarded to local units of government…for urban and community forestry projects."[3]

In December 1996, the NJ Shade Tree and Community Forestry Assistance Act was passed.[4] This Act is unique to New Jersey and has no equal nationwide. The statute established the NJ Urban and Community Forestry program (NJUCF) and defined its role as part of the NJ Forest Service. Its mission is to encourage and support the stewardship and effective management of trees and forest ecosystems in New Jersey communities. In addition, the Shade Tree Act, as it is commonly called, also established the NJ Community Forestry Council under the NJ Forest Service, created the *Treasure our Trees* license plate, and provided the necessary basis for local governments in NJ to reduce or eliminate liability associated with local tree care programs and STCs.



Community forest in Princeton, NJ (Photo by Alec McCartney, NJDEP)

Status and Trends

Forested Area and Population Served

In 2000, urban and community land area in New Jersey was about 44% of the total state land area and canopy cover was roughly 38%. There were approximately 152.7 million trees on urban or community land in New Jersey, "…which store about 29.1 million? metric tons of carbon (a value of $663.5 million), and annually remove about 961,000 metric tons of carbon (a value of $21.9 million), and 30,070 metric tons of air pollution (a value of $244.2 million)." [5]

In the most recent data garnered by the United States Department of Agriculture Forest Service's Forest Inventory and Analysis in 2016, forests cover approximately 40% of the land in NJ. Of this forested land, approximately 47% is privately owned and 53% is publicly owned.[6]

The most recent U.S. Census report indicated that by the end of 2010, 95% of the total population of New Jersey (8.3 million people) were living in urban and community areas.[7] It is important for urban New Jersey communities to preserve and maintain their trees and forests for the dense population residing in urban areas. This is the purpose of the NJUCF.

NJUCF Accreditation Program

The NJUCF assists local governments in creating and maintaining healthy, safe, and resilient urban and community forests, as well as self-sustaining local urban and community forestry programs through accreditation. To receive accreditation by the NJUCF, a local government must have a Community Forestry Management Plan. A Community Forestry Management Plan is an essential guide to successfully achieving a healthy, economically efficient, and safe urban and community forest. A plan may lead to reduced tree risks, decreased tree maintenance and removal costs, fewer emergency tree calls, and increased benefits from trees and forests. It also helps communities to develop a proactive, rather than reactive, approach to tree and forest resource management and to prioritize limited financial resources to optimize goals, objectives, and results.

In 1999, only 14 NJ municipalities had Community Forestry Management Plans and were actively managing their community forests. In the past 18 years, more and more communities have become involved with urban and community forest stewardship. The number of participating communities has increased rapidly (Figure 1). Figure 1 represents communities that have developed Community Forestry Management Plans since 1999. By 2017, 288 municipalities have had at least one community forestry management plan approved, which represents more than half of the total municipalities in the state.

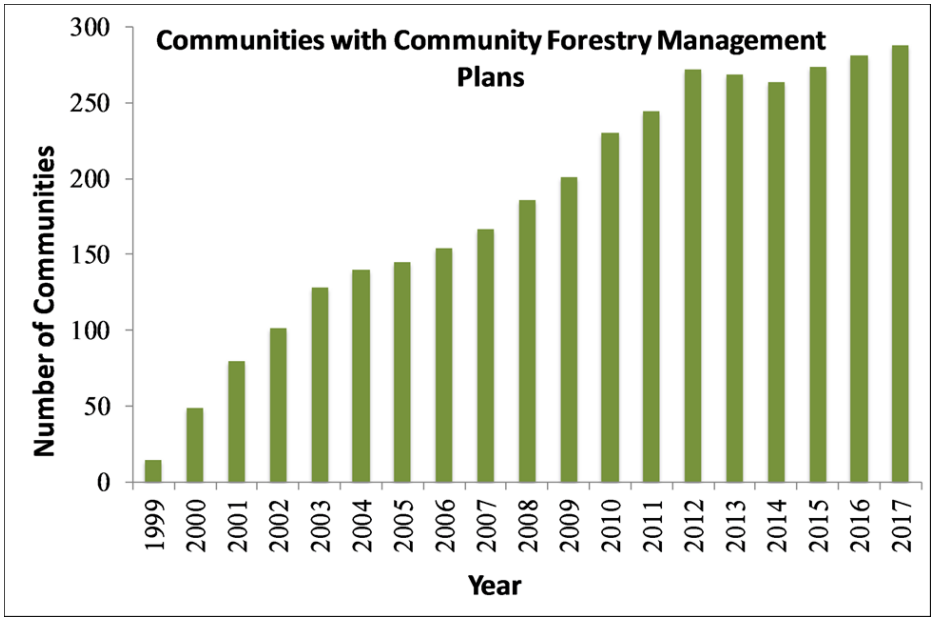


Figure 1. Communities in New Jersey with community forestry management plans (1999-2017).

Benefits of having a NJUCF accredited Urban & Community Forestry Program include access to grants and a basis for local governments to reduce or eliminate liability associated with local tree care programs and shade tree commissions. NJUCF provides grants for the development and implementation of Urban & Community Forestry Management plans. Only NJUCF accredited communities can receive grants to implement their plans. There were 154 communities that earned accreditation in 2017.

Tree City USA Program

Tree City USA is a national program of the Arbor Day Foundation that provides cities and towns across the United States with a framework for urban and community forestry management, and the opportunity to promote local work on the national stage. In 1976, there were only two Tree City USA certified

communities in New Jersey, Paramus and Parsippany-Troy Hills. Paramus was the second municipality in the nation to be certified by the Tree City USA. The number of Tree City USA communities increased gradually from 1976 to 1995 (Figure 2). That number increased more rapidly after the New Jersey Community Forestry Assistance Act was passed in 1996. By the end of 1998, the number of Tree City USA communities in New Jersey increased to 103. In general, this increasing trend continued from 1998 to 2011. There was a drop in the number of certified communities from 2012 to 2014 due to a reallocation of resources, but since then the number of communities has risen from 2015 to 2017.

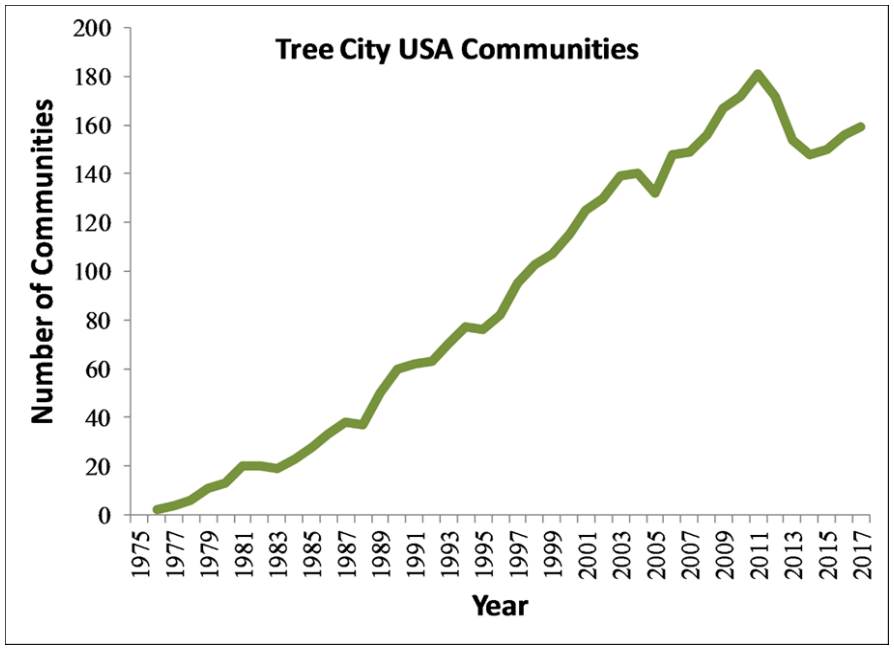


Figure 2. Tree City USA communities in New Jersey (1976-2017).

In 2011, New Jersey was 4th in the nation for the number of municipalities active in the program with 181 Tree City USA communities and remains in the top 5 nationwide. In 2017, NJ had 159 registered Tree City USA communities. Based on the 2010 census and 2017 Arbor Day Foundation Tree City USA reporting, 45% of NJ residents were living in a Tree City USA community.[8]

Expenditures of Tree City USA communities increased significantly from 1976 to 2012 (Figure 3). From 1976 to 1985, the average annual expenditure was $2.92 per capita. This number doubled between 1986 and 1995 ($5.24 per capita). Community forestry budgets continued to increase after the New Jersey Shade Tree and Community Forestry Assistance Act passed in 1996. In 2012, expenditures spiked due to Hurricane Sandy, then declined over subsequent years, returning to values that were normal before the hurricane. Tree City USA expenditures in New Jersey declined to $12.65 per capita in 2016 and increased slightly to $12.98 in 2017, in the same range as in years prior to Hurricane Sandy.

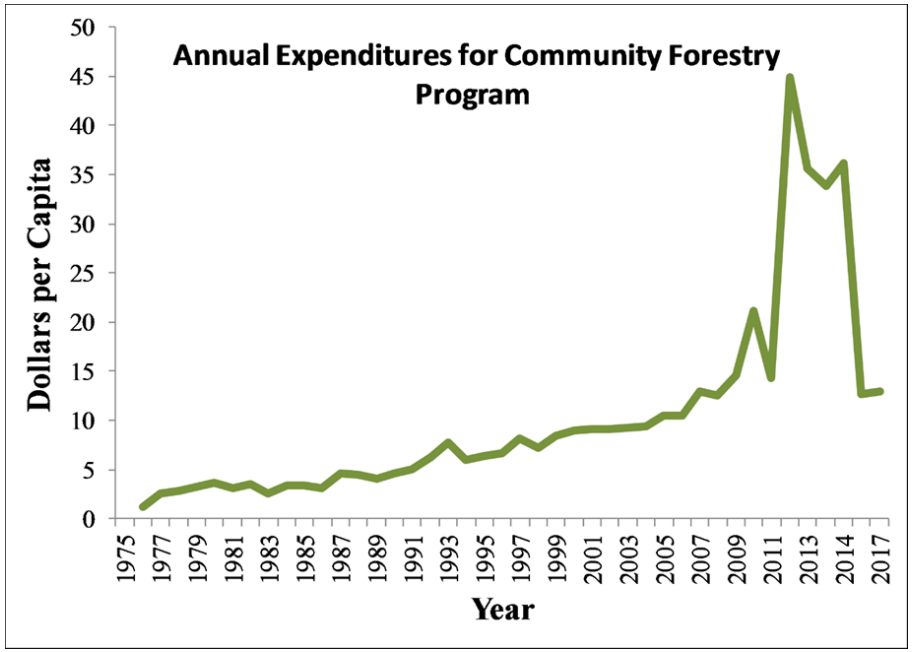


Figure 3. Annual expenditures for community forestry program in New Jersey (1976 – 2017).

Outlook and Implications

By 2050, New Jersey is projected to have 63.6% of the state classified as urban land.[9] Rapid urbanization and sprawl are associated with many environmental problems, including increased atmospheric carbon dioxide concentrations, water quality degradation, and limited greenspaces. Investment in urban and community forestry adds value that accrues over time and has an important role to play in dealing with these critical environmental issues.

Trees can sequester carbon and reduce atmospheric carbon dioxide concentrations, mitigate stormwater runoff to decrease flooding, and provide better quality of life, improving human well-being. These benefits and many others are best realized when trees have grown to their full potential, live long lives, and can eventually be replaced by younger trees. Urban and community forestry provides towns, cities, and counties with the management tools needed to help maintain healthy trees and plan for their replacement, sustaining their benefits for the long term.

The NJ Urban and Community Forestry program will continue the effort to regain the Tree City USA communities that have not been recertified following Hurricane Sandy in 2012. New Jersey has consistently been one of the top states with certified Tree City USA communities and will strive to continue those achievements. With the 2017 update of the NJUCF management plan guidelines, the NJUCF is expected to better meet the needs of the communities of New Jersey.[10]

More Information

For detailed information on how municipalities receive and maintain accreditation, please visit https://www.nj.gov/dep/parksandforests/forest/community/

References

[1]Helms, John A. 1998. The Dictionary of Forestry, Society of American Foresters, CAB International Publishers. 210 pp.

[2]Federal Farm Bill, 16 USC §2105(a)(2)

[3]Federal Farm Bill, 16 USC §2105(b)(4)

[4]N.J.A.C. 13:1L-17.1 et. seq.

[5]Nowak, David J., Eric J. Greenfield. 2009. United States Department of Agriculture Forest Service, Urban and Community Forests of the Mid-Atlantic Region New Jersey New York Pennsylvania. Accessed 12/6/2017 at: https://www.nrs.fs.fed.us/pubs/gtr/gtr_nrs47.pdf

[6]Crocker, Susan J., Liknes, Greg. C. 2017. Forests of New Jersey, 2016. Resource Update FS-135. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p. Accessed 11/1/2018 at: https://www.fs.fed.us/nrs/pubs/ru/ru_fs135.pdf

[7]U.S. Census Bureau. 2010. New Jersey: 2010: 2010 Census of Population and Housing, Issued August 2012. CPH-2-32. Accessed 12/6/2017 at: https://www.census.gov/prod/cen2010/cph-2-32.pdf

[8]Arbor Day Foundation. 2017. Tree City USA Communities in New Jersey. Accessed 11/1/2018 at: https://www.arborday.org/states/documents/New_Jersey.pdf

[9]Nowak, David J., Susan M. Stein, Paula B. Randler, Eric J. Greenfield, Sara J. Comas, Mary A. Carr, and Ralph J. Alig; United States Department of Agriculture Forest Service, Sustaining America's Urban Trees and Forests. 2010. Accesssed 12/6/2017 at: https://www.fs.fed.us/openspace/fote/reports/nrs-62_sustaining_americas_urban.pdf

[10]Community Forestry Program Guidelines. March 31, 2017. State of New Jersey Department of Environmental Protection, State Forest Service. Accessed 1/2/2018 at: https://www.nj.gov/dep/parksandforests/forest/community/pdf_files/community_forestry_management_plan_guidelines.pdf