Massachusetts Department of Conservation and Recreation

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THE CITIZEN FORESTER

Urban & Community Forestry Program

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Massachusetts

What's the Plan? Urban Forest Master Plans Lead the Way

We are fortunate that more attention and resources are being devoted to urban forestry than ever before. Federal, state and local governments are investing in trees and urban forests as tools to combat climate change and reduce the Urban Heat Island effect. We know what trees do for us, and we know we need more of them, but as we look to plant and protect trees in our communities, we need to pause and ask the question, "What's the plan?!"

Two of our most urban communities, Boston and Cambridge, have decided to do just that. <u>Boston in 2022</u> and <u>Cambridge in 2020</u>, have completed master plans to guide their urban forestry efforts for years to come.

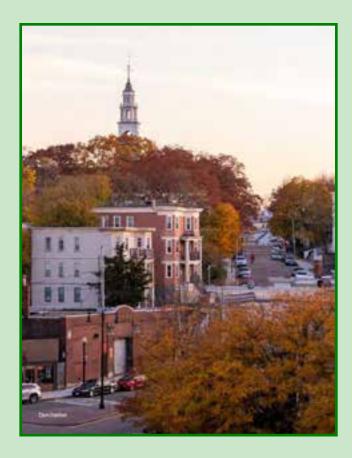


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Both communities decided early on that the plans should be developed through a community-led process. Important areas of focus were: having equity guide action, proactive care and protection for trees, involving residents in the decision making process, and valuing trees for their true and full role of services provided. The plans aim to create a sustainable urban tree canopy that will help to combat rising temperatures for the most vulnerable urban populations.

Typically master plans begin with a statement of purpose. For example, Cambridge addresses its change in tree canopy cover, from 30% in 2009 to 26% in 2018. They state that this trend is not just a local event; "Nationally, cities are facing persistent canopy decline... canopy loss is not simply an abstract statistic; it has real and immediate physical and psychological impacts for people and habitat. Continued canopy loss will impact the livability of the city, including its social and economic vitality." They are implementing a plan which "assesses strategies focused around changes in policy, planning and design initiatives,

enhanced and improved horticultural practices, and education, strategic partnerships, and outreach." The goal is to change the way citizens understand and cultivate the urban forest of the future.



Similarly, Boston states its Urban Forest Plan, "is a long-term citywide strategic plan to create a sustainable and equitable urban forest in Boston. It sets a vision not only for the care, management, and expansion of the urban forest, but also for how the Boston community works together to plan for its future."

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The next step in the planning process is to understand the current state of your urban forest. Current tree inventories and canopy analysis will help develop a baseline measurement that future goals can be derived from. Urban tree inventories will provide you with the current species composition and conditions of the trees in your community. It is important to understand if your urban forest has a



broad range of tree sizes, ages, and species, and to assess its susceptibility to pests, diseases and weather events. If your community is looking for financial assistance for an inventory, <u>DCR Urban and</u> <u>Community Forestry Challenge</u> <u>Grants</u> are available to help funding. Another key component to identify in any community is the current land use type. Land use is typically zoned into categories such as Residential, Commercial, Industrial, Institutional, Open Space, etc. Areas are further split into neighborhoods, or other small localities, for comparison purposes. A common trend in these city-wide assessments shows less tree canopy and more impervious surface cover in historically disadvantaged neighborhoods, while more affluent neighborhoods tend to have higher levels of tree canopy and less impervious surfaces in comparison. This leads to increased urban heat impacts, and the associated health risks, in already disadvantaged neighborhoods. Identifying these areas in need of greening will help prioritize tree planting locations as you move to the actionable items in your plan.

Nationally, <u>research</u> has shown that cities are becoming more impervious, while simultaneously losing tree canopy. Trees are not just lost due to age and condition, but to a variety of invasive and native pests and diseases. Beyond these biotic pressures, trees are being removed more rapidly to (Continued from page 3)

development and sprawl. Working with Planning Boards and other city departments, to curb preventable tree loss, is as important as replanting efforts. The Boston plan states: "Departments other than Parks Department have varying levels of influence on the quality of the urban forest. Through actions and inactions related to other City department missions and duties, public trees can either thrive, or be neglected or damaged."



Having defined your purpose and goals, assessed your urban forest's current conditions, and analyzed current and future risks to your community trees, it's time to consider strategies for action. Both Boston and Cambridge list several strategies and recommendations, and also acknowledge that trees provide a benefit that extends beyond the limits of public land. In fact, the majority of urban canopy is found on privately owned land. To make lasting changes, trees on private property need to be addressed by any publicly lead strategies. Cambridge's plan states: "Because more than 50% of total canopy loss in the past ten years has occurred on private property, private landowners will need to play a significant role in the solution. Whether through increasing the valuation of a "Significant Tree" within the Tree Protection Ordinance to deter removal or through the establishment of a trust to fund planting on private land something which has the potential added benefit of involving institutions and corporations —it will take concerted efforts and policy changes by the City to reach private

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landowners. As there is no one single cause of the current state of the Cambridge urban forest, there is no single strategy to realize a healthy connected forest. An 'all-of-theabove' approach is necessary, leveraging the collective effort of many actors across the city." Boston states, "This is a plan for the urban forest across the entire community of Boston. While the City has taken a leadership role to fund and launch this effort, the following strategies and recommendations include work for the entire community of Boston, not just city government."

Boston calls for its four goals to be achieved by working through seven strategies, with 30 recommendations, that each have multiple action items. The strategies are:

<u>Strategy #1</u>: Expand and reorganize urban forestry management

<u>Strategy #2</u>: Proactively protect and care for existing trees

<u>Strategy #3</u>: Strategically and equitably expand tree canopy

<u>Strategy #4</u>: Make space and improve conditions for trees

<u>Strategy #5</u>: Improve communications-- both process and content

<u>Strategy #6</u>: Improve information collection and sharing

<u>Strategy #7</u>: Build and support a local tree workforce

See pages 37-142 of the Boston Urban Forest Plan for the specific details and related case studies.



Cambridge's goal of a healthy, connective and equitably distributed forest is guided by four core concepts:

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<u>Concept #1</u>: Understand the Forest as a System

<u>Concept #2</u>: Value the Forest as a Public Resource

<u>Concept #3</u>: Invest in the Public Realm

<u>Concept #4</u>: Galvanize Collective Action

They include three core values of equity, resilience, and shared responsibility. The values are used to help guide decision making when prioritizing where and how to act. They aim for an equitable, resilient urban forest where all city constituents are invested in, and participate in, its care. The concepts will focus on populations at risk, minimize heat island hotspots, shade community infrastructure, and build robust canopy corridors. They also plan to balance competing interests in the City, since trees are but one of many solutions, by linking City priorities, shaping sensible regulations, and taking a long-term view through zoning bylaws.

See pages 132-200 of the Urban Forest Master Plan for the Cambridge Urban Forest and Strategy Matrix.



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Finally, you have arrived at the point where the rubber meets the road, or in this case, where the root meets the soil. As part of implementation, planting strategies need to be constantly evaluated for impact and success. What impacts do they have? Are they proceeding as intended? How can they be most efficiently and effectively deployed at a variety of scales?



Boston lists all actions in the plan along with indication of the timeline on which they should be

implemented, states who should take the lead (City or community partners) and notes when collaboration with other entities is required. Critical Actions, those which are important to implementation of all other actions, and Early Actions, those which can be initiated within the first year, are also indicated. They envision the plan to be used as a checklist to guide action. As components of the plan are fulfilled, the quality and quantity of Boston's urban forest will begin to improve, especially in underserved areas.

Cambridge starts by stating, "careful selection of where trees are planted and planting wisely to ensure success, is more important than planting trees at a greater quantity just to meet a target. Thus, primary canopy goals are proposed based on the values of equity, resilience, and shared responsibility."

Cambridge seeks to set a target for city-wide canopy cover, specific planting targets, and a time frame for achieving that goal in order to galvanize action, evaluate the scale and pace of intervention required, and prioritize action. They believe (Continued from page 7)

the goals should be ambitious but feasible. The goals should grow out of the community's sense of urgency and recognize the need to balance priorities. Values of equity, resilience, and shared responsibility will define primary goals and targets for each neighborhood and land use type. They will look to evaluate the plan comprehensively every 5 years, and evaluate progress on an annual cycle. An ongoing task will be to keep pace with current horticultural and climate science research. Constant communication and partnerships will help to set and adjust planting targets, and allow for prioritization of strategies. Evaluation will be a regular and dynamic process, which will help to keep the Cambridge UFMP relevant in the years ahead.

It is incredible to see the great strides being made in the way urban and community forestry is being thought about, integrated into comprehensive policy, and acted upon by laws and ordinances. We have come a long way from being a "nice to have" to a necessity and human right. All people deserve access to trees, nature, and the health benefits they provide, and the harder we work to make that vision a reality through thoughtful planning and meaningful dialogue, the more livable our communities will be. We don't know what the future has in store, but we can prepare for a changing climate by creating urban forests built on equity, resiliency and a shared responsibility for the benefit of all.



References:

- <u>City of Boston Urban Forest Plan</u>
- <u>City of Cambridge Urban Forest Master Plan</u> and Technical Report
- <u>The City of Cambridge Urban Forest Report:</u> <u>Healthy Forest, Healthy City</u>

Photos: City of Boston, City of Cambridge, and Massachusetts DCR.

Forester F@cus

A deeper look into today's Urban Forestry topics

Fire Prevention in the Wildland-**Urban Interface**

By Alex Belote, DCR Fire Program

Between January 1st and May 10th there were close to 600 brush fires in Massachusetts and 22 structures destroyed (4 residence and 18 outbuildings).

Many communities in Massachusetts are within the Wildland Urban Interface (WUI): the U.S. Fire Administration, part of FEMA defines the WUI as "the zone of transition between unoccupied land and human development. It is the line, area, or zone where structures and other human development meet or

intermingle with undeveloped wildland or vegetative fuels." Wildland fires aren't only for far away forests away from urban and heavily populated areas. The Middlesex Fells Reservation (Malden, Medford, Melrose, Stoneham, and Winchester), Breakheart Reservation (Saugus and Wakefield), The Blue Hills Reservation (Milton, Quincy, Braintree, Canton, Randolph, and Dedham), and many other forested areas in Massachusetts regularly experience wildland fires.

Fires often start within a building, but they can also start from outside the structure. Leaves, pine needles, dry grass, mulch, and other vegetation

can readily burn when it is dry and windy out. It doesn't take much of this dry vegetation to start a fire. In the fall, deciduous trees go dormant, and their leaves change color and fall to the ground. These leaves are swept away by the wind and can accumulate near

Sunset Hill Fire, Gloucester, MA 2022





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structures. Any spark that ignites the dried vegetation touching the structure could cause a fire. Be sure to remove leaves that have built up from time to time.



Areas that are over-mulched can be fire hazards as well. Consider crushed stone of pea gravel as an alternative to discourage weeds from growing near structures.

While back yard fires and barbecues are an enjoyable way to spend the summer, they also can lead to hazards. Never leave a fire unattended, and make sure they are completely extinguished. Be safe, and have a fire-smart season! Alex Belote is the DCR Fire Program Coordinator and can be reached at Alex.belote@mass.gov

How to prevent outside fires:

- Do not set off fireworks.
- Dispose of smoking materials in proper receptacles and douse in water, not in planters, or out of your vehicle windows.
- Be careful driving through or parking on dry grass as hot exhaust pipes can lead to fires.
- Remove long grass, weeds or anything that can burn from around homes. This includes limbs that touch buildings or hang near the roof.
- Remove dead plants or bushes as soon as possible and clear roof and gutters of pine needles and leaves.
- Move trash, recycling, and yard waste bins away from the home.

For more information on DCR Forest Fire Control, visit: <u>https://www.mass.gov/forest-fire-control-programs</u> To learn more about what you can do to reduce the risk of wildfire to your home, visit: <u>https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA</u>



CLIMATE RESILIENCY

Federal Government Announces Historic Funding to Expand Access to Trees and Green Spaces in Disadvantaged Urban Communities

Newark, N.J – The Federal Government is announcing the availability of \$1 billion in grants to increase equitable access to trees and green spaces in urban and community forests where more than 84% of Americans live, work and play. The announcement is part of President Biden's Investing in America agenda and the Administration's work to build a clean energy economy, advance environmental justice and create economic opportunity in communities across the country.

The funding announced is part of a \$1.5 billion investment in the U.S. Department of Agriculture's Forest Service Urban and Community Forestry Program from President Biden's Inflation Reduction Act. The grant funding is available to community-based organizations, tribes, municipal and state governments, nonprofit partners, universities, and other eligible entities as they work to increase tree cover in urban spaces and boost equitable access to nature while bolstering resilience to extreme heat, storm-

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induced flooding, and other climate impacts. This historic level of investment will enable the Forest Service to support projects to improve public health, increase access to nature, and deliver real economic and ecological benefits to cities, towns and tribal communities across the country.

Along with the open grant funding opportunity, the USDA Forest Service is providing up to \$250 million to states and territories to further local efforts to support urban communities through equitable access to trees and the benefits they provide. The funding for state and territory forestry agencies will be administered as subgrants to reach disadvantaged communities, as determined by the <u>Climate and Economic Justice Screening Tool</u>.

The Urban and Community Forestry Program is part of President Biden's Justice40 Initiative, which aims to ensure that 40% of the overall benefits of certain federal investments flow to disadvantaged communities that are marginalized, underserved and lack access to trees and nature. USDA is also a partner on the Interagency Memorandum



of Understanding (MOU) on Promoting Equitable Access to Nature in Nature-Deprived Communities, which seeks to reduce the number of people without access to nature in their communities.

"Research shows that trees and green spaces improve physical and mental health outcomes and create new economic opportunities," said USDA Undersecretary for Natural Resources and the Environment Dr. Homer Wilkes. "They also enhance community green spaces and support lasting community (Continued from page 12)

relationships and engagements. These funds will enable us to bring these benefits to disadvantaged communities across the nation, and to support new partnerships with a diverse array of organizations."

The Inflation Reduction Act makes the nation's largestever investment in combatting the climate



crisis. Through this grant funding opportunity, the agency will invest in proposals that extend beyond planting new trees, such as proposals for maintaining and managing urban forests, increasing community engagement in local urban forest planning, and improving community and urban forest resilience to climate change, extreme heat, forest pests and diseases, and extreme weather events.

"Investing in our urban forests is investing in the health and wellness of our communities," said Forest Service Chief Randy Moore. "Trees provide numerous benefits, like improving air quality, reducing stormwater runoff, providing shade, creating safe outdoor spaces for recreation, and stimulating other kinds of investments. Equitable access to these benefits is key, as everyone deserves the opportunity to live in a healthy and sustainable environment."

For more information, visit: <u>https://www.fs.usda.gov/managing-land/urban-forests</u> <u>https://www.grants.gov/</u>



Species Spotlight Tuliptree, Liriodendron tulipifera

Known also as tulip poplar, tulip magnolia, and yellow poplar, tuliptree is a great tree for planting in large areas. This member of the Magnoliaceae family is native from southern Ontario, east to Vermont, south to northern Florida, and west to Louisiana. It is hardy in zones four to nine. Tuliptree typically grows in stream bottoms and moist slopes, but is also found growing at 4,500 feet in the southern Appalachians. It



can be a large tree, growing to more than 100 feet high, with a straight trunk. Some specimens in the Joyce Kilmer Forest in North Carolina, the largest recorded, have exceeded 150 feet tall. Tuliptree usually develops a straight, single trunk that can reach two to three feet in diameter.

The leaves of tuliptree have an unusual shape, often described as the shape of a "cat face," and has four lobes. They are alternate, simple, and range from three to eight inches in length and width and are green above, and paler below. In fall, the

leaves turn a golden orange or yellow in the fall. Like the leaves, the buds are also distinctive. They are valvate and brownish, with the terminal bud having the appearance of a duck bill (albeit a small one.) The twig is slender, greenish to brown, with ring scars at nodes and a chambered pith. When broken, the twigs are aromatic.





The bark is brownish-gray, and is smooth when trees are young, becoming more furrowed with age. The bark color and texture is another easy identifying characteristic of tuliptree.

Tuliptree gets its common name from its flowers, which resemble tulips. They are perfect, with six greenish petals that are

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Species Spotlight—Continued

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orange at the base and form a sort of cup. While beautiful, the flowers often only occur in the higher portions of the tree and are less visible from the ground. The fruit is an aggregation of single-winged samaras formed into a cone-shape that persists through winter and is often an identifying characteristic.



In the open, tuliptree is pyramidal in youth, becoming more oval and rounded with age. It is a medium-to-fast grower, a characteristic that is good for those anxious for shade, but leaves the wood susceptible to breakage in storms. Tuliptree is an ideal tree for large areas, such as in parks or other open lawns, due to its size and intolerance of shade. Tuliptree also does not do well in compacted soils or on hot, dry sites, making it less tolerant of streetside locations where it will suffer from heat reflected from pavement. Tuliptree is adaptable to range of pH, but does best in soils that are slightly acidic.

Tuliptree is susceptible to a number of pests, including tuliptree scale and aphids,

which, in addition to damaging the tree by removing sap, also secrete honeydew that provides a breeding ground for sooty mold.

The wood of tuliptree is white, with a fine grain, and is easily worked. It is used for furniture, crates, toys, musical instruments, and for pulp, and was historically important in building, in manufacturing lathe-turned wooden items like bowls and toys, and in furniture-making. A tuliptree in Annapolis, Maryland, had the distinction of being the last surviving Liberty Tree until Hurricane Floyd irrevocably damaged it in 1999. The



tree had stood 400 years and served as a meeting point for the Sons of Liberty during the American Revolution.

Consider tuliptree as part of your palette to diversify the urban landscape, and enjoy the fall color, large stature, and other

characteristics that make tuliptree an impressive tree to behold.

Photos: From DCR, <u>Virginia Tech</u>, and <u>UConn Plant Database</u>

DCR Urban Forestry is Hiring!



You can make a difference in your community by joining the Greening the Gateway Cities planting team. Increasing the urban canopy will help save energy, protect air and water quality, and improve overall community health.

Apply to join the Massachusetts Department of Conservation and Recreation's Greening the Gateway Cities urban tree planting program!

Long and Short Term tree planting laborer opportunities are available for the planting seasons.

For more information, contact: Kelly Meiler, 508-688-0889 <u>Kelly.meiler@mass.gov</u>

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U&CF Challenge Grants Awarded

Fourteen projects were approved for DCR UCF Challenge grants for a total of \$282,562

 Challenge Grants are an annual grant opportunity for municipalities and nonprofit groups in Massachusetts to improve and protect their urban forests. These 50/50 matching grants help develop, grow and sustain programs that plant, protect and maintain a community's public tree resources and develop partnerships with residents and community institutions. Awardees are:

Ashburnham	Restoration of Historic Town Common Winchester Park
Buckland	Buckland Community Wood bank Application
Chelsea	Public Tree Management Plan and Tree Inventory
Framingham	Grant Street Strategic Tree Planting
Longmeadow	Tree Inventory Expansion for Schools and Parks
Longmeadow	Expanding the Role of Longmeadow's Tree Warden
Medford	Medford Tree Inventory
Natick	Pickerel Pond Forest Management Plan
Pittsfield	Lori Court Tree Replacement Project
Shrewsbury	Shrewsbury Tree Inventory and Assessment Project
Speak for the Trees	Community Tree Keepers Training Project
Wakefield	Tree Inventory and Management Plan
Wendell	Wendell Community Wood Bank
Worcester	Resource Assessments for Urban Forests on Conservation Lands

More info at: https://www.mass.gov/guides/urban-and-community-forestry-challenge-grants

Arbor Day Poster Contest Winners Announced



• The annual Arbor Day Poster Contest is designed to increase students' understanding of the importance of a diverse urban and community forest and of the role trees play in their community and in the world around them. This year's theme is, "It's Time for Trees!"

Artist Name	School and Location	Place
Emma L.	Old Hammondtown School Mattapoisett	1st Place
Fran S.	St. Bernard's Elementary School Fitchburg	2nd Place
Maggie W.	Hardwick Elementary School	3rd Place



- Your school can join next year! All 3rd, 4th & 5th grade students in Massachusetts are invited to participate in this annual contest that combines art and science.
- The 2024 contest theme will be announced late summer 2023. Contest deadline is March 15, 2024.
- For complete rules and instructions visit:

https://www.mass.gov/guides/annual-arbor-day-poster-contest

DCR Legacy Tree Online Tour Now Live!

DCR is looking for nominations for big, unique, or significant trees all over Massachusetts!

Through the Legacy Tree Program and the National Champion Tree Registry, the Department of Conservation and Recreation Forestry Program formally recognizes the largest and most interesting known tree of each species, trees of historical origins, and other trees of unique and significant importance



growing within the state of Massachusetts. The program has been around for may years, but has just recently been moved online where you can see list of current Legacy trees, Champions for different species and nominate your own tree. Now you can even take a new <u>virtual tour</u> of famous trees around the state!

Explore the pages to discover a sampling of these special trees, and read about the fascinating stories behind each one. By immersing yourself in the natural world of Massachusetts and learning about its unique and significant trees, you'll gain a deeper appreciation for the state's rich cultural and natural heritage! Visit the Legacy Tree Program here:

https://www.mass.gov/guides/massachusetts-legacy-tree-program



Please note that the Legacy Tree Program does not afford any special or legal protection under the Commonwealth's Shade Tree Law, M.G.L. Chapter 87.



New and Stories from the Northeast Region

The Forest Service Urban & Community Forestry Program provides

Urban Tree News in the Northeast, a collection of articles published in the media that have relevance to urban forestry in the Northeast.

Boston needs more trees

Mass. legislative proposal hopes to expand tree canopies in climate fight

City Working on First Urban Forestry Program

Effort to Restore West Tisbury's Trees Starts to Take Root

How the spotted lanternfly is hatching eggs all over the map

<u>Tree diversity key to climate-smart forestry — study</u>

Senate bills would boost urban, private forestry

Bill seeks to chill excessive urban heat

Historic Funding for UCF

The Forest Service is making up to \$1 billion in funding available in competitive grants

The Urban and Community Forestry
(UCF) Inflation Reduction Act (IRA)• \$100,000
maximuNotice of Funding Opportunity (NOFO)• 5-year g

has been announced!

Overview:

The Forest Service is making up to \$1 billion available in Urban and Community Forestry competitive grants for investments that:

- increase equitable access to urban tree canopy and associated human health, environmental, and economic benefits in disadvantaged communities
- broaden community engagement in local urban forest planning
- improve community and urban forest resilience to climate change, pests and storm events through best management and maintenance practices

NOFO notes:

 Proposal deadline June 1, 2023 at 11:59 pm EDT

- \$100,000 minimum and \$50 million maximum funding request
- 5-year grant agreement
- All federal grant funds are to be matched at least equally (dollar for dollar) with non-federal match.
 Match-waivers are available for proposals that deliver 100% of the funding/program benefits to disadvantaged communities.
- Organizations must have an active registration and Unique Entity Identifier (UEI) from SAM.gov to apply. Creating a first-time registration may take several weeks or more to complete so apply for SAM registration early.

For more info: <u>NOFO Summary</u> (pdf) <u>NOFO Flyer</u> (pdf) <u>Video</u> (1:48 min) <u>Press Kit</u>



On The Horizon

June 7	Event: MA Tree Warden Association—Trees and Construction. Cambridge, MA. <u>Registration</u> required.	
	https://masstreewardens.org/	
June 8	Webinar: Urban Forestry Today— Summer Tree Summit Registration required. <u>http://www.urbanforestrytoday.org/</u>	
June 15	Event: Western MA Tree Wardens Dinner—Blue Bonnet Diner in Northampton, MA <u>https://masstreewardens.org/</u>	
June 16-17	Event: NEC Tree Climbing Championship — Mt. Ida College in Newton, MA. This event is free and open to the public. <u>https://newenglandisa.org/events/tree-climbing-championship</u>	
September 6 to November 15	Training: Massachusetts Qualified Tree Warden Certificate Course—Worcester, MA. This six-module course is designed to teach tree wardens what they need to know to fulfill their duties. <u>Register</u> by August 15. Limited to 50 participants.	
	Webinar: The Tree Fund—2023 webinar series. Ongoing Webinars will be updated on this site: <u>https://treefund.org/webinars</u>	
THIS OLD TREE	Podcast: This Old Tree — <i>Heritage trees and the human stories behind them.</i> Old trees are awe inspiring links to the past that fire our historical imagination. Ever wonder what their stories are? Seasoned arborist and amateur historian Doug Still interviews local experts, historians, and regular folks to celebrate the myths and uncover the real tales. <u>https://www.thisoldtree.show/</u>	

Tree Tip:

Mulch your trees!

Use the 3-3-3 method when applying mulch.

Apply 3 inches of mulch, 3 inches away from the tree trunk, in a 3-foot-wide ring.

This low mulch ring will help retain water, build organic matter, and keep down weeds.



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www.mass.gov/dcr/urban-and-community-forestry

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