

The Citizen Forester

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Opportunities for Arboriculture and Urban Forestry Training and Education

By Mollie Freilicher, Community Action Forester We are fortunate here in New England to have so many opportunities to improve our knowledge of arboriculture and urban forestry and to stay up-to-date with the latest research and best practices. There are trainings designed for tree wardens, arborists, urban foresters, volunteers, and enthusiasts.

In addition, there are certifications that professionals can achieve to distinguish themselves and their training and **experience.** The International Society of Arboriculture's Certified Arborist program recognizes arborists, through a written exam, who have a certain level of knowledge in multiple aspects of arboriculture, as well as at least three years of practical, professional experience. This certification also distinguishes these arborists because ISA Certified Arborists are required to follow the ISA Code of Ethics. Additionally, the ISA offers some specialty certifications, in addition to Certified Arborist, including Utility Specialist for those working in utility vegetation manage-

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ment; Municipal Specialist for those working for cities and towns; Tree Worker Climber Specialist for those demonstrating climbing skills, aerial rescue, CPR, and First Aid training; Tree Worker Aerial Lift Specialist for those demonstrating expertise in using lift equipment in tree work; and, Board Certified Master Arborist, the highest arborist certification that ISA offers. The Massachusetts Arborist Association offers the Massachusetts Certified Arborist certification which was started in 1957 and distinguishes arborists through a challenging written exam. Both the ISA and Massachusetts

Arborists programs require certified arborists to obtain continuing education credits to maintain their credentials.

While there are many educational opportunities, year-round, fall is often particularly good for them. Here is a sampling of what you can take advantage of:

Advanced Tree Risk Assessment, August 18-19, 2016, Hanover, NH
This comprehensive, two-day workshop covers Level 3 Advanced Tree Risk Assessments. The first day focuses on classroom activities covering risk theory and methods of non-invasive site and tree assessment and diagnosis. The second day is field-based and focuses on the use of a range of invasive diagnostic tools. Earn 15 ISA CEUs, including BCMA. Cost \$250. www.newenglandisa.org.

Women's Tree Climbing Workshop, September 9-11, 2016, Petersham, MA
This training teaches women how to improve and excel in the world of tree climbing. It is designed for women who have never climbed trees before with ropes and harnesses, to women with prior experience who want to improve their ability. Cost \$500-\$650, [Scholarships available at www.womenstreeclimbingworkshop.com](http://www.womenstreeclimbingworkshop.com).

DCR Tree Steward Training, October 14-15, 2016, Petersham, MA
This two-day training is designed for tree committee volunteers, tree wardens, and other tree enthusiasts and covers topics including tree ID, pruning, tree health, and others. Earn ISA and MCA CEUs. Cost \$55. Contact mollie.freilicher@state.ma.us.

ISA Exam Prep Course, October 19-21, 2016, Acton, MA
This three-day course instructs on the sixteen components of the ISA Arborists' Certification Study Guide.

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Opportunities for Arboriculture and Urban Forestry Training and Education

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The goal of the course is to prepare participants to take the ISA Certified Arborist exam. Cost \$175.

www.newenglandisa.org

New England Chapter ISA 50th Annual Conference, November 5-8, 2016, Burlington, VT
This annual conference offers educational opportunities **on a variety of arboricultural topics. This year's schedule** includes: Trees Responses to Ice Storm Damage, Trees vs. Turf, Wood Decay Fungi, and more. There are also pre-conference workshops, CPR and First Aid certification, and the opportunity to take ISA Certification exams. Cost \$200 and up. [New England ISA](http://www.newenglandisa.org).

UMass Extension Green School, October 24, - December 12, 2016, Milford, MA
This biennial course is geared toward landscape practitioners: landscapers, grounds managers, arborists, and others. It offers three tracks: arboriculture, landscape management, and turf. The arboriculture track offers a comprehensive curriculum that includes plant form and function, integrated pest management and plant health care, soils, entomology and pathology, pruning, cabling, storm preparation, i-Tree, and tree risk identification and management. You can view the entire arboriculture track here: <https://ag.umass.edu/landscape/education/green-school/green-school-arboriculture-track>. Earn a certificate and prepare to take a professional certification exam. Cost: \$825 by 9/23 or \$925 after 9/23. For more information: www.umassgreeninfo.org and click "Green School."

New England Grows, November 30 – December 2, 2016, Boston, MA
Come to New England Grows to see the latest equipment and to hear from regional and national speakers on a variety of arboricultural and landscape topics. www.newenglandgrows.org.

Massachusetts Tree Wardens' and Foresters' Association

104th Annual Conference, January 10-11, 2017, Sturbridge, MA

This packed, two-day conference offers a great lineup of speakers on a variety of arboriculture and urban forestry topics, along with networking opportunities, and great exhibitors. www.masstreewardens.org.

Ongoing Programs

Arnold Arboretum

Tree Spotters Citizen Science, Introduction to Botany, and more.

<http://www.arboretum.harvard.edu/education/adult-education/> for more information.

Massachusetts Arborist Association Dinner Meeting, September 27, 2016, Framingham, MA

www.massarbor.org

New England Wildflower Society—ongoing courses

Pruning Fundamentals, New England Plant Diversity, Plants 101, Framework Trees of New England, Plant Form and Function, Understanding and Managing Soils, and more. Go to <http://newfs.org/learn/our-programs/> for more information.

Massachusetts Tree Wardens' and Foresters' Association

Western Massachusetts Tree Wardens Dinner meeting, September 20, 2016, Northampton, MA

Also –Professional Development Series on a variety of topics. Find out more at <http://masstreewardens.org/>

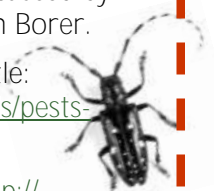
Check your Trees for Pests

August 2016 marks the eighth anniversary of the discovery of Asian longhorned beetle in Massachusetts. Since that day in 2008, more than 30,000 hardwood trees have been removed because of this invasive pest. In 2012, Emerald Ash Borer, another invasive pest, was found in Berkshire County and has since been found in multiple counties across the Commonwealth.

Join your fellow citizens during the month of August and check your trees for signs of damage caused by Asian Longhorned Beetle and Emerald Ash Borer.

For information on Asian longhorned beetle: <https://www.aphis.usda.gov/aphis/resources/pests-diseases/asian-longhorned-beetle/Find-It>

For information on emerald ash borer: <http://massnrc.org/pests/pestFAQsheets/emeraldashborer.html#id>



Species Spotlight—Monkey puzzle

By Mollie Freilicher, DCR Community Action Forester This month we are looking at a tree that is somewhat of a novelty in the United States and is probably not a tree you'll be seeing streetside in Massachusetts any time soon. If you have never heard of monkey puzzle, you are not alone, as it is not a tree commonly seen in the Northeast. The Spanish explorer Don Francisco Dendariarena was the first European to describe monkey puzzle in 1780 while examining its possibility as a material for shipbuilding. By 1782, it had been identified as *Pinus araucaria*, though now we know that to be botanically incorrect. In the 1780s, the tree was still unknown



to Europe in a living state. That changed in 1795, when the botanist and naval surgeon Archibald Menzies, on a voyage with George

Vancouver, brought living plants to the United Kingdom. Menzies came by the seeds when they were served to him as dessert at a dinner he attended at the invitation of an official in Valparaiso. Instead of eating them, he saved them and planted them during the journey back to England, where, upon his arrival, he had five small plants. One of these plants survived at Kew Gardens for 100 years. Slowly, it became a popular tree in Europe.



Monkey puzzle is in the order Pinales, but is not in the family Pinaceae, but in the family Araucariaceae, along with other species in the genus *Araucaria*, *Agathis*, and *Wollemia*. Monkey puzzle is native from the Chilean coastal range to the Andes of Argentina, where it is typically found above 3,000 feet in well-drained, volcanic, and slightly acidic soil. Along its trunk are whorls of spiny leaves, which perhaps would cause a monkey to puzzle over how to climb the tree, though there are no primates native to Chile (though there are in Argentina). [For an account on how the tree came to be called mon-

key puzzle, see the Wikipedia entry listed at the end of this piece.] Pehuén is what the tree is called in Chile, where it is sacred to the Pehuenche people. The seeds have been part of their diet, and the tree is also part of their spiritual life.



In Chile and Argentina, monkey puzzle is a long-lived tree, capable of surviving for 1,000 years and reaching heights of 150 feet. It is also an ancient tree that was around during the Jurassic period, 200 million years ago, where perhaps its spines protected it from herbivory. It is a tree of disturbed areas—areas disturbed by volcanoes or fire.



Its form is unique, being quite stiff and spare. Leaves of monkey puzzle are evergreen and are arranged spirally around branches.

They are a lustrous green, and are lanceolate, with a sharp, pointy tip. They are dense along the stem. Michael Dirr, in his *Manual of Woody Landscape Plants*, reports about 24 leaves per inch. When young, the brown bark is scaly, due to leaves that persist on the trunk. As the tree ages, these disappear and the bark becomes furrowed.

Monkey puzzle is dioecious, with male flowers occurring in catkins, three-to-five inches long, and female flowers in large cones, shaped like a pineapple, which mature in **two years.** (The name for the fruit in Spanish is “piña,” meaning pineapple.) The seeds are large, about 1.5 inches long and half as wide. The [Urban Huntress](#) foraging blog notes that the seeds will fall out of the fruit as

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Photos, Clockwise from top-right: Monkey puzzle in Falmouth, Cornwall, Mollie Freilicher; branches: Arkive.org; Fruit: Urban Huntress; Leaves: Wikipedia.

Species Spotlight—Monkey puzzle

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the fruit ripens and begins to fall apart.

At one point, the monkey puzzle was used for timber, its wood being suitable for lots of applications, including ladders, piano interiors, and airplanes, among others. Currently, monkey puzzle is on the IUCN Red List as Endangered, and logging of it is limited. The tree also appears in Appendix 1 of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), which regulates its trade.

Here in the United States, it is hardy in zones 7-9, and does best in locales with cool, humid summers, in locations with

full sun exposure. In Massachusetts, I know of monkey puzzle trees at the Polly Hill Arboretum on Martha's Vineyard. This past spring, I saw some small specimens at Dolmabahçe Palace in Istanbul, which contains many far-flung species. **The largest I have ever seen was in Cornwall, United Kingdom, in what appeared to be someone's yard. The trees** remain very popular in the UK, with one woman blogging about them and attempting to create a [map](#) of all the monkey puzzle trees in gardens and collections. If you are in for some old-timey TV, check out [this episode](#) of *The Ghost and Mrs. Muir* **from the late 1960s, where a monkey puzzle tree plays a big role. If only they'd called an arborist!**

So, for now, monkey puzzle may remain a curiosity for us in northern climes. But keep your eyes peeled on your travels for this unusual tree.

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IUCN. *Araucaria araucana*. IUCN Red List.

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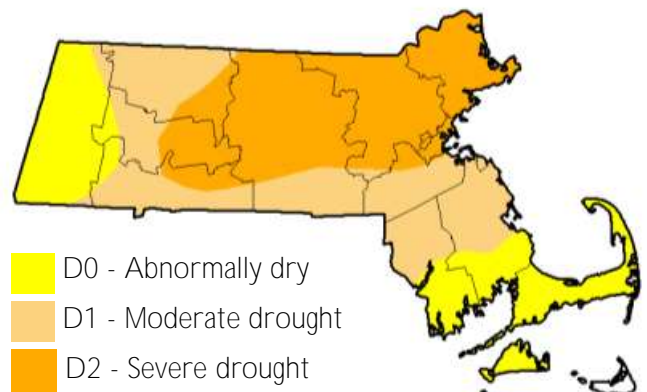
Drought Monitor

Conditions as of July 26, 2016

Keep those new trees watered!

U.S. Drought Monitor: <http://droughtmonitor.unl.edu/>

[Massachusetts drought management information](#)



Growing on Trees

i-Tree 2016 Webinars

Join us for a comprehensive, web-based instructional series that will introduce the latest tools in the i-Tree software suite, as well as bring you up-to-date on the improvements that have been made to the i-Tree collection of inventory, analysis, and reporting tools for urban and community forests. i-Tree is a state-of-the-art, peer-reviewed software suite from the USDA Forest Service and its partners, that provides urban forestry analysis and benefits assessment tools.



All instructional sessions begin at 1:00 p.m. (ET)

August 16, 2016 - **What's New in i-Tree ECO**

September 20, 2016 - Looking at i-Tree HYDRO

October, 19, 2016 - DESIGN and CANOPY

November 16, 2016 i-Tree STREETS

December 21, 2016 - i-Tree Roundtable: Answering Your Questions About Using i-Tree

CEU Credits: Society of American Foresters CFE units and International Society of Arboriculture (ISA) CEUs are expected to be awarded for attending these online sessions. Each session is planned to last 1 hour.

For more information, go to: <http://www.unri.org/itreeworkshops/>

Assessing Sustainability for Agricultural and Urban Forests

August 11, 2016 2:00 p.m. (ET)

Society is increasingly realizing the value of individual trees and forested areas found on urban, suburban, and agricultural lands, and research continues to reveal new and sometimes surprising ways in which trees in the places where we live and work provide tangible benefits for people. At the same time, the information base for understanding the nature and extent of these resources is only in the beginning stages of development. This webinar will explore issues related to agricultural and urban forests and their measurement based on findings from the recently-released **Forest Service report "Assessing the Sustainability of Agricultural and Urban Forests in the United States."**

More info at: <http://www.forestrywebinars.net/webinars/assessing-sustainability-for-agricultural-and-urban-forests>.

Urban Forestry Today

The Science and Practice of Cabling and Bracing

September 1, 2016 | 12:00 p.m. – 1:00 p.m. (ET)

Presenter: Mark Reiland, University of Massachusetts

In the Arboriculture/Urban Forestry profession, many are familiar with the practice of cabling and bracing to help provide support and stability for overextended and weakly-attached limbs. Join Mark Reiland, University of Massachusetts, Amherst, as he outlines the fundamentals and provides an update about emerging knowledge pertaining to the science and practice of cabling and bracing. To attend, visit www.joinwebinar.com and enter the ID code 116-178-939.

For more information, contact:

Rick Harper, Department of Environmental Conservation, University of Massachusetts, Amherst

rharper@eco.umass.edu

The Urban Forestry Today 2016 Webcast Series is sponsored by the University of Massachusetts Department of Environmental Conservation, in cooperation with the USDA Forest Service, Massachusetts Department of Conservation and Recreation, University of Massachusetts Extension, and Massachusetts Tree Wardens' & Foresters' Association.

EPA Green Infrastructure Webcast Series

When Green Goes Bad: Lessons

Learned from Past Green Infrastructure Projects

August 2016

www.epa.gov/green-infrastructure and click on [Webcasts](#)

Urban Forest Connections

The USDA Forest Service's Urban Forest Connections webinar series brings experts together to discuss the latest science, practice, and policy on urban forestry and the environment. These webinars are open to all. Past webinar presentations and recordings are available [here](#).

Future Webinars

September 14, 2016 | 1:00 p.m.-2:15 p.m. ET

October 12, 2016 | 1:00 p.m.-2:15 p.m. ET

Growing on Trees

Growing Greener—in Wilmington

The City of Wilmington has been working on a tree inventory to manage its public shade trees. In addition to securing a DCR Urban and Community Forestry Challenge Grant (\$10,860), the community received a Massachusetts Interlocal Insurance Association FY15 Loss Control Grant. The inventory will complement the town's new GIS system and enable the town to better manage its public shade trees and plan for how the city will manage emerald ash borer.

Interested in applying for a DCR Urban and Community Forestry Challenge Grant? Check out information on our [website](#) or contact Julie Coop, julie.coop@state.ma.us or 617-626-1468 or Mollie Freilicher mollie.freilicher@state.ma.us or 413-577-2966. The next application deadline is November 1, 2016.

From the Massachusetts Department of Fish and Game Massachusetts Wildlife Magazine Turns 60

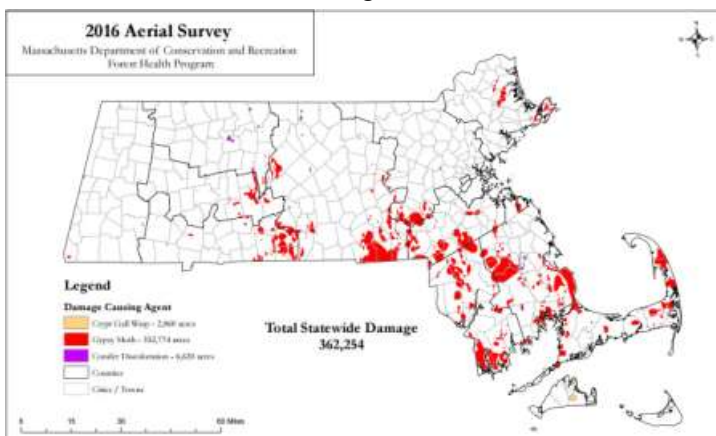
Massachusetts Wildlife magazine is a quarterly publication by the Massachusetts Department of Fish and Game, packed with award-winning articles and photos on the environment, conservation, fishing, hunting, natural history, and just about everything relating to the outdoors in Massachusetts. In 2016, the magazine turns 60! In commemoration of the 60th anniversary, a variety of historical articles will be published in the next three issues highlighting our collective conservation history. For more information on how to subscribe, go to: <http://www.mass.gov/eea/agencies/dfg/dfw/publications/massachusetts-wildlife-magazine.html>.

UMass Extension Green School—this fall!

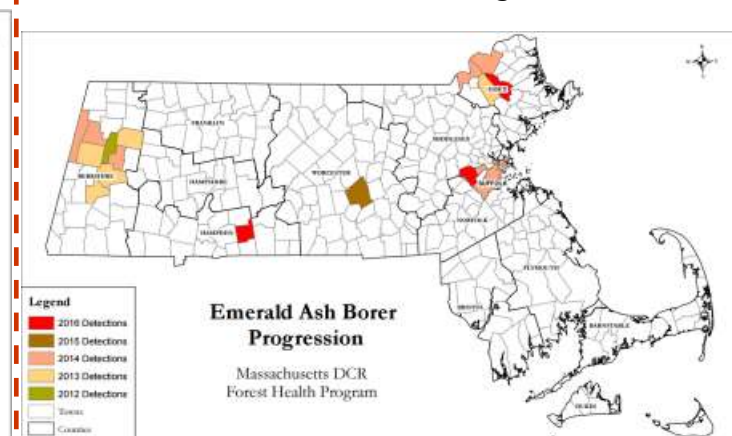
Green School is coming this fall! Offered biennially, Green School is a great opportunity to learn the latest in one of three tracks—arboriculture, turf, and landscape management—earn a certificate, earn pesticide credits, and more.

For more information, go to: <https://ag.umass.edu/landscape/education/umass-extensions-green-school>.

2016 Aerial Survey



Emerald Ash Borer Progression



View the 2016 Aerial Survey Map [online](#) and view the Emerald Ash Borer Progression map [online](#).

Also, for the latest on gypsy moth, read this: [Gypsy Moth: Now that We Have Survived the Largest Outbreak Since 1981, What's Next?](#)

Get updates on current conditions in Massachusetts from the Landscape Message from UMass Extension: <https://ag.umass.edu/landscape/landscape-message>.

Grants

DCR Urban and Community Forestry Challenge Grants

Next deadline: November 1 (Full Application)

Challenge grants are 50-50 matching grants (75-25 for environmental justice projects) to municipalities and nonprofit groups in Massachusetts communities of all sizes for the purpose of building local capacity for excellent urban and community forestry at the local and regional level.

The USDA Forest Service provides funding for the grant program, and DCR administers the grants with guidance from **the Massachusetts Tree Wardens' and Foresters' Association**. The **DCR Urban and Community Forestry Program** assists communities and nonprofit groups in their efforts to protect and manage community trees and forest ecosystems, **with the ultimate aim of improving the environment and enhancing the livability of all of Massachusetts's communities**.

NOTE: The 2016 application contains [new guidelines](#) for strategic planting grants.

Starting in 2016, funding for strategic tree planting grants will be tiered:

Grant Funding Request	Eligibility
\$1,000 - \$7,000	All communities may apply
\$7,001 - \$20,000	Community must be a Tree City USA
\$20,001 - \$30,000	Contact DCR Urban and Community Forestry to discuss

Read the complete guidelines and download the news application at: <http://www.mass.gov/eea/agencies/dcr/conservation/forestry-and-fire-control/urban-and-community-forestry-challenge-grants.html>.

For more information on the Challenge Grants, including our National Grid Partnership Grants and Eversource Go Green grants, contact Julie Coop at 617-626-1468 or julie.coop@state.ma.us or Mollie Freilicher at 413-577-2966 or mollie.freilicher@state.ma.us.

Municipal Grant Finder

The Commonwealth of Massachusetts recognizes that municipalities need a streamlined, easy-to-use way to interface with state government when seeking opportunities for state resources to support local services. The Municipal Grant Finder provides a central location to learn about state grant opportunities for cities and towns, regardless of which state agency manages a grant program. Find grants in community development, culture, education, emergency management and planning, energy, environment, historic preservation, housing, libraries, local government innovation, public safety, and public works and transportation.



Explore the grant-finder here: <http://www.mass.gov/anf/budget-taxes-and-procurement/grants/>.

Forest Legacy Program Request for Proposals Now Available for FY2018

The Massachusetts Forest Legacy Program is now accepting project proposals for consideration in the Federal Fiscal Year 2018 application process. The Forest Legacy Program is a partnership between participating states and the USDA Forest Service to protect environmentally important forests from conversion to non-forest uses. The Federal government may fund up to 75% of project costs, with at least 25% coming from private, state, or local sources. The MA Forest Legacy Program FY 2018 Request for Proposals application instructions are posted [here](#). Additional background information on the Forest Legacy Program is available [here](#). Proposals must be submitted by 5:00 pm on September 12, 2016.

For more information please contact Lindsay Nystrom, MA Forest Legacy Program Coordinator at lindsay.nystrom@state.ma.us or 508-792-7714 x114.

Is your community a Tree City USA? It's not too late to become a Tree City USA in 2016!

Tree City USA is a national program of the Arbor Day Foundation that recognizes communities for urban forest management. It is not just for “cities,” but for communities of all sizes.

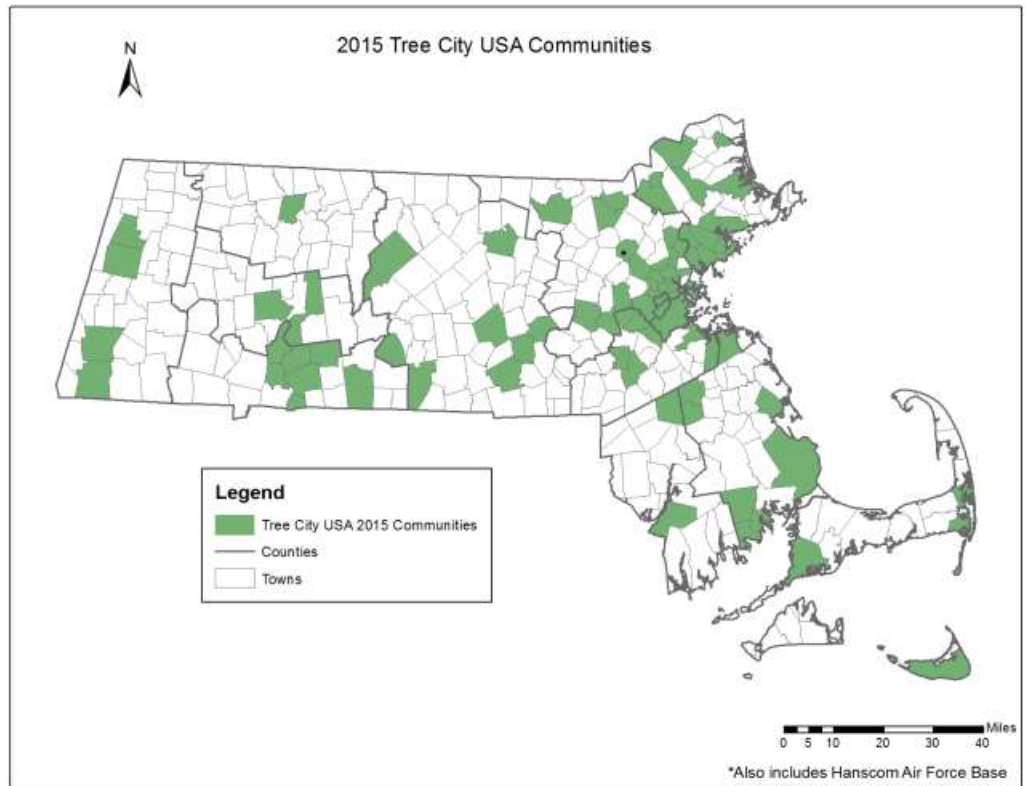
To become a Tree City USA, your community must meet four standards:

Tree Board or Department: For many communities in Massachusetts, tree management falls under public works or another department, and this is perfectly acceptable for Tree City USA. On the application, indicate who is in charge of managing trees in your community.

Community Tree Ordinance: In Massachusetts, we have a statewide ordinance under Mass. General Laws, Chapter 87 that satisfies this standard, if your community does not have an ordinance of its own. We ask for documentation that your community enforces Chapter 87, such as a newspaper clipping for a tree hearing or documentation that your community has adopted this law.

Community Forestry Program with a Budget of at Least \$2.00 per capita: Many types of spending can be included in the budget to reach \$2.00 per capita including, but not limited to:

Salaries, Tree planting (trees, labor, equipment, planting materials, watering, etc.), In-house tree maintenance (pruning, pest and disease control, storm response, fertilization, watering, stump removal, equipment, supplies, etc.), contracted tree work, Vehicular expenses (fuel, maintenance, depreciation, vehicle purchases, insurance), Public outreach and staff training (advertising, public education, professional training, professional memberships, Arbor Day event expenses, etc.), Resource Assessment Expenses, Tree Board/volunteer time (\$10/hour) grant Income, Leaf brush pick-up, biomass recycling, utility tree work (up to 20% of cost).



Arbor Day Event and Proclamation: Tree plantings, seedling distributions, public presentations, school assemblies, festivals, and other activities can be Arbor Day celebrations. The proclamation is a document signed by your mayor or board of selectmen that declares a day of your choosing to be Arbor Day in your community. Sample proclamations can be found on the Arbor Day Foundation [website](#).

Benefits of Tree City USA

A community's status as a Tree City USA is considered for applications to the DCR Challenge Grant Program, but the biggest benefit to your community may be in public relations for your city or town. Residents can feel **a sense of community pride as they drive past “Tree City USA” signs as they enter the community, and visitors can take notice, too.** We have some towns and cities in the state that have been Tree City communities for over 30 years and take it as a major point of pride. Annual Arbor Day events also offer an opportunity for publicity highlighting environmental activities, enhancing the public image of the community. Communities may also use Tree City USA as an initial step toward systematic urban tree management. Whatever the reasons, your community will benefit from joining Tree City USA.

For more information, contact Mollie Freilicher, 413-577-2966 or mollie.freilicher@state.ma.us.

MASSACHUSETTS

Tree City USA Summary 2015



BY THE NUMBERS

83 Tree City USA communities
2 new



53.30% of MA lives in a Tree City USA community



98%
Recertification Rate

Massachusetts' longest-running active Tree City USA community:

Wellesley

33 YEARS

\$23,207,301.79
spent on urban forestry management



\$6.45

average per capita

Largest
Boston

POPULATION 645,169

Smallest
Petersham

POPULATION 1,264



Growth Award

- 6** Growth Award recipients
- 2** **NEW** Growth Award recipient

Longest Active Growth Award

Worcester • 17 years

Beyond Tree City USA

69.88% of communities completed online applications

4 Massachusetts Tree Campus Schools

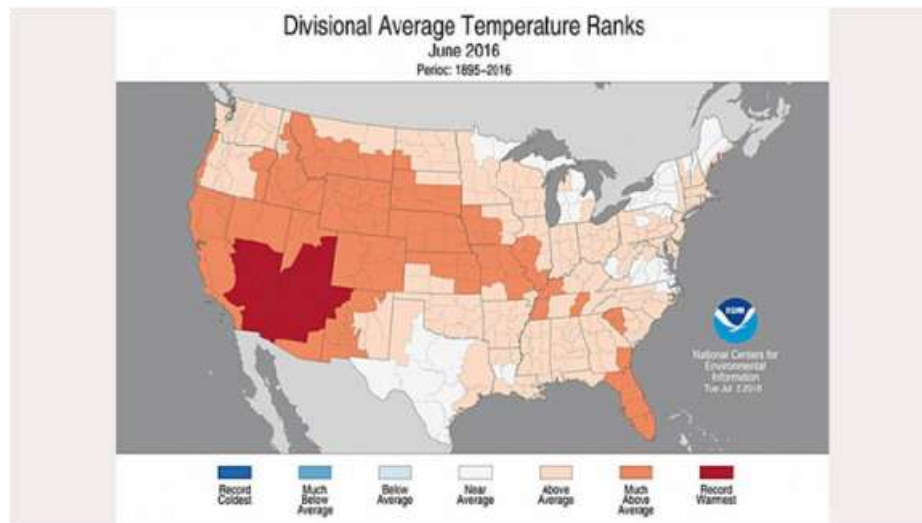
2 New Tree Campus Schools

0 Tree Line Utilities



Gleanings

June 2016 Was The Hottest On Record For the Lower 48 States



More information at:
www.climate.gov.

Agriculture and Forestry: Part of the Climate Solution

USDA's Building Blocks for Climate Smart Agriculture & Forestry

On May 12, 2016, U.S. Secretary of Agriculture Tom Vilsack released a roadmap for the U.S. Department of Agriculture's (USDA) Building Blocks for Climate Smart Agriculture and Forestry - the Department's framework for helping farmers, ranchers, and forestland owners respond to climate change. The effort relies on voluntary, incentive-based conservation, forestry, and energy programs to reduce greenhouse gas emissions, increase carbon sequestration, and expand renewable energy production in the agricultural and forestry sectors. Find out more: <http://www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=climate-smart.html>.

New Environmental Protection Agency Report

"Stormwater Management in Response to Climate Change Impacts: Lessons from the Chesapeake Bay and Great Lakes." Read the report at: <https://cfpub.epa.gov/ncea/global/recordisplay.cfm?deid=310045>.

Phenological and Traditional Knowledge Publication

"Opportunities to utilize traditional phenological knowledge to support adaptive management of social-ecological systems vulnerable to changes in climate and fire regimes." Read more at <http://www.ecologyandsociety.org/vol21/iss1/art16/>.

News Headlines in Brief

[City Lights Trick Trees into an Earlier Spring](#)—*Scientific American*
[California Has 66 Million Dead Trees but No-where to Put the Wood](#)—*San Francisco Chronicle*
[How Research into Glowing Fungi Could Lead to Trees Lighting Our Streets](#)—*The Guardian*
[San Francisco Residents and Street Tree Maintenance](#)—CBS San Francisco
[Gypsy Moth Invasion](#)—*Medway Country Gazette*

[Dr. Ed Gilman, University of Florida Arboriculture Professor, Retires After 30 Years](#)—*The Independent Florida Alligator*
[Britain's Mightiest Oak: A Staggering 1,046 Years Old, It's Still Going Strong](#)—*The Daily Mail*
[A Billion Gallons a Day \(Video on New York City's Water Supply\)](#)—*New York Times*
[Indian State Aims to Plant Record-Breaking 50 Million Trees in One Day](#)—*Treehugger*

News

Baker-Polito Administration Preserves 1,300 Acres of Land in Northfield

Northfield – July 5, 2016 – Today, the Baker-Polito Administration and The Trust for Public Land announced that the state has purchased 1,287 acres of land within Northfield and Warwick from Northfield Mount Hermon (NMH), an independent boarding school located in Gill, Massachusetts. The land, which will be managed by the Department of Conservation and Recreation (DCR), will be protected for public use and will immediately become part of Northfield State Forest.

“The significance of preserving approximately 1,300 acres of additional land for the public to benefit from for generations to come cannot be overstated,” said Governor Charlie Baker. **“The conservation of this land will preserve precious natural resources for wildlife habitats, provide recreational opportunities for the public to enjoy, and create additional access for people to foster a love for nature.”** Read the full press release at mass.gov.

Canadian Forests a Refuge as Warming Creeps North

June 16, 2016—The study, published today in the journal *Science*, shows that boreal forests in far-northern latitudes may one day act as a climate refuge for black spruce, the foundational tree for the northwoods ecosystem -- a major source of the world's paper; home to caribou, snowshoe hare, lynx, and sable, and nesting site for dozens of migratory bird species. "During this century, the northwoods will experience some of Earth's largest increases in temperature," says Loïc D'Orangeville, postdoctoral researcher at Université du Québec à Montréal and Indiana University, who led the collaboration of scientists from six institutions in the U.S. and Canada. Read the full story at ScienceDaily.

To Tame a 'Wave' Of Invasive Bugs, Park Service Introduces Predator Beetles

June 2, 2016—The forest at Great Smoky Mountains National Park is sick, infected by invasive bugs and plants. Matt Moore, Kaleb Lique Naitove, and Emily Baird of the National Park Service are some of the field medics trying to keep it alive.

"We're out here trying to save trees," says Moore, a seasonal forestry tech, as he steps over downed logs and through thick patches of rhododendron on the Tennessee side of Great Smoky Mountains National Park. Moore and his colleagues work on the park's vegetation

North American Forests Unlikely To Save Us From Climate Change, Study Finds

July 20, 2016—Forests take up 25-30 percent of human-caused emissions of carbon dioxide—a strong greenhouse gas—and are therefore considered to play a crucial role in mitigating the speed and magnitude of climate change. However, a new study that combines future climate model projections, historic tree-ring records across the entire continent of North America, and how the growth rates of trees may respond to a higher concentration of carbon dioxide in the atmosphere has shown that the mitigation effect of forests will likely be much smaller in the future than previously suggested.

Published in the journal *Ecology Letters*, the study is the first to reveal the possible impact of a changing climate on the growth rate of trees across all of North America, in other words, how their growth changes over time and in response to shifting environmental conditions. The result are detailed forecast maps for the entire North American continent that reveal how [forest growth](http://forest.growth) will be impacted by climate change. Read the full article at phys.org. More information: Noah D. Charney et al, Observed forest sensitivity to climate implies large changes in 21st century North American forest growth, *Ecology Letters* (2016). DOI: [10.1111/ele.12650](https://doi.org/10.1111/ele.12650).

Using Highly Sensitive Isotope Analysis, Team Obtained Detailed Measurements of Carbon Exchange in Temperate Forest

For the first time, scientists have been successful in measuring the processes by which an entire forest "breathes," using sophisticated technology involving flux towers and new instrumentation that can precisely measure two different types (isotopes) of carbon dioxide in the air. A team led by Richard Wehr and Scott Saleska at the University of Arizona obtained detailed long-term measurements of the respiration and photosynthesis rates of a temperate deciduous forest during the day and the night. Read the full story at Phys.org.

management crew, veg crew for short. They carry plastic buckets filled with their "medical supplies" — a bicycle pump, a tangle of tubing and Kool-Aid-blue and candy apple-red pesticides. Read or listen to the full story at npr.org.

On the Horizon

- Aug 13-17 International Society of Arboriculture International Conference, Fort Worth, TX, www.isa-arbor.com
- Aug 16 i-Tree webinar: **What's new in i-Tree Eco**, www.unri.org/webcasts/itreeworkshops/
- Aug 18-19 Advanced Tree Risk Assessment , Level 3, New England Chapter-ISA, Hanover, NH, www.newenglandisa.org
- Sept 1 Urban Forestry Today webinar, www.joinwebinar.com and enter code **116-178-939**.
- Sept 9-11 **Women's Tree Climbing Workshop, Petersham, MA**, <http://www.womenstreeclimbingworkshop.com>
- Sept 20 i-Tree webinar: Looking at i-Tree HYDRO, www.unri.org/webcasts/itreeworkshops/
- Sept 20 Western Mass. Tree Wardens Dinner Meeting, Northampton, MA, www.masstreewardens.org
- Sept 21 Saluting Branches, <http://www.salutingbranches.org/>
- Sept 23 Massachusetts Soils Conference, Gardner, MA <http://worchesterconservation.org/>
- Sept 27 Massachusetts Arborists Association Dinner Meeting, Framingham, MA, www.massarbor.org
- Oct 11 Urban Wood Utilization Webcast, <http://www.na.fs.fed.us/werc>
- Oct 14-15 2016 Tree Steward Training, Petersham, MA— Registration coming soon!
- Oct 19 i-Tree webinar: Using Design and Canopy, www.unri.org/webcasts/itreeworkshops/
- Oct 19-21 Certified Arborist Prep Course, New England Chapter-ISA, Acton, MA, www.newenglandisa.org
- Oct 24– Dec 12 UMass Extension Green School, Milford, MA, www.umassgreeninfo.org
- Nov 6-8 New England Chapter-ISA 50th Annual Conference, Burlington, VT, www.newenglandisa.org
- Nov 10-12 TCI Expo Tradeshow and Conference, Baltimore, MD, www.tcia.org
- Nov 15 Society of Municipal Arborists Annual Conference, Indianapolis, IN, www.urban-forestry.com
- Nov 16 i-Tree webinar: i-Tree Streets, www.unri.org/webcasts/itreeworkshops/
- Nov 16-17 Partners in Community Forestry Conference, Indianapolis, IN <https://www.arborday.org/programs/pcf/>
- Nov 30 – Dec 2 New England Grows, Boston, www.newenglandgrows.org
- Nov 30 – Dec 2 American Society of Consulting Arborists Annual Conference, Boston, <http://www.asca-consultants.org/>
- Dec 21 i-Tree webinar: i-Tree Roundtable: Answering Your Questions About Using i-Tree, www.unri.org/webcasts/itreeworkshops/
- Dec 31 Deadline for Tree City, Tree Line, Tree Campus USA, Contact [Mollie Freilicher](mailto:Mollie.Freilicher@state.ma.us), 413-577-2966

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Peter Church, Director of Forest Stewardship, Department of Conservation and Recreation

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If you have a topic you'd like to see covered or want to submit an item to *The Citizen Forester* (article, photo, event listing, etc.), please contact [Mollie Freilicher](mailto:Mollie.Freilicher@state.ma.us) or click [here](#).

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