



THE CITIZEN FORESTER

Urban & Community Forestry Program

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Urban Forest Adaptation to Climate Change: Key Tools and Resources

By Michelle Sutton

At the 2019 New York ReLeaf Conference last July in Rochester, NY, Dr. Leslie Brandt presented a fascinating talk about her work on urban forest adaptation to climate change, and she offered up powerful resources and tools to our community. Here's a brief summary of those resources compiled by blog editor Michelle Sutton in consultation with Dr. Brandt.

Background

The Climate Change Response Framework (forestadaptation.org) is a collaborative, cross-boundary approach among scientists, managers, and landowners to incorporate climate change considerations into natural resource management.

The Framework's partners are numerous and wide-ranging, including the Bureau of Indian Affairs, National Park Service, U.S.D.A. Forest Service, U.S. Geological Survey, and dozens of state and local governments, Native American tribes and tribal organizations, universities, and ecological and urban forest institutes and organizations.

The Northern Institute of Applied Climate Science (NIACS) works with partners to lead Framework activities across the Midwest and Northeast U.S. Within the Climate Change Response Framework, the Urban Forestry focus addresses urban forest vulnerability for cities and creates tools to help local managers adapt to the effects of climate change.

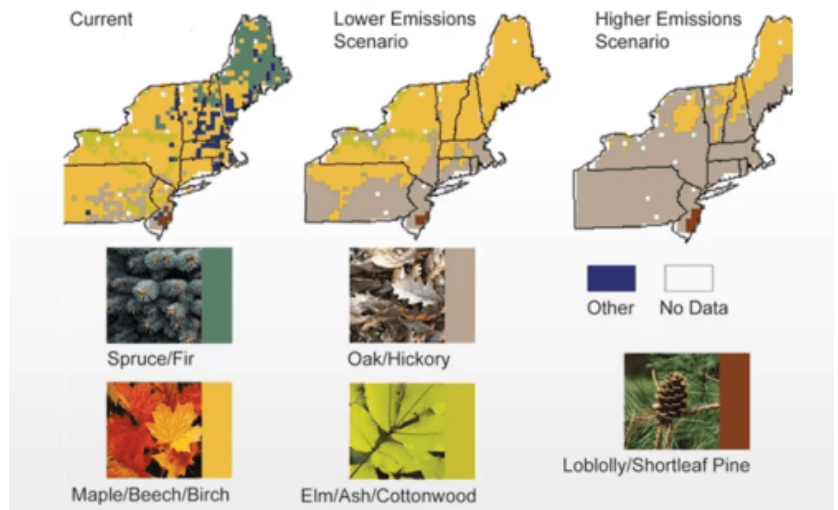
Dr. Leslie Brandt

This urban forest-centered effort is coordinated by Dr. Leslie Brandt, who serves as climate change coordinator for the Eastern Region of the U.S. Forest Service and is a climate change specialist with NIACS.

Tools

Dr. Brandt's primary focus over the past five years has been developing and testing a framework for adapting urban forests to climate change. Her work, [piloted in Chicago](#), has now expanded to other urban areas across the Midwest and Northeast. Among her professional interests are frameworks for assessing [vulnerability and adaptive capacity](#).

Northeast



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Urban Forest Adaptation to Climate Change

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Here's what urban forest professionals in New York—and throughout the Midwest and Northeast regions of the U.S.—should know about the resources and tools available at forestadaptation.org:

The site provides an [Adaptation Workbook](#) that can be printed out or worked through online. City Forestry programs that have already availed themselves of the Workbook—and whose implementation, referred to as Adaptation Demonstrations, are on the Workbook website—include Cambridge, Massachusetts; Columbia, Missouri; and New York City.



Screenshot from the Climate Change Response Framework—Urban Forests section.

An online, free [training](#) for using the Adaptation Workbook is coming in Winter 2020. Called the [Forest Adaptation Planning and Practices](#) (APP) training, this is a proven in-person NIACS course that has helped natural resource managers throughout the eastern United States prepare for and adapt to climate change. Now the same program is available as a seven-week online course using this online tool. Through this course, participants will be able to:

High Adaptive Capacity: Kentucky Coffeetree



- No major pest/disease issues
- Adaptable to a range of soils, climates
- Urban-tolerant
- Low maintenance
- Widely available

- Identify climate change impacts that pose the greatest challenges and opportunities for their project area or ecosystem
- Describe whether and how management may need to be adjusted in light of climate change
- Develop specific actions to help ecosystems adapt to changing conditions, and connect action plans with broader climate adaptation concepts and strategies
- Use the *Adaptation Workbook* to create their own “climate-informed” project plan
- Better communicate with stakeholders on key climate change vulnerabilities relevant to their region
- Access support from NIACS during project planning and implementation

Understanding and evaluating the [climate change impacts](#) for a particular region or system is an important first step in adapting to climate change. It's key information that informs the process of using the Adaptation Workbook to strategize natural resource management. The climate change impact data on the above-linked site is meticulously sourced and cited.

Comprehensive Climate Change Adaptation resources featured in the Adaptation Workbook can be found [here](#) and can be filtered by region, sector, and subject. *Used with permission from the New York State Urban Forest Council, <http://nysufc.org/>*

Mass. Department of Conservation and Recreation

Species Spotlight—Northern pin oak, *Quercus ellipsoidalis*

By Mollie Freilicher



Leaves, [Virginia Tech](#)

This oak was new to me when I came across it while looking for Species Spotlight ideas. Northern pin oak, also known as Jack oak or Hill's oak, (*Quercus ellipsoidalis*) is native to the western Great Lakes region, from southwestern Ontario, to northwest Ohio, southwest to northern Missouri, and north to southeast North Dakota. It can be found in

well-drained sandy and clay soils, in pure stands or mixed woods. Dirr and Warren describe it as having a more “irregular rounded habit and horizontal branching” than pin oak (*Q. palustris*). Other features are similar to pin oak, making ID not a given, particularly in areas where the native ranges overlap. It grows to 50 to 60 feet, with a similar spread. It is hardy in USDA zones four to six.

Leaves of northern pin oak are alternate and obovate, with five to seven lobes and rounded sinuses. Leaves are woolly when they emerge and then turn a shiny green. The fall color is yellow, brown, or purple. Similar to other oaks, the leaves may remain on the tree over the winter.



Bark, [Virginia Tech](#)

Twigs are red-brown and have multiple reddish-brown buds at branch tips. The bark is gray or dark brown, starting out smooth and developing shallow fissures or plates. The inner bark is yellow-orange in color, a characteristic not many oaks have.

The fruit is an acorn, one-half to one-inch long and elliptical or round, and with a pubescent, scaled cap that covers about half the nut.

Northern pin oak can tolerate higher pH than our native pin oak. Dirr and Warren note that its branches are less “droopy” than pin oak. Northern pin oak is generally only available in the trade in and around the area where it is native. On your next trip to the Midwest (or to the [Arnold Arboretum](#)), you may want to keep your eyes open for this tree.



Acorns, [Virginia Tech](#)

References

Dirr, Michael A. 1998. *Manual of Woody Landscape Plants*. 5th Ed. Champaign, IL: Stipes.

Dirr, Michael A. and Keith S. Warren. 2019. *The Tree Book: Superior Selections for Landscapes, Streetscapes, and Gardens*. Portland, OR: Timber Press.



2012 © Peter M. Dohak
Form, [minnesotawildflowers.info](#)

Growing on Trees

Municipal Vulnerability Preparedness Program

RFR open until
11/14/19

Grants

[Press Release: Baker-Polito Administration Announces Availability of \\$8 Million in Climate Change Funding for Cities and Towns](#)

Funding Will Help Communities Plan for Climate Impacts and Implement Priorities through the Municipal Vulnerability Preparedness Program. RFR open until November 14.

Municipal Forestry Institute

February 23-28, 2020 | Gulf Shores, AL

The Municipal Forestry Institute (MFI) is an exciting, high-level training opportunity educating people in the leadership and managerial aspects of urban forestry. This week-long intensive educational program delivers a challenging opportunity to grow a more successful community tree program. Come learn and master leadership and management tools of program administration, coalition building, strategic thinking, program planning, and public relations by investing a week in your personal growth and development.



What does MFI Cover?

The Institute curriculum was developed by a team of urban forestry professionals and educators with dozens of years experience in leading urban forestry programs at the local, state, federal, and non-profit levels. There are four major components of the MFI curriculum:



- Developing A Leadership Approach To Your Position
- Thinking and Planning Strategically to Advance Urban Forestry Programs
- Working Effectively with Boards, Coalitions, and Non-Profit Organizations
- Managing the Relationship Between People and Trees

Diversity scholarships are available. Application deadline: December 1, 2019. View the program flyer [here](#) and find out more at the [Society of Municipal Arborists website](#).

Growing Greener – in North Adams

The streets of North Adams have gotten greener this year. The city is in the second planting season of a three-year grant to plant 800 trees. The grant, “Grassroots Tree Planting in Three Small Low-Income Cities within Rural Massachusetts” is funded through the USDA Forest Service Landscape Scale Restoration program and is being administered by the Franklin Land Trust. The grant has goals of increasing tree canopy in the three communities (North Adams, Greenfield, and Montague) and developing networks of volunteers who plant and care for trees.

In North Adams, Bret Beattie, of the Northern Berkshire Community Coalition, has been spearheading the planting in North Adams. This past spring, Bret was responsible for planting 134 trees in North Adams. To water trees over the summer, Bret adapted a bicycle trailer to carry hose and other materials for watering trees and had a volunteer help with the watering. This fall, Bret is continuing to plant trees in North Adams.



Bret with the watering trailer.

Growing on Trees—Webcasts and Events

Urban Forestry Today

November 7, 2019 | 12:00 - 1:00 p.m. (EST)

Emerald Ash Borer Update

Nate Siegert, PhD, USDA Forest Service

www.joinwebinar.com; code: 214-633-115

TREE Fund Webinar

November 19, 2019 | 2:00 - 3:00 p.m. (EST)

Health Benefits of City Trees: Research Evidence & Economic Values - Kathleen Wolf, Ph.D. Univ. of Washington

<https://treefund.org/webinars>

USDA Forest Service Urban Forest Connections

December 11, 2019, 1:00 – 2:15 pm (EST)

Scaling-Up Your Urban Wood Opportunities: A Role for Everyone

Kathryn Fernholz, Dovetail Partners, Inc.

Jennifer Alger, Urban Salvaged and Reclaimed Woods

To view the webinar and watch past archived webinars, go to <https://www.fs.fed.us/research/urban-webinars/>.

UMass Tick Talk Webinars

If the UMass TickTalk webinars did not answer your questions this year, complete a two-minute survey to propose the topic(s) you'd like to hear about. Find the survey [here](#). All webinars were recorded and are [archived here](#).

From the Arnold Arboretum

For the complete calendar, go to:

www.arboretum.harvard.edu/education/adult-education/

Measure Twice, Cut Once: Introductory Tree and Shrub Pruning – December 14

Winter Tree Identification – January 25, 2020

Grafting Woody Plants – Fruit Trees – February 26, 2020

Mass. Department of Conservation and Recreation

Society of Municipal Arborists Annual Conference

November 18-19, 2019 | Cleveland

The SMA is an organization of municipal arborists and urban foresters. Come hear the latest on managing trees in municipalities at the annual conference, including the latest on beech leaf disease, an emerging issue.

Find out More: www.arboday.org/pcf

Partners in Community Forestry Conference

November 20-21, 2019 | Cleveland

Bring your skills, your hunger for knowledge, and your passion for community forestry as you mingle with like-minded professionals – the thinkers, doers, and thought leaders in community forestry.

Find out More: www.arboday.org/pcf

From the Native Plant Trust

This is a selection of upcoming programs. For the complete calendar, go to:

www.nativeplanttrust.org/education/classes/

[Bare Trees and Naked Shrubs](#) – November 19

[Diversify Your Lawn](#) – November 20

[Shrubs in Winter](#) – December 7

[Plants 102: Deeper into the Green World](#) –

Starts January 10, 2020

[Native Plant Trust Book Club: Around the World in 80 Trees](#) – January 16, 2020

[Winter Botany](#) – January 31, 2020

[Winter Pruning](#) – February 27, 2020

Growing on Trees

2020 Arbor Day Poster Contest

Trees Please

All 5th grade students in Massachusetts are invited to participate in this annual contest that combines art and science.

Contact Mollie Freilicher
mollie.freilicher@mass.gov or 413-577-2966

WWW.MASS.GOV/GUIDES/ANNUAL-ARBOR-DAY-POSTER-CONTEST

2020 DCR Arbor Day Poster Contest Theme Announced

Fifth grade classes from public and private schools across the Commonwealth are encouraged to participate in the annual Arbor Day Poster Contest by having fifth-grade students create posters highlighting this year's theme, **Trees Please**, and then hosting a school poster contest. The winning poster from each school can be submitted to DCR. Home-schooled or non-participating school students may submit their posters and enter the contest individually.

The Arbor Day Poster Contest is sponsored by the Department of Conservation and Recreation, the U.S. Forest Service, and the Massachusetts Tree Wardens' and Foresters' Association.

For complete rules and guidelines, go to the [Arbor Day Poster Contest page](#) on the DCR website.

From the Mass. Tree Wardens' and Foresters' Association

Tree Warden of the Year—"The Swifty" Award

The Tree Warden of the Year Award recognizes a tree warden who exhibits leadership, dedication, and a commitment to the profession. The annual award is named in honor of longtime member and past president Seth "Swifty" Swift, who passed away January 1, 2004. The association invites nominations from Massachusetts residents, as well as from city and town officials. Nominations are due by December 1 for the January annual award presentation. Submit your nomination [online](#) or find out more at masstreewardens.org.



Annual Conference

The Annual Conference of the Massachusetts Tree Wardens' and Foresters' Association will be held January 7-8, 2020 at the Sturbridge Host Hotel. Save the date and stay tuned for more information.

Not a member of MTWFA? Consider joining and reaping all the benefits of joining this professional community: www.masstreewardens.org

Growing on Trees

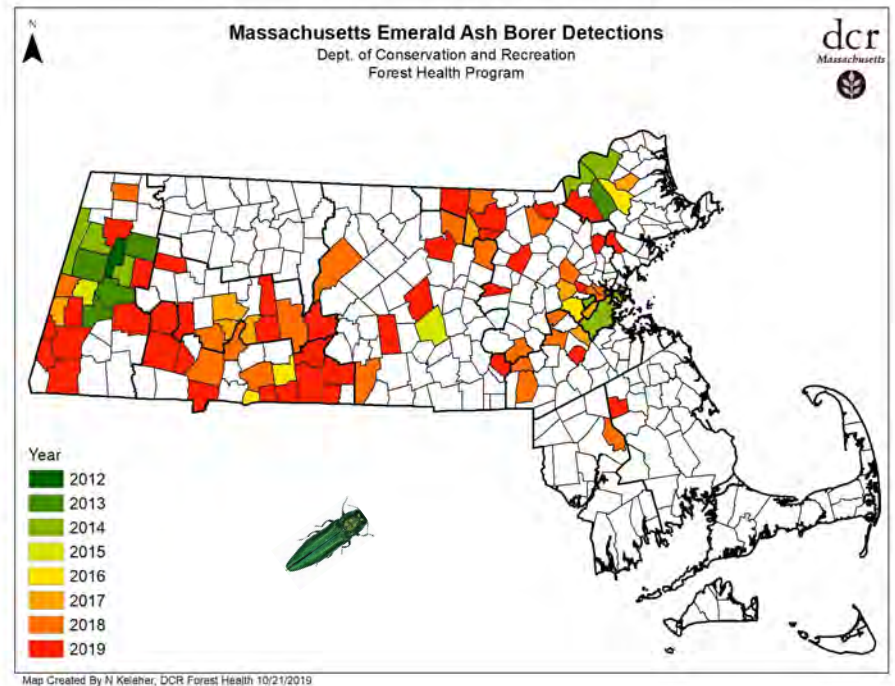
Emerald Ash Borer Update

As of October 21, 2019, emerald ash borer (EAB) has been detected in 88 communities in Massachusetts, most recently Andover and Amherst. EAB has not yet been detected in Barnstable, Dukes, or Franklin County.

Emerald ash borer attacks ash trees (*Fraxinus* spp.) as well as fringetree (*Chionanthus virginicus*). It does not attack mountain ash (*Sorbus* spp.), which is in a different family.

Learn how to identify signs and symptoms of EAB [here](#). Think you've seen EAB? Report it at massnrc.org.

Interested in the latest from MassNRC? Follow MassNRC on Twitter [@MassPests](https://twitter.com/MassPests)



Drought Monitor

As of October 29, 2019, abnormally dry conditions have receded in much of the state, though parts of northern and southern Massachusetts remain abnormally dry.

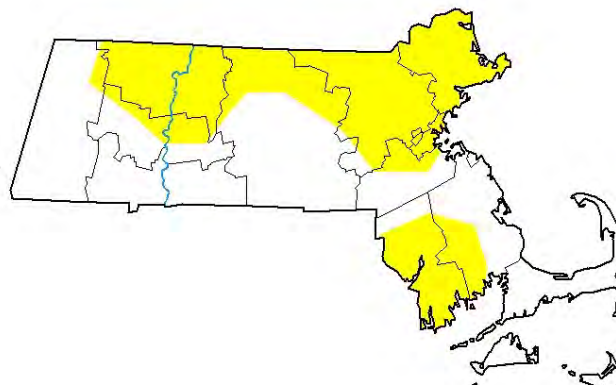
For complete details, go to the U.S. Drought Monitor: <https://droughtmonitor.unl.edu/>

Find out more at the Northeast Regional Climate Center: www.nrcc.cornell.edu.

There you can find out about weather and climate trends in the northeast.

U.S. Drought Monitor Massachusetts

October 29, 2019
(Released Thursday, Oct. 31, 2019)
Valid 8 a.m. EDT



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

David Simeral
Western Regional Climate Center



droughtmonitor.unl.edu

Growing on Trees

From the New England Chapter-International Society of Arboriculture Tree Risk Assessment Qualification Course and Renewal Course

The New England Chapter-International Society of Arboriculture will be offering the 2.5-day Tree Risk Assessment Qualification (TRAQ) course **January 6-8, 2020** and the one-day renewal course on **January 9, 2020**. Both programs will be offered in Portsmouth, NH.

ISA offers the Tree Risk Assessment Qualification as an instructor-led credential that demonstrates professional knowledge in tree risk assessment through participation in a training course and passing its accompanying exam. The TRAQ program offers tree care professionals the opportunity to expand their knowledge of the fundamentals of tree risk assessment by learning a standardized, systematic process for assessing tree risk and providing information to tree owners and risk managers for making informed decisions that will promote the safety of people and property and enhance tree benefits, health, and longevity. Through education and training, arborists will learn strategies to systematically identify and assess tree risk.

Find out more: newenglandisa.org/events/workshops.

Gleanings

From the USDA Climate Hub

The Climate Adaptation Fellowship Curriculum Released

The [Climate Adaptation Fellowship](#) is a curriculum designed to give farmers, foresters, and advisors the information they need to adapt to climate change, bring climate change into their outreach programs, and talk about climate change with peers and colleagues.

The curriculum includes course outlines, teaching notes, slide decks, and activities. These materials are free to access and available at <https://www.adaptationfellows.net>. The curriculum has four modules, tailored for farmers and land managers in the northeastern United States. The modules focus on vegetables/small fruit, tree fruit, dairy, and forestry. “The program includes a core set of education lessons and a menu of hands-on activities, and uses a peer-to-peer learning approach to connect land managers and the advisors who work with them,” said [Rachel Schattman](#), USDA Climate Hub research fellow and co-author of the vegetable/small fruit module. “It is responsive to the interests of participants, their skill level, and technical background. Adaptation practices presented in the curriculum (e.g., cover crops, strip tilling, high tunnels) are tailored to a sector-specific audience.” Find out More at USDA.gov.

Sugar Maple Regeneration: Citizen Science

October 1, 2019— Sugar maple trees (*Acer saccharum*) may be struggling to regenerate in a changing climate. Research at Hubbard Brook Experimental Forest shows sugar maple seedlings failing to thrive. Warming temperatures appear to be a contributing factor. In response, the [Society for the Protection of New Hampshire's Forests](#) (Forest Society) is partnering with Hubbard Brook Experimental Forest (HBEF) in a new citizen science [project](#). The goal of this project is to determine the extent of sugar maple regeneration issues throughout New Hampshire. The USDA Northeast Climate Hub is excited to support the research and training of citizen science volunteers to further understand this issue. Find out more at USDA.gov.



News

USDA Declares New York City Free of the Asian Longhorned Beetle

October 10, 2019 — Today, the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) in coordination with the New York State Department of Agriculture and Markets, New York State Department of Environmental Conservation, and New York City Department of Parks and Recreation announce that they have eliminated the Asian longhorned beetle (ALB) from the New York City boroughs of Brooklyn and Queens.



"I am proud to say that we have eradicated Asian longhorned beetle from Brooklyn and Queens," said Greg Ibach, USDA's Under Secretary for Marketing and Regulatory Programs. "This officially marks the end of our 23-year long battle with this pest in New York City."

The beetle was first detected in the United States in 1996 in Brooklyn's Greenpoint neighborhood. A short time later, it was found in other parts of New York City and on Long Island. The pest most likely came to the United States inside wood packaging material from Asia.

To eliminate the beetle, APHIS and its partners regulated the movement of tree hosts, firewood and woody debris, and carried out surveys to find and remove infested trees. In total, APHIS removed 5,208 infested trees and treated 67,609 at-risk trees. After completing final tree surveys last month, APHIS confirmed the beetle is no longer in Brooklyn and Queens.

With this announcement, APHIS is removing quarantines covering 58-square miles in Brooklyn and Queens. This reduces the total regulated areas in New York State to 53-square miles in Nassau and Suffolk counties on Long Island.

ALB has no known natural predators in the United States, and it threatens recreational areas, forests, and suburban and urban shade trees. The beetle bores through the tissues that carry water and nutrients throughout the tree, which causes the tree to starve, weaken, and eventually die. Once a tree is infested, it must be removed. The invasive pest has caused the loss of over 180,000 trees in Ohio, Massachusetts, New York, New Jersey, and Illinois. [Click here for the press release.](#)

News Headlines in Brief

[Bob Ross-Themed Happy Little 5K to Benefit Tree Planting at State Parks in Michigan](#)



[Three Times More People at Risk from Yearly Coastal Flooding than Previously Thought](#)

[This Scientist Is Working to Get More Girls Up into Tree Canopies](#)

[Minnesota Cities Struggle to Stay Ahead of Emerald Ash Borer's Rapid Spread](#)

[Planting Trees to Take on Climate Change Isn't As Easy As Youtubers Might Think](#)

[Hikers: Beware of Falling Trees](#)

[Google's Latest Products Are Trees That It Will Grow Specifically for Its Campuses](#)

[How did Esperance, NY-based Landis Arboretum's Fred Breglia Wind Up in a Huge Ad in Times Square?](#)

[Nearly 300-Acre Forest Park Opens in Beijing](#)

[Faces for Fallen Trees: The Man Behind Rome's Tree Stump Sculptures](#)

[Invasive Snake Worms Have Jumped into Rhode Island](#)

[A Chickadee's Guide to Gardening: How to Create Habitat for Birds in Urban Settings](#)

[Managed Forests in New Hampshire Rich in Carbon](#)

[Efficient Synthesis of Ginkgo Compound Could Lead To New Drugs, 'Green' Insecticides](#)

On the Horizon

- Oct 31- MassTrails Conference, Leominster,
Nov 2 www.masstrailsconference.com/
- Nov 7 Urban Forestry Today Webcast, 12:00 pm (Eastern), www.joinwebinar.com, code: 214-633-115
- Nov 7-9 TCI Expo, Pittsburgh, www.tica.org
- Nov 14 Invasive Insect Certification Program— Pt. 3 UMass-Extension, Sturbridge, www.umassgreeninfo.org
- Nov 18-19 Society of Municipal Arborists Annual Conference, Cleveland, OH, www.urban-forestry.com
- Nov 19 MAA Annual Meeting, Mass. Arborists Association, Ken's Steak House, Framingham, www.massarbor.org
- Nov 19 TREE Fund Webinar, 2:00 p.m. (Eastern), www.treefund.org/webinars
- Nov 20-21 Partners in Community Forestry Conference, Cleveland, OH, www.arborday.org/pcf
- Nov 21 [Fall Wrap-Up](#), UMass Extension, Sturbridge

- Dec 1 [Deadline for Tree Warden of the Year Nominations](#), www.masstreewardens.org
- Dec 8-11 American Society of Consulting Arborists Annual Conference, New Orleans, www.asca-consultants.org
- Dec 12 ISA Certification Exam, New England ISA, Wellesley, www.newenglandisa.org
- Dec 31 [Deadline for Tree City, Tree Line, and Tree Campus USA Applications](#)
- Jan 6-8 Tree Risk Assessment Qualification Course, Portsmouth, NH, www.newenglandisa.org
- Jan 7-8 Annual Conference, Mass. Tree Warden's and Foresters' Association, Sturbridge, www.masstreewardens.org
- Jan 9 Tree Risk Assessment Qualification Renewal Course, Portsmouth, NH, www.newenglandisa.org

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

Charles D. Baker, Governor
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Peter Church, Director of Forest Stewardship, Department of Conservation and Recreation



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