Massachusetts Urban & Community Forestry Program

The Citizen Forester

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Can Community Forests in the Northeast U.S. Keep Pace with a Changing Climate?

By **Ashley McElhinney, Bethany Bradley, and Richard W. Harper**

After some very cold weather this past winter, several degrees of warming temperatures might not sound too bad. But, for forest trees in native ecosystems and urban neighborhoods, climate change is likely to have a variety of effects on tree health. Since our temperature records began in 1880, average global temperatures have risen approximately 0.8°C (1.5°F) and in the coming years will rise much further due to ongoing greenhouse gas emissions. Projections for the 21st century depend on greenhouse gas emission levels, but models anticipate that we could see another 0.6°C (1°F) in the next 20 years and up to 4.4°C (8°F) by the end of the century. Plants have already been responding to rising temperatures by greening up earlier in the spring. In the northern hemisphere, plants are also slowly shifting their distribution northward and upward in elevation in response to warming weather trends.

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Trees are unable to transplant themselves and readily move north to cooler climates; thus, they may be increasingly stressed by rising temperatures at the warm range margins of their climate tolerance or provenance. As a consequence, increasing rates of forest tree mortality have been observed globally. Tree seedlings are having a harder time germinating and establishing at warm range margins, but an easier time at cool range margins. Over time, this creates a shift in forest tree range. For example, surveys of change in forest composition in Vermont's Green Mountains between 1964-2004 showed an upward range expansion of northern hardwoods and an accompanying range contraction of higher elevation boreal forest species.

Photo 1: Ginkgo (*Ginkgo biloba*), a tree commonly planted in the urban environment, is predicted to thrive under climate change scenarios.

Current climate change projections suggest that plants will need to migrate 3-5 km *every year* just to keep up with warming temperatures. This rate is much faster than an observed natural ability of annual plants, which can disperse up to 500 meters per year. Some short-lived plant species might be able to adapt to changing climate over several generations. Longer-lived trees are unlikely to have enough generations to adapt to rapidly warming climate. Without human assistance, most tree communities may be unable to keep up with warming temperatures.

Warming conditions will also affect the health of urban trees. Urban forest managers and commercial arborists may be able to provide some relief to existing tree populations by encouraging best management practices that help alleviate some of the environmental stresses associated with warmer and drier climate conditions. For instance, strategically applying mulch can protect a tree from soil compaction, injury to its roots and stem, and soil moisture loss during periods of drought. Optimizing watering schedules may also ease the stress of longer, warmer growing seasons. Forgoing fertilization may be beneficial to trees with no demonstrated nutrient deficiencies, to avoid pushing unnecessary growth instead of concentrating their limited resources on surviving a potentially difficult growing season.

Despite the many uncertainties surrounding future climate conditions, researchers have made predictions for the potential changes to the structure of our forests.

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Photo 2: A harbinger of spring, Cornelian cherry (*Cornus mas*), in bloom. Records from 1900 indicate that spring flowering trees and shrubs have continued to bloom earlier into the spring season.

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Projections suggest that many ecologically and economically important species, such as sugar maple (*Acer saccharum*) and balsam fir (*Abies balsamea*), are likely to lose a significant amount of suitable habitat in the Northeast over the next 100 years. Habitat for northern hardwood (maple-beech-birch) and northern mixed (aspen-birch, white-red-jack pine) forests in the region is likely to become better suited to oak-hickory hardwood and oak-pine mixed forests; habitat for some oak species may increase as much as three times. One study comparing low and high emissions scenarios contends that under a low emissions scenario, conditions will favor maple-beech-birch forests, while oak-hickory forests will be favored under a high emissions scenario.

In the urban forest, experts recommend planting resilient species such as Kentucky coffee-tree (*Gymnocladus dioicus*), London plane-tree (*Platanus* x *acerifolia*), hackberry (*Celtis occidentalis*), honey-locust (*Gleditsia triacanthos*), swamp white oak (*Quercus bicolor*), and Freeman maple (*Acer* x *freemanii*), all of which have been successfully installed for many years in the Northeast by tree wardens, arborists, and urban foresters. It is also recommended to incorporate a diverse array of species that are not only indigenous to more southerly climates, but are tolerant of urban growing conditions, such as bald-cypress (*Taxodium distichum*), sweet-gum (*Liquidambar styraciflua*), and several common southern oak trees, like turkey oak (*Quercus laevis*) and willow oak (*Quercus phellos*). Some of the tree species common to the region predicted to lose ground as a result of climate change include shagbark hickory (*Carya ovata*) and American basswood (*Tilia americana L.*). Urban foresters and arborists should think twice before selecting and planting these types of trees.

'Assisting' the migration of these species further north may improve the long-term viability of tree species under climate change, with the potential to prevent extinction, minimize economic loss, and sustain ecosystem services. Species most likely to persist will be the ones we choose to plant outside of their historic range. However, there are various challenges to this strategy. A lack of specific implementation instructions, uncertainties about future climate conditions, existing policies, and lack of nursery stock can all hinder efforts to assist tree migration.

The greatest concern associated with assisted migration is the accidental introduction of species that go on to become invasive and problematic to surrounding ecosystems and economies. Generally, trees that could not plausibly arrive to New England without human assistance are more likely to become invasive than those that evolved within eastern temperate forests. For example, non-native species originating outside the U.S. were 40 times more likely to be identified as invasive than 'native-ish' species originating within the U.S. Similarly, the invasive plant atlas of the U.S. (www.invasiveplantatlas.org) lists over 200 tree species identified as invasive somewhere in the U.S. Almost all of these species are of international origin, making the introduction of new trees from outside of the U.S. a risky proposition for native New England ecosystems.

Planting trees from international sources not only increases the likelihood of introducing a novel invasive plant, international live plant imports are also the primary source of forest pests. An estimated 12% of live plant imports are contaminated by some form of forest insect, mite, or pathogen. Moreover, warmer temperatures with climate change can sustain higher populations and diversity of forest pests, which tend to be less cold tolerant. This combination of increasing pest introductions and improving climate conditions for pests means that we can expect more outbreaks of both known and unknown pests and pathogens ahead. Pest management protocols for urban trees, including vigilant monitoring, confirmation of

Photo 3: Sweetgum (*Liquidambar styraciflua*), a native tree routinely selected for planting in the urban environment, is predicted to do well under climate change scenarios.

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Can Community Forests in the Northeast U.S. Keep Pace with a Changing Climate?

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diagnosis, and appropriate remedial actions should be implemented where appropriate.

In addition to shifting plant and pest distributions, climate change is also lengthening the growing season. For example, based on historical herbarium records, flowering time in Massachusetts advanced by an average of 8 days between 1900-2000. While it is nice to see those spring blooms a little earlier, one consequence is that species are being increasingly damaged by frost. Leafing out during an early warming makes buds and leaves vulnerable to normal spring cold snaps. Additionally, early warming may harm interactions between trees and animals by creating mismatches in the timing of pollination and seed dispersal. Although longer growing seasons and higher atmospheric CO_2 concentrations suggest an increase in tree productivity, increased climate stress, pests, and disease could instead lead to an overall decrease in tree productivity.

To understand future forest change, ongoing inventorying, monitoring, and analysis is necessary. Urban forests provide a myriad of ecosystem services, and maintaining their resilience under warming climate conditions to preserve these benefits will require significant management efforts. Preserving tree species toward the southern edges of their range means mitigating drought and pest stress. Meanwhile, assisting the migration of more southerly North American tree species into New England is one important step toward developing 'climate smart' urban forests.

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Species Spotlight—Blackhaw viburnum, *Viburnum prunifolium*

By **Mollie Freilicher**

Native from southwest Connecticut, south to Alabama, west to eastern Kansas, and north to southeastern Wisconsin and southwestern Iowa, blackhaw viburnum, *Viburnum prunifolium*, is a small tree or multi-stemmed shrub with showy white flowers. It grows in moist soils of forests and forest edges, and is found up to 3,000 feet in elevation. The Latin *prunifolium*, means "plum-leaved," for the resemblance to plum leaves (*Prunus* spp.). Blackhaw viburnum is featured in the new '30 Under 30' planting list from Eversource, as suitable for planting near overhead power lines. Also called stagbush or sweethaw, blackhaw viburnum is hardy in USDA hardiness zones three to nine and has a slow to medium growth rate. Like other members of the Caprifoliaceae, blackhaw viburnum is opposite. Its leaves are simple and elliptical, sometimes rounded. They are one and a half to three inches long and one to two inches wide, hairless (or almost hairless), with finely toothed leaf margins. During the growing season they are a shiny green above and a duller green below and in fall, leaves turn shiny red to purple.

Twigs are gray, slender, and stiff, with a brown, flat, hairy, terminal bud. The flowers are white (or a creamy white due to yellow stamens), one-quarter inch across and are borne in flat-topped cymes that are two to four inches across. Michael Dirr calls them "not overwhelming but certainly attractive."

The fruit is a drupe, elliptical and slightly flat. At maturity, the fruit is a dark blue-black, but starts out a pinkish rose color. It is slightly sweet and matures in autumn, remaining into early winter. Birds and mammals eat the fruit and people can eat it directly off the plant when ripe or make preserves.

Blackhaw viburnum does not have serious pests or diseases, though Cornell University has found it to be moderately susceptible to viburnum leaf beetle, an invasive European beetle that can cause significant damage to viburnums in natural settings, as well as in the landscape. Blackhaw viburnum easily transplants and can adapt to various soils and will grow in full sun or part shade. In the landscape, it can be used as a specimen or as a border or in a grouping or massing. A 1965 article in *Arnoldia*, written just after the passage of the Highway Beautification Act, also notes that it can be used to screen "junkyards, gravel pits, and dumps" – both for its grouping and screening possibilities, and also for its tolerance for varying soil conditions. Dirr notes that its habit is similar to hawthorn. A few cultivars of note are 'Early Red,' whose leaves have red fall color, and are also red when they first open. 'Ovazam' (Ovation™) is another cultivar that has an upright, columnar habit.

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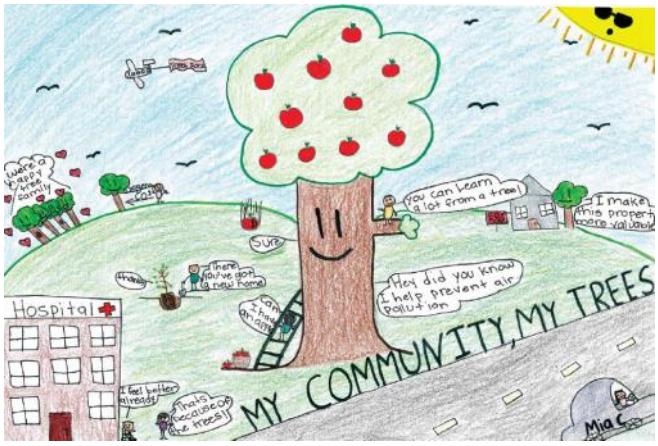
Photos: Virginia Tech

2018 DCR Arbor Day Poster Contest Winners

On June 11, DCR Commissioner Leo Roy presided over the awards ceremony for the DCR Arbor Day Poster Contest, held at Stearns Elementary School in Pittsfield. This year's contest winner, Mia Cerruti, was a fifth grade student at the school. Mia's teacher, Susan Hollister, was also recognized at the event. Other contest winners include: second place - Willa Dowling from Becket Washington School, third place - Emma Raymond, of Brookfield Elementary School. There were three honorable mentions: Sofia Taborda, Excel Academy East Boston, Angelyn G., Woodland Academy, Worcester, and Anna Diggins, Thorndyke Road School, Worcester.

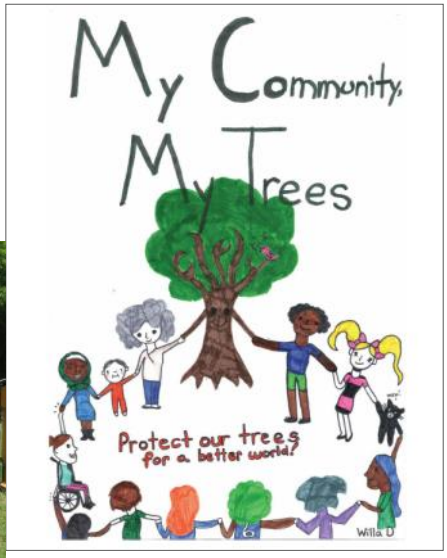
Held annually, the DCR Arbor Day Poster Contest combines art and science and encourages students to learn about trees and the importance of trees in their community. The contest is open to fifth graders and is supported, in part, with funds from the USDA Forest Service. The 2019 theme will be announced later this summer.



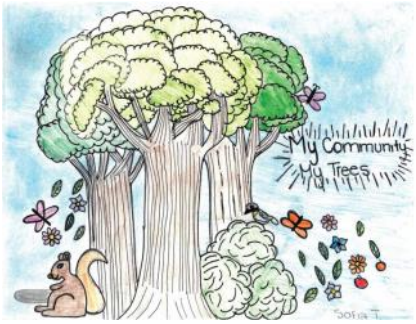
First place: Mia Cerruti, Stearns Elementary School, Pittsfield (Teacher: Susan Hollister)

Third place: Emma Raymond, Brookfield Elementary School, Brookfield

The winners with Commissioner Roy at the ceremony.

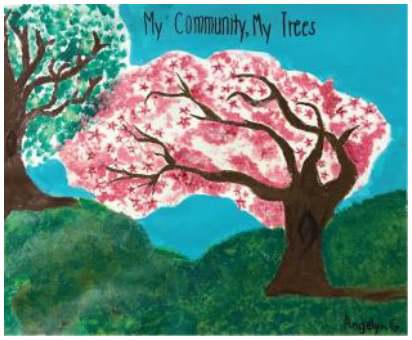


Second place: Willa Dowling Becket Washington School, Becket



Honorable Mention: Sofia Taborda, Excel Academy, East Boston

Honorable Mention: Anna Diggins, Thorndyke Road School, Worcester



Honorable Mention: Angelyn Gutierrez, Woodland Academy, Worcester

Webcasts and Events

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.

NUCFAC Highlights: Growing The Leaders of Tomorrow's Urban Forests
July 18, 2018 | 1:00 - 2:15 p.m. (Eastern)
Lisa Ortega, National Urban and Community Forestry Advisory Council
Cindy Blain, California ReLeaf
Susan Day, Virginia Tech

August 8, 2018 | 1:00 - 2:15 p.m. (Eastern)
September 12, 2018 | 1:00 - 2:15 p.m. (Eastern)
October 10, 2018 | 1:00 - 2:15 p.m. (Eastern)

To access the webinar, go to https://www.fs.fed.us/research/urban-webinars/.

Urban Forestry Today Webcast

Emerald Ash Borer Update
September 13, 2018 | 12:00 - 1:00 p.m. (Eastern)
Nate Siegert, Ph.D., USDA Forest Service

Attend live and receive Free ISA/MCA CEUs by visiting www.joinwebinar.com and entering the code: 705-880-363.

The Urban Forestry Today 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.

TREE Fund Webinar

Arboricultural Biomechanics - Dr. Brian Kane, University of Massachusetts, Amherst
August 23, 2018 | 1:00 p.m. – 2:00 p.m. (Eastern)
https://www.treefund.org/webinars

MA Town Forests Conference

September 9, 2018 | Haverhill

- Morning guided field tours of forestry project
- Afternoon of farm & forestry demonstrations and activities as part of the Tattersall Farm Day

Find out more at www.mass.gov/dcr/service-forestry.

Co-hosted by the City of Haverhill, Tattersall Farm, New England Forestry Consultants, Inc., MA DCR Service Forestry Program, and USDA Forest Service

ISA Tree Risk Assessment Qualification Course

July 30-August 1, 2018 | Northampton
The ISA Tree Risk Assessment Qualification (TRAQ) program provides an opportunity for professionals in the arboriculture industry to expand their knowledge through education and training in the fundamentals of tree risk assessment. This qualification promotes the safety of people and property by providing a standardized and systematic process for assessing tree risk. The results of a tree risk assessment can provide tree owners and risk managers with the information to make informed decisions to enhance tree benefits, health, and longevity. Info: www.newenglandisa.org.

Advanced Tree Risk Assessment - Level 3 Course

August 2-3, 2018 | Northampton
Find out more: www.newenglandisa.org.

UMASS Green School—Fall 2018

October 17, 2018 – December 17, 2018 | Milford

Specialty Tracks: Arboriculture, Landscape Management, and Turf Management
Registration is open!
The early-bird rate ends September 24.
Find out more: https://ag.umass.edu/landscape/education/umass-extensions-green-school

Transitioning from Gray to Green Infrastructure Using Urban Forestry

July 24, 2018 1:00 – 2:00 p.m. (Eastern)
This webinar will serve as an introduction to the influence of the urban forest has on storm water flows and water quality. The focus will be on the science that extension agents can deliver in cities to affect storm water through specific urban forestry practices.
Find out more at forestrywebinars.net.

This webinar is part of the series, Understanding Urban and Community Forests: An Extension Webinar Series. The series was developed by Southern Regional Extension Forestry, with input from southeastern US urban forestry Cooperative Extension experts.

Grants

DCR Urban and Community Forestry Challenge Grants

October 1 (Intent to Apply) | 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.

Project areas include:

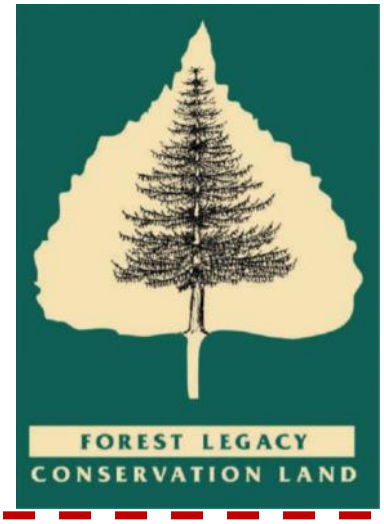
- Building and Strengthening Citizen Advocacy and Action Organizations
- Securing or Training Professional Staff
- Developing and Implementing Systematic Urban Forestry Management through tree inventory and analysis, resource assessment, and development of plans
- Attaining a Tree City USA Award, Growth Award, Tree Campus USA Award, or Tree Line USA Award
- Completing strategic community tree plantings and "heritage" tree care projects
- Other projects

Read the complete guidelines and download the application at:
https://www.mass.gov/guides/urban-and-community-forestry-challenge-grants

For more information on the Challenge Grants, including our Eversource Go Green grants and National Grid Partnership 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.

Massachusetts Forest Legacy Program Is Seeking Applications

The Massachusetts Forest Legacy Program is now accepting project proposals for consideration in the federal fiscal year 2020 application process. The Forest Legacy Program is a partnership between the Massachusetts Department of Conservation and Recreation 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 2020 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 10, 2018.

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

UMass Extension Landscape Message

The Landscape Message for June 29, 2018 reports that gypsy moth caterpillar activity is winding down and that they are beginning to pupate.

Find out more about what's happening in the landscape: https://ag.umass.edu/landscape/landscape-message-jun-29-2018.

Growing Greener—in Pittsfield

In 2016 we featured Pittsfield for their recent completion of a planting project funded through a DCR Urban and Community Forestry Challenge Grant. That grant was phase one of a multi-phase project for Wellesley Park, a small triangle park not too far from the city center. The park had been heavily planted with silver maples, now mature and, in many cases, in need of replacement. Local residents concerned about the succession of trees in the park initiated the project, contacting Jim McGrath, the Park, Open Space, and Natural Resource Program Manager for the City of Pittsfield.

Together with Jim and local arborist, Bob Presutti, MCA, the group came up with a plan for succession for the park. The silver maples are primarily around the outer edge of the park, so part of the plan is planting new trees a little further into the park, away from the road and the silver maples that are still present.

The city and the residents put together a plan whereby the city would remove silver maples as it could and would apply for a DCR Challenge Grant to fund planting and help diversify the trees in the park. In 2014, the city applied for a $3,500 Challenge Grant to plant 10 trees. Residents cared for the trees, watering them weekly, maintaining mulch rings, checking stakes, and weeding. (And it shows! The trees are doing great!)

Last month, phase two of the project was completed with a second round of funding from the DCR Challenge Grant program. In 2016, the city applied for and was awarded $3,000 for the project. Like phase one, the city removed some aging silver maples and dug holes to make the planting easier. Residents planted seven trees on a planting day in early June and have been watering and caring for them since.

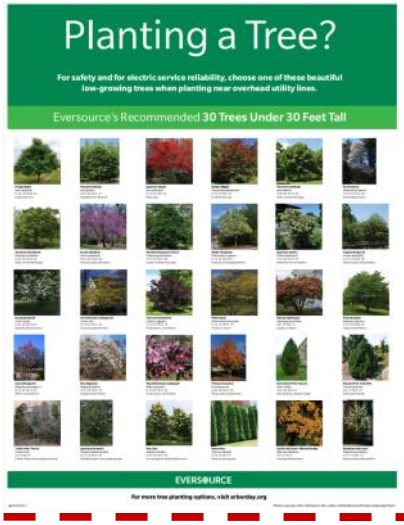
Through these projects, the residents have learned a lot about planting and caring for trees. The project has also helped bring the neighbors together and, in their words, has "created an even more lively sense of community, integrated new arrivals into the neighborhood, and deepened our care of and pride in our park." The area around Wellesley Park has become more livable, not only because of the new trees and diverse canopy in the park, but also because of the bonds that strengthened between the neighbors themselves and between the neighbors and the park.

Are you 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, 2018.

Jim McGrath (left) and Wellesley Park neighbors and the catalpa they planted.

Looking toward a newly planted tree from the stump of a silver maple that was removed.

Growing on Trees



'30 Under 30' - Eversource's New Poster - Trees to Plant near Power Lines

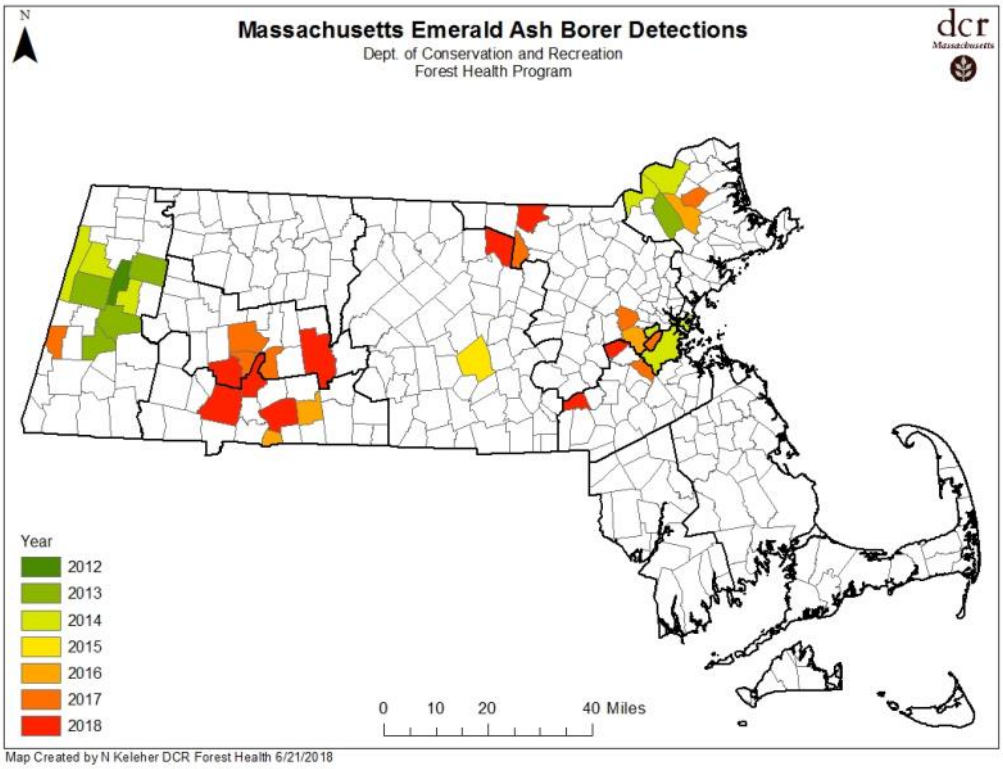
Trees and power lines don't mix. When they touch, it can cause everything from power outages, fires and downed lines, to safety hazards for people, wildlife, and even the trees themselves.

Tree branches too close to power lines must be trimmed, and adequate trimming can't always be done in ways that retain the natural aesthetics of the tree.
If you are looking for a low growing tree to plant near overhead utility lines, Eversource has a list of 30 recommended trees under 30 feet tall.

Find out more: https://www.eversource.com/content/wma/residential/outages/avoiding-an-outage/tree-trimming/plan-before-you-plant

Emerald Ash Borer Update

As of June 21, emerald ash borer has been detected in over 30 municipalities in eight counties in Massachusetts. The latest detection is in Holyoke.



Emerald Ash Borer adults are currently active!

Check out this ID guide.

Think you've spotted one or seen signs and symptoms of an infestation? Report it here.

Is your community ready for EAB?

Contact the DCR Urban and Community Forestry Program for information on how your community can respond.

Check out Denver's *Be a Smart Ash* Campaign!

Denver's City Forester Becomes Animated Superhero to Save City's Ash Trees

Learn more about the city's *Be a Smart Ash* campaign and watch all five episodes of *The Smart Ash* on the Denver Parks and Recreation YouTube channel.

Growing on Trees

Drought Monitor

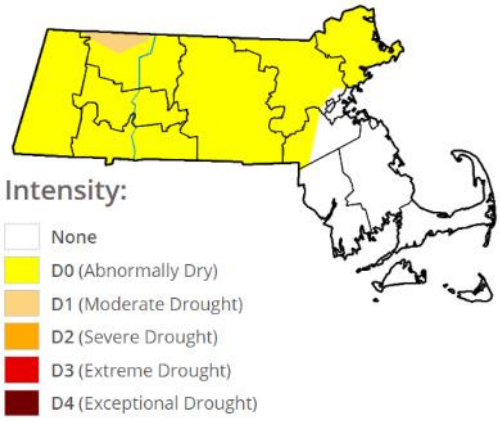
The National Drought Mitigation Center (a collaboration of *the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration)* tracks drought conditions in the United States throughout the year.

Each week, the Center creates a map showing drought status across the U.S. The map shows short and long-term drought and uses color to denote the intensity of drought. The drought scale starts off with a drought status of "none," shown in white. It progress from there to DO (abnormally dry), D1 (Moderate Drought), D2 (Severe Drought), D3 (Extreme Drought), and, finally, to D4 (Exceptional Drought), which is shown in maroon.

The Center bases the drought intensity categories on five key indicators (including two indices of drought, as well as soil, streamflow, and precipitation data and models), impacts of drought, and local reports from across the country. New maps are released every Thursday. The map is based on broad-scale conditions and conditions in your local area may vary.

The Massachusetts DCR also monitors drought conditions in Massachusetts on a monthly basis. These maps and reports are available here: https://www.mass.gov/service-details/current-drought-status.

As of June 26, much of north, central, and western Massachusetts was classified as "abnormally dry," with 71.51% of Massachusetts in that category. A small portion of the state, 1.54%, in northern Franklin County, was classified as experiencing "moderate drought." View the current map here.



Gleanings

About My Woods

Download *About My Woods*, a free smartphone app, today! Woodland owners in Connecticut, Massachusetts, and Rhode Island, as well as in northern New England, have a new tool to help learn about their woods. Foresters, loggers, and others who work in the woods will find it useful too.

Available for both Android and Apple smartphones and tablets, you can access the app by going to the App Store (Apple) or Play Store (Android) and simply typing "About My Woods" in the search bar. You can also go to www.aboutmywoods.org and see the app instructional video to learn how to use *About My Woods*.

Developed by the State Foresters of the northeastern states to help family forest landowners learn more about their land and connect to professionals who can help them, *About My Woods* is a great way to connect with the information that landowners need.

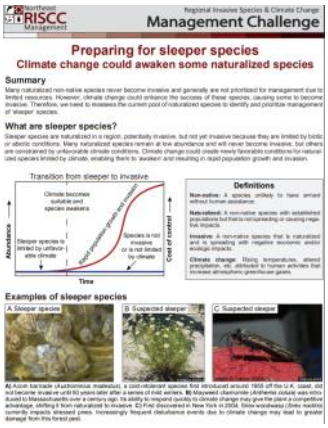
One of the unique features of the app is the ability of a landowner to pinpoint a spot on the map – either where they are located or any other spot in the region – and access maps and information specific to that location.

Maps include soils, land cover type, protected lands, watershed, and satellite view, providing users with instant and mobile access to information specific to individual parcels and locations. With complete coverage in the northeast region, landowners can access maps specific to their interests.

In addition to maps, the *About My Woods* app helps find local professionals – including state forestry educators, landowner organizations, Tree Farm committees, and land trusts - active in the state and region.

Users can also use the app to identify common wildlife, trees, wildflowers, and invasive plants and insects. High-quality photos, coupled with in-depth descriptions, provide the user with an indispensable tool for understanding their woods.

Gleanings



Preparing for Sleeper Species

Check out the new factsheet on 'sleeper species' and climate change, including management recommendations.

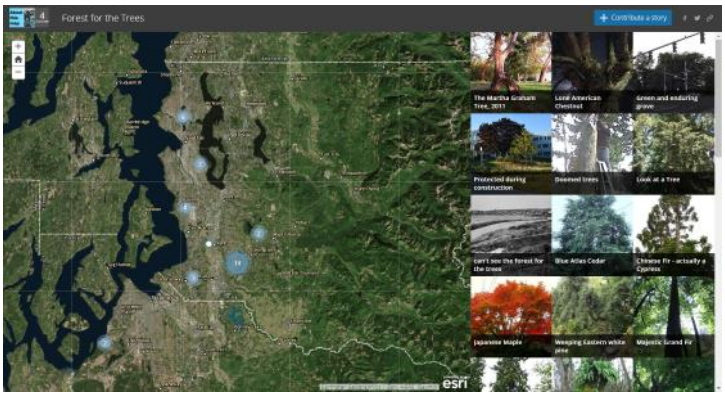
Sleeper species are species that have become naturalized in an area, but are not invasive at this time. With changing climactic conditions, abiotic and biotic constraints on these species may change, and they may become invasive.
It is important for us to recognize sleeper species in our area and identify and prioritize actions.

Read the full factsheet here.

Sharing Tree Stories

If a tree falls in the course of urban development and no one is around to hear it, does it make a sound? A new art project based in South King County, Washington, aims to ensure the answer is yes — and the sound is a cacophony of arboreal anecdotes.

"My goal is to create a forest of stories," says Katherine Wimble, the Seattle artist behind "Forest for the Trees." The crowd-sourced project invites the public to contribute to an online "storymap" by pinpointing the location of a specific tree, dropping in a photo and adding an observation, memory, poem or story. (While the effort is based in King County, pins can be placed anywhere on the global map.) The tree might be historic, or one seen every day while stuck in traffic. It might have been planted in a backyard by a beloved grandparent, or maybe it simply provides shade at a bus stop. A tree's "significance" is up to user interpretation. Read the full story on this project at Crosscut.



News Headlines in Brief

Massachusetts Towns Awarded Climate Change Preparedness Grants

Baltimore is Mired in Violent Crime. Could Part of the Solution be Found in Reclaimed Wood?

A Renewed View of Some of the World's Oldest Trees

Superfoods in the Insect Garden

D.C. Says Its Tree Canopy Is Growing. Federal Researchers Disagree.

Boston Fails in Promise to Plant 100,000 Trees

Genetic Expansion Underpins Oak Tree Longevity

Secret Gardens: A Global Tour of Hidden Urban Oases

When That Rain-Like Sound In Your Oak Trees Is Actually Gypsy Moth Caterpillars Pooping

Mothers Out Front Brookline Using "Ghost Trees" to Pressure National Grid on Gas Leaks

Cambridge Tree Canopy Might Need a Permit Process to Preserve It: Councilor

On the Horizon

Jul 11 Chainsaw Skills & Safety - 2 Day, BayState Roads, Devens, www.umasstransportationcenter.org

Jul 11 Ornamental Tree and Shrub ID and Insect Walk, Wellesley, www.umassgreeninfo.org

Jul 12 Plant Health Care Workshop, Wellesley, Tree Care Industry Association, www.tcia.org

Jul 18 Tree Health Assessment, Boston, http://my.arboretum.harvard.edu/

Jul 19 Tree Load in Risk Assessment, Boston, http://my.arboretum.harvard.edu/

Jul 26 Down to Earth: Annual Summer Conference & Trade Show, Massachusetts Nursery and Landscape Association, www.mnla.org

Jul 30-Aug 1 Tree Risk Assessment Qualification Course, Northampton, www.newenglandisa.org

Aug 2-3 Advanced Tree Risk Assessment – Level 3, Northampton, www.newenglandisa.org

Aug 9 Landscape and Forest Tree and Shrub Insect Workshop, Amherst, www.umassgreeninfo.org

Aug 23 TREE Fund Webinar, 1:00 p.m. (Eastern), https://www.treefund.org/webinars

Sept 9 Annual DCR Town Forest Conference, Haverhill

Sept 11 EAB Field Day, UMass Extension, Easthampton, www.umassgreeninfo.org

Sept 12 Urban Forestry Today Webcast, 12:00 pm (Eastern), www.urbanforestrytoday.org

Sept 25 Western Mass. Tree Wardens Fall Meeting, Northampton, www.masstreewardens.org

Oct 3 Mass. Certified Arborist Exam, Wellesley, www.massarbor.org

Oct 5 Stockbridge School of Agriculture Centennial Celebration

Oct 12-13 DCR Tree Steward Training, Petersham

Oct 18 ISA Tree Risk Assessment Qualification Renewal, New England ISA, Acton, www.newenglandisa.org

Oct 18 Southeastern MA Tree Wardens Fall Meeting, Middleboro,

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

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.), contact Mollie Freilicher or click here.

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