

The Citizen Forester

MARCH 2014

Climate Change and New England's Urban Forests

By Rick Harper

Though experts often express divergent opinions over a variety of topics, there is widespread agreement that our changing climate will affect the habitat to which our urban trees have become adapted in the built environment, here in the Northeast. Changes regarding factors like extreme weather events, temperature, atmospheric CO2 concentrations and precipitation levels have the potential to alter ecosystems and the way their associated population communities respond, especially over the long-term. Since the vast majority (over 75%) of the native trees in our urban forests are within the latitudinal range of their natural forested range, it is appropriate to start by examining what researchers predict may be the eventual outcome of a changing climate on these traditional forested lands to get some sense as to how these environmental changes may impact our community trees.

Since we started keeping formal records in the late 1800's, we have noted a significant increase in average annual temperature (+ 1.44 deg F) and precipitation levels (+ 3.7 inches), with progressively less snowcover and a longer growing season that has featured more large-scale precipitation events (an 8% increase). Many of

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these changes are predicted to continue, thus future growing seasons are expected to get progressively longer and warmer, and extreme weather events are predicted to increase to include prolonged periods of drought and isolated events of increased precipitation intensity. Winter snow cover period is also predicted to continue to shorten through the end of the century, to the point where it may only be about 50% the length that it is today.

The effects of some of these changes have already been observed in some of our plant communities as recent studies that have been performed in



Sugar maple color change and leaf drop – a harbinger of fall in New England. Future, long-term habitat conditions for this “monarch” species are predicted to decline.

the more northerly forested ecosystems of Canada, Alaska and Siberia have already pointed to a more northern and upslope migration of certain tree species. Here in the Northeast these same trends have been noted, on even a relatively local scale as northern hardwood forest-type plants have replaced their boreal counterparts at higher elevations. This long-term, northward “shifting” of habitat is expected to create conditions that favor

species that dominate our more southern forest types like the oak-hickory hardwood and oak-pine mixed forests. This increase in habitat suitability here in the Northeast, however, is expected to take place largely at the expense of the habitat more suited to the northern hardwood (maple-beech-birch) and northern mixed (aspen-birch, white-red-jack pine) forest types. Thus, more specifically, many of the oaks (*Quercus* spp.) and pines (*Pinus* spp.) found in these more southerly forests are predicted to potentially thrive and expand northward, but generally at the expense of habitat preference for trees like hard maples (*Acer saccharum*, *Acer nigrum*), birches (*Betula alleghaniensis*, *Betula papyrifera*), beech (*Fagus americana*), arborvitae/eastern white-cedar (*Thuja occidentalis*) and white spruce (*Picea glauca*). Since many of these common Northeast tree species have also been selected for planting in our more managed urban parks, landscapes and streets, what can be done to maintain the

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A specimen scarlet oak (*Quercus coc-cinea*). As the climate changes, many oaks are expected to enjoy an expansion of preferential habitat northward.

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health of our *current* urban tree populations?

Trees are relatively long-lived organisms, with expectations that even the shorter-lived

“pioneer” species remain viable for 60

-100 years in their natural environment. Though urban trees may only realize a portion of their life expect-

tancy, urban forest managers and 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 a changing weather pattern. Timely watering(s), for example, may help some of the aforementioned trees better cope with an extended, warmer growing season. Since pests (i.e. insects, pathogens) are not only attracted to stressed trees, but can also be an important stress factor themselves, management protocols for urban trees that include monitoring, confirmation of diagnosis and appropriate remedial actions should be implemented where appropriate. The proper application of mulch may be further encouraged to help protect against soil compaction, injury to roots and the lower stem, and to conserve soil moisture. Finally, **since fertilizers may “push” established, mature specimens to grow when they should be concentrating their limited resources on persisting through a difficult growing season, their use should be limited to trees that only demonstrate a nutrient deficiency.**

Taking intentional steps to help maintain the health of our current community tree populations is vital; however, research and experience tell us that community residents appreciate tree planting and the establishment of new community trees. If predicted climate trends

hold, urban tree managers and arborists may work with nursery specialists/producers to select species that are currently indigenous to somewhat more southerly climates, whose habitats are predicted to increase in the long-term. This may include sweet-gum (*Liquidambar styraciflua*), bald-cypress (*Taxodium distichum*) and some of the more common southerly oak trees like willow oak (*Quercus phellos*) and turkey oak (*Quercus laevis*). Fortunately, some tree species that may continue to do well under future climate change scenarios have already been planted for many years in the urban environment and their establishment may be even further encouraged. Some of these include honey-locust (*Gleditsia triacanthos*), ginkgo (*Ginkgo biloba*), Freeman maple (*Acer xfreemanii*), swamp white oak (*Quercus bicolor*), Kentucky coffee-tree (*Gymnocladus dioica*), hackberry (*Celtis occidentalis*) and London plane-tree (*Platanus xacerifolia*).

We know that our urban forests/urban plant communi-

ties provide untold benefits, from carbon sequestration, to human health and even economic dividends. They are also known to help preserve **“relics” from our native** forested areas [e.g. Kentucky coffee-tree; Osage-orange (*Maclura pomifera*)] that have largely lost the mechanism of natural plant distribution. The landscape of the Northeast is not a stranger to change –

forested areas east of the Mississippi were once cleared to the point where they only comprised a minority of the landscape; in recent decades, however, they have successfully regrown. Our urban forests may too adapt and acclimate to a changing environment – perhaps they may simply look a little more diverse than they do today. Given our need for urban plant diversity, perhaps this may not be such a bad thing.

Reprinted from the Massachusetts Nursery and Landscape Association publication, Pro Grow News.



Eastern hemlock (*Tsuga canadensis*) – a keystone, climax species of the Northeast – may experience continued long-term stresses associated with a longer, warmer growing season and increased drought.

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Welcome Julie Coop!

Julie Coop has joined the DCR Urban and Community forestry program as the new Urban and Community Forester, coordinating the UCF Program. With DCR since 2010, Julie comes to our program from the Asian Longhorned Beetle (ALB) Cooperative Eradication Program in Worcester where she supervised DCR ALB Foresters in both Worcester and Boston. Prior to that, Julie supervised the replanting program in Worcester under the American Recovery and Reinvestment Act. Julie came to DCR after a long career at the Arnold Arboretum and brings a wealth of expertise in the field of urban forestry.

Julie will be working out of the Boston office and can be reached at 617-626-1468 or julie.coop@state.ma.us.

We are very excited to have Julie on board. I encourage you to please take a moment to contact [Julie](#) and welcome her.

Climate Change and NE Urban Forests

(Continued from page 2)

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Rick Harper serves as Extension Assistant Professor of Urban & Community Forestry, UMass Department of Environmental Conservation, Amherst, and is also an ISA Board-Certified Master Arborist.



Call for Presentations—New England Chapter ISA

The New England Chapter ISA is pleased to announce the call for presentations for the Municipal and Commercial sessions at the 2014 ISA New England Chapter Conference, September 28-30, 2014 in Burlington, Vermont. More information at: http://www.newenglandisa.org/files/2014/2014_CallForPresentations.pdf. Abstracts due March 7, 2014.

Species Spotlight—Carolina silverbell, *Halesia tetraptera*

By Mollie Freilicher
MA-DCR
Community Action Forester



Carolina silverbell is a medium-sized ornamental tree native to southern West Virginia, south to northern Florida, and east to southern Illinois. It also occurs in Arkansas and southeastern Oklahoma. Where it occurs naturally, Carolina silverbell thrives along wooded streambanks. In the southern Appalachians, Carolina silverbell can reach heights exceeding 80 feet, but in cultivation it typically reaches heights of 30 to 40 feet with a 20-35-foot spread, with an irregular or rounded form. We now find

Carolina silverbell growing in many landscapes from USDA Zones 4 to 8. The genus *Halesia* is named for English clergyman and philosopher Stephen Hales (1677-1761), who made contributions to the world of botany and plant physiology. The species *tetraptera* comes from the Greek, meaning “four wings,” which refers to the fruit.



This Latin name more clearly distinguishes the Carolina silverbell from its more southern relative, *Halesia diptera*, commonly known as the two-winged silverbell.

The leaves of Carolina silverbell are alternate, simple, ovate, and entire or a little serrate. They are typically two to five inches long and one-third to one-half as wide. They are acuminate, with a cuneate or rounded base.



Initially, the leaves are hairy, but they become hairless and are a dark green color, turning yellow in fall. Twigs lack a terminal bud, but lateral buds are 1/8 to 1/4-inch long, scaled, and slightly hairy when viewed under a hand lens. They are dark brown to reddish black in color and are minutely stalked. Twigs show a slight zigzag form and are brown and slightly hairy or

smooth. The pith is chambered and white. The bark is reddish-brown when young, becoming gray to brown with vertical stripes as trees age.



Clustered, white, bell-shaped, perfect flowers, nearly one-inch-long, appear in early-to-mid May, before the leaves. Flowers appear on one-year-old wood, so trees should be pruned after flowering, if pruning is required. The fruit is a one to one-and-a-half-inch long drupe with four wings, which matures in September.

Carolina silverbell is largely free of pest and disease problems, but it can be difficult to transplant. Michael Dirr recommends planting containerized stock. For best growth, Carolina silverbell should be planted in well-drained, moist soils that are slightly acidic and high in organic matter. Carolina silverbell will thrive in sun or part-shade and is often an understory tree in the wild. It can be difficult to find at nurseries (start or keep asking for it!), but makes a great addition to parks, woodland edges, or nature-like plantings where the flowers, bark, and form contribute to year-round interest.



Photos: Flower, bark, leaf, twig: Virginia Tech; form and fruit: UConn.

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Growing on Trees

From UMass Extension

Community Tree Conference—March 11, 2014

March 11, 2014, 9:00 a.m. to 4:00 p.m., UMass Amherst

For more information, go to: <http://extension.umass.edu/landscape/events/community-tree-conference-sustaining-trees-sustain-our-communities>

Invasive Plant Management Courses and Certification

A certificate in INVASIVE PLANT MANAGEMENT may be obtained by attending all four sessions (see below) and obtaining a passing grade on each. To earn the certificate, sessions A1 - A3 can be taken in any order, but must be taken prior to Session B: Developing an Invasive Plant Management Program. All sessions will be offered annually to facilitate earning the certificate over more than one year's time. All sessions may also be taken individually.

Register online or print out a registration form at: <http://extension.umass.edu/landscape/upcoming-events>

A1: Principles and Fundamentals of Weed Science- February 20, 2014, 9 a.m. - 2:30 p.m. A critical first step in the development of a weed or invasive plant management program is a strong and complete understanding of several principles and fundamentals of the discipline of weed science. Covers weed biology, weed ecology, herbicide modes-of-action, herbicide timings, and more. Cost: \$75.

LOCATION: Milford, MA. **Four pesticide contact hours in categories 29, 36, 40, and Applicator's License.**

A2: State Regulations Pertaining to Invasive Plant Management- March 18, 2014, 9 a.m. - 3:00 p.m. While landscape and turf professionals may be knowledgeable about the state regulations that govern the type

of work they normally do, regulations that govern certain aspects of invasive plant management may be different. Covers state regulations, including the Wetlands Protection Act, the Rivers Protection Act, and pesticide regulations, including those specific to right-of-ways. Cost: \$75. LOCATION: Milford, MA. **Three pesticide contact hours in categories 29, 36, 40, and Applicator's License.**

A3: The Invasive Plant Issue and Invasive Plant Identification- April 8, 2014, 9 a.m. - 2:00 p.m. Why should you be concerned? Enhance your ability to readily identify invasive plants, as well as their look-alikes. Discussion of the strategies and recommendations of the Massachusetts Invasive Plant Advisory Group and the recently released Early Detection/Rapid Response Priority List document. Cost: \$75.

LOCATION: Milford, MA. **Four pesticide contact hours in categories 29, 36, 40, and Applicator's License.**

B: Developing an Invasive Plant Management Program- April 22, 2014, 9 a.m. - 2:30 p.m. Develop and implement an invasive plant management program, including management tips and strategies, herbicide selection and timing, non-chemical strategies, and ways to avoid common program pitfalls. Cost: \$75.

LOCATION: Milford, MA. **Four pesticide contact hours in categories 29, 36, 40, and Applicator's License.**

Register online or print out a registration form at <http://extension.umass.edu/landscape/upcoming-events>

Urban Trees: Preserving the Growing Investment in Fall River and Beyond...

March 19, 2014, 9:00 a.m. - 12:30 p.m.

Hearing Room, City Hall, 1 Government Center, Fall River, MA

This FREE morning program will feature updates from local urban forestry specialists and will highlight tree preservation and restoration strategies in the built environment that may be applicable in YOUR community. ISA & MCA Professional development credits will be offered and morning refreshments will be served.

Please pre-register by contacting Joanne Buchanan of UMass Extension: jbuchanan@umext.umass.edu 413-545-4300.

Growing on Trees

A Case for Veteran Trees

By Christopher Roddick

Ask any arborist why people hire them and, more often than not, the number one answer is fear. People do love their trees, but most call an arborist because they are afraid of big trees or big branches falling on their houses. While there are many reasons to hire a tree care professional, **it's fear that actually makes people open their wallets.**

The fact is, trees do fall over and do hurt people – **that's why tree care is so important.** But how afraid should we really be? The odds are much greater that a person will die falling out of bed (about 500 a year in the U.S.) than being killed by a falling tree (fewer than 50). **People's fears don't always match the likelihood of bad things actually happening,** because one of the down sides of having a large brain is also having a vast imagination. The fear of trees is just one of the challenges arborists and land managers face when they seek to preserve larger, older, and sometimes dying trees in the landscape – **those we refer to as "veteran trees."**

Read the complete article at the [Ecological Landscaping Association](#).

Tools to Empower Volunteer Urban Foresters

Ithaca, NY (January 5, 2014) — Cities across the U.S. are making capital investments in urban reforestation to manage a host of environmental issues—from air quality, to storm water management and energy reduction. Few cities, however, are investing in the ongoing human capital needed to care for and maintain newly-planted trees on city streets.

According to an article by Philip Silva in *The Nature of Cities*, the one-time capital investment of planting thousands of **trees is "nothing compared to the ongoing cost of staffing an army of public employees dedicated to keeping those trees alive."**

Here's how Silva describes it: "While the expense of sustainably managing a rural forest often pays for itself in the form of timber, the indirect benefits of a thriving urban forest never transform into real dollars and cents deposited in municipal coffers. We can calculate the value of ecosystem services provided by a functioning urban forest—the tons of carbon emissions prevented, the gallons of rainwater absorbed—but those savings don't reappear as a line item in the street tree budget."

To make ends meet, cities often rely on volunteer labor. **If that's the case,** Silva suggest that volunteers not be treated as unpaid employees of local governments and that cities start to empower volunteers who are doing much of the day-to-day labor of tree maintenance.

Read the full story "[Three M's for Empowering Volunteer Urban Foresters: Mobilizing, Mapping, and Monitoring](#)" in *The Nature of Cities*. (Seen in the ACTrees Newsletter.)

From the U.S. Environmental Protection Agency

2014 Green Infrastructure Webcasts

EPA's Green Infrastructure Program is proud to announce the launch of our 2014 Webcast Series, beginning in January and continuing bi-monthly throughout the year. This series is generally geared towards public officials and practitioners just beginning to implement green infrastructure, as well as those looking to enhance established programs. Leading academics and professionals from around the country will cover a range of topics and applications, from best practices in operations and maintenance to the intersection of green infrastructure and climate change. The webcasts are free to the public. Presentations from each webcast will be posted within one month. Please note that attendance certificates will not be provided.

Next Webcast: March 4th, 2014, 1:00 p.m. – 2:30 p.m. EST

Case Studies: Implementing Green Infrastructure under Enforcement Orders

[REGISTER HERE](#)

Growing on Trees

Spring Seedling Sales

The Massachusetts Tree Wardens and Foresters Association sponsors an annual packaged seedling program as a popular way to help municipalities, garden clubs, businesses, arborists, and other interested individuals and organizations promote Arbor Day and to raise money for the Mass. Tree Warden Scholarship Fund. Available are a variety of shade trees, ornamentals, and conifers. All seedlings and transplant prices include bags, ties, shipping, and handling. The minimum order is 100 seedlings, and the ordering deadline is April 16, 2014. For more information, go to www.masstreewardens.org/SeedlingProgram.html.

Conservation District Seedling Sales

Massachusetts Conservation Districts sponsor spring seedling sales to raise money for district programs. A conservation district is a legal subdivision of state government, responsible under state law for conservation work within its boundaries. Boundaries in Massachusetts are along county lines. Conservation districts work with the Natural Resource Conservation Service to protect soil and water resources across counties in Massachusetts. They often sell a variety of trees and shrubs in small sizes. Below is information on some of the conservation district seedlings sales in Massachusetts.

The Berkshire Conservation District seedlings are pre-ordered by mail or online and are picked up on Saturday, May 10, from 9:00 a.m. to 2:00 p.m. at Spring-side Park in Pittsfield. Seedlings include both trees (including fruit trees) and shrubs. The order deadline is April 1. For more information, go to: www.berkshireconservation.org.

Middlesex County Conservation District seedlings include conifers, deciduous trees, shrubs, fruits, perennials, groundcovers, and garden supplies are also sold. The order deadline is March 31. Pick up orders on April 25 or 26. For an order form and more information, go to: http://middlesexconservation.org/?page_id=38.

Worcester County Conservation District seedlings are picked up Saturday, May 3, at various locations. The order deadline is March 29. For more information go to: <http://www.seedlingsale.org/seedling-sale-15.html>.

Your conservation district not listed here? Go to the [Massachusetts Association of Conservation Districts](#) to look up your county district and contact them about seedlings.

department of Conservation and Recreation

Scholarship Opportunity

New England Chapter ISA

Since 1990, the NEC-ISA has awarded scholarships to students pursuing an education in a field of study dedicated to plant material-oriented fields. The purpose of the awards is threefold: to help promote interest in shade and ornamental trees, to recognize scholarly endeavors, and to assist in financial aid.

The New England Chapter grants two scholarship awards of \$1,500.00. Each recipient will receive \$1,500 toward their educational expenses. The NEC-ISA also provides recipients with full conference registration, **one night's** lodging, and two complimentary banquet tickets for the recipient and an accompanying guest.

The applicant must be EITHER a full-time student enrolled at an accredited four-year college, two-year college, or university in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, or Vermont OR a resident of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, or Vermont who is enrolled as a full-time student at an accredited four-year college, two-year college, or university elsewhere.

The applicant's major field of study shall be a plant material-oriented program, such as Arboriculture, Botany, Entomology, Horticulture, Plant Pathology, Urban Forestry, or a related field.

The applicant must have completed at least one college semester of a program leading to a degree or career in one of the above majors or in a related field. The applicant shall type or print the information requested on the scholarship form and submit three copies of the scholarship form and essay, and three official transcripts, to the New England Chapter, International Society of Arboriculture.

In addition, the applicant shall supply one academic recommendation, to be sent by the academic reference directly to the New England Chapter, International Society of Arboriculture.

The Deadline for Application is Friday, April 4, 2014.

To download the application, go to: http://www.newenglandisa.org/files/2014/2014_NECISAScholarshipApplication.pdf.

Growing on Trees

Go Botany—Web Resource

<https://gobotany.newenglandwild.org/>

Go Botany is a four-year project funded by the [National Science Foundation](#) and aims to open plant study (both woody and herbaceous plants) to a larger and more diverse segment of the population. The project builds upon the work in the printed manual, *Flora Novae Angliae*, by research botanist Arthur Haines.

How to use Go Botany: The Go Botany Toolkit
The [Simple Key](#) is an easy to use plant identification tool and contains 1,200 of the most common species in New England. Aimed at beginners and professionals, it works by the user answering questions, which narrows down the matching selection of plants. [Get Started!](#)

Using the [Advanced ID Tools](#), you can use a traditional, albeit electronic, [Dichotomous Key](#) to identify genera within families and species within genera and more than 3,500 species, subspecies, and varieties of plants. Or you can use the [Full Key](#), which works like the Simple Key, but, like the Dichotomous Key, contains more than 3,500 species.

Exploring the species pages, [Acer rubrum](#) for example, allows you to learn about the habitats, characteristics, and uses of plants, to view photos and maps of their distributions, and much more.

Resources for Teachers

Go Botany is designed for students and informal learners age 15 and older, from beginners to professionals. But educators can incorporate the tools into lessons for all ages. Develop curricula, lab modules, and field workshops using Go Botany.

The New England Wild Flower Society is teaming up with three partners, [Montshire Museum of Science](#), [Yale Peabody Museum of Natural History](#), and the [Chewonki Foundation](#) to create customized floras, educational displays, and teaching tools.

Share your ideas with other educators using [PlantShare](#) and posting to the [Teaching](#) page.

Technical Resources

Go Botany uses a collection of mature and powerful [open source](#) technologies. The application is written in the [Python](#) programming language, using the web framework [Django](#) and the [PostgreSQL](#) database system

to store data. The Go Botany application itself is also open source. The source code is managed and available on [GitHub](#) and has attracted the attention of various organizations. One, the [Smithsonian Environmental Research Center](#), working with a group of [web developers](#), used the Go Botany source code to develop the [recently](#) deployed [Go Orchids](#).

In addition, without the need to make source code modifications or hire web developers, the Go Botany server has the capability to host a customized Simple Key, one that includes a subset of New England species. For example, for their *Early Spring: Henry Thoreau and Climate Change* exhibit, the [Concord Museum](#) worked with us to develop the [Go Botany Concord Flora](#) a comprehensive list of and identification tool for the plants of Concord, Massachusetts.

Join the Go Botany online community of plant enthusiasts. Find friends, collaborate on field surveys for plants, share your discoveries, get help identifying plants, make maps, and develop checklists of plants for particular sites you are exploring.

Go Botany encourages informal, self-directed education in botany for science students and beginning and amateur botanists. Professors, teachers, and environmental educators can share curricula and teaching ideas.

Learn more about Go Botany and start using it at: <https://gobotany.newenglandwild.org/>.

Questions—email gobotany@newenglandwild.org.



Growing on Trees

Two-Day Chainsaw Safety Training Course

March 15-16, 2014, Leominster, MA

This class is supported by the Massachusetts Department of Conservation and Recreation (DCR), the Massachusetts Recreational Trails Advisory Board (MARTAB), and the Recreational Trails Program, in partnership with Conservation Works LLC. and Northeast Forest and Fire Management LLC.

Participants in this course must be affiliated with, or participate in, trail maintenance and stewardship organizations and activities. Upon completion of the course, all participants will be asked to sign a pledge of no less than ten hours of maintenance activities on trails within Massachusetts that are open to the public, either in a professional or volunteer capacity.

DESCRIPTION: This two-day class is designed for volunteer and professional trail stewards who will be assisting in trail cleanup efforts after major storm events. Participants will learn basic chainsaw maintenance skills, the value of essential safety equipment and procedures, and proper techniques for safely using chainsaws for removing storm debris off of public trails. Participants will also come away with a greater respect for the power and danger of storm-damaged trees and will understand, most importantly, what trees to stay away from.

COST: Participant registration costs \$25. Register by **emailing or calling Dick O'Brien**, Conservation Works LLC and Chair of MARTAB: dobrien578@gmail.com, [978-870-3252](tel:978-870-3252). Email is preferred. Payment by check or cash is required to finalize registration. Registration will be granted on a first come, first serve basis.

Upcoming Seminar

Harvard Forest, Petersham, MA
Friday, March 7, 11:00 a.m. - 12:00 p.m.

Richard Forman, Harvard University
Urban Ecology: Science of Cities
<http://harvardforest.fas.harvard.edu/seminars>
[Join seminar online](#) or attend this public session in person

Grants Available

New England Chapter- International Society of Arboriculture

What is the NEC-ISA Arbor Day Grant?

The Arbor Day Grant was created in 2007 to support small town and communities who needed help to build their Arbor Day Programs. This grant awards one event in the amount of \$1,000.00 to a community or organization that demonstrates a need to promote and support their Arbor Day celebration. Deadline: March 28, 2014

Access the application here: [Grant Application](#)

Home Depot Grant

The [Home Depot Community Impact Grants Program](#) provides support to nonprofit organizations and public service agencies in the U.S. that are using the power of volunteers to improve the physical health of their communities. Proposals for the following community improvement activities will be considered: repairs, refurbishments, and modifications to low-income and/or **transitional veteran's housing or community facilities** (schools, community centers, senior centers, etc.); weatherizing or increasing energy efficiency of low-income and/or **transitional veteran's housing or community facilities**; engaging veterans as volunteers to help other veterans in their community through service projects focusing on the renovation, repair, and improvement of homes and other properties serving veterans; and **planting trees or community gardens** and/or **landscaping community facilities that serve veterans**. Priority is given to projects for veterans that include housing repairs, modifications, and weatherization work. Grants of up to \$5,000 are made in the form of The Home Depot gift cards for the purchase of tools, materials, or services. Requests will be accepted from **February 1 through August 15, 2014**. Visit the [Home Depot website](#) to submit an online application.

We do our best to ensure that listings are accurate, but please check with program organizers for the most up-to-date information.

Growing on Trees

Introducing The Northeast Climate Science Center

One of eight Climate Science Centers in the United States

The mission of the Department of Interior Climate Science Centers is to provide natural and cultural resource managers with the tools and information they need to develop and execute management strategies that address the impacts of climate change on a broad range of natural and cultural resources. CSCs are located at partner universities and are often comprised of multi-institution consortia, including other universities, Tribal partners, and federal research labs.

The Northeast Climate Science Center (NECSC) is part of a federal network of eight Climate Science Centers created to provide scientific information, tools, and techniques that managers and other parties interested in land, water, wildlife and cultural resources can use to anticipate, monitor, and adapt to climate change. It is located on the campus of UMass-Amherst.

Recognizing the critical threats and unique climate challenges and the expansive and diverse nature of the Northeast region, no one institution can provide the region-wide expertise on all critical levels. Thus, the University of Massachusetts Amherst, College of Menominee Nation, Columbia University, Marine Biological Laboratory, University of Minnesota, University of Missouri Columbia, and University of Wisconsin-Madison have formed the Northeast Climate Consortium (NECC) to host the Department of Interior NECSC, working with the U.S. Geological Survey and partners to provide deep and diverse resources for successfully meeting the regional needs for climate im-

pact science assessment, education, and stakeholder outreach throughout the NE region. In addition to the host institutions, the NECSC will include several resource management partners, including Landscape Conservation Cooperatives (LCCs) that exist, in part or whole, within the NECSC bounds.

NECSC Webinar Series

The Northeast Climate Science Center has a Spring 2014 Webinar Series to Focus on Extreme Events and Climate Change, with one webinar on forestry. For the complete webinar listing go to: <https://necsc.umass.edu/news/spring-2014-ne-csc-webinar-series>

Sustaining Forests in the Face of Uncertainty
Wednesday, March 26, 2014 - 3:30 p.m. EST

Speaker: [Maria Janowiak, NIACS](#), Scientist, Climate Change Adaptation and Carbon Management, Northern Institute of Applied Climate Science
[Webinar Information](#)

Or join us LIVE: 134 Morrill Science Center Conference Room, UMass-Amherst

There is rapidly-growing interest in adapting forest ecosystems to changing and uncertain future conditions, but there are relatively few real-world examples of forest adaptation. This presentation will describe a set of forest adaptation resources that can be used by resource managers to incorporate regional information about climate change vulnerability and potential adaptation strategies into on-the-ground management, while meeting a variety of management goals. Examples from public, private, and tribal lands will be highlighted in order to discuss challenges and opportunities for incorporating climate change considerations into forest management.

2014 MASSACHUSETTS ARBOR DAY POSTER CONTEST

“TREES ARE TERRIFIC AND GOOD FOR OUR HEALTH!”

Each year, over 1500 Massachusetts fifth graders participate in the Arbor Day Poster Contest. The winners reap rewards, including art supplies, ice cream, and a tree for their school. Each year there is a theme, such as “Trees are Terrific...from acorn to oak!” (2003) or “Trees are Terrific...In Cities and Towns!” (2009), selected to encourage students to think about trees in new ways.

The 2014 theme, *Trees are Terrific and Good for Our Health!* is designed to increase students’ understanding of trees, the role trees play in their community, and the impact of trees on health and well-being. The deadline for this year’s entries is April 18, 2014. Submit one entry per school.

Download – [Poster Contest Rules and Information Packet](#) 

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



News

Cold Not Enough To Stop Invasive Bugs

By Sam Evans-Brown and Brady Carlson

While frigid temperatures don't feel particularly great, they do play an important role in the state's [New Hampshire] ecosystem. One way that cold temperatures can be helpful is by beating back the wave of invasive insects that have laid siege to the state's forests, but State Entomologist Piera Siegert tells NHPR's Brady Carlson that the some of the recent headlines about the impact of this cold on invasive bugs over-state the case in the Granite state. Siegert says [Red Pine Scale](#) and [Hemlock Woolly Adelgid](#) are both more exposed to cold than the [Emerald Ash Borer](#), but all three bugs are adapted to deal with the cold. The Ash Borer in particular is remarkably cold hearty. Several recent media stories have stated that this beetle would be killed by cold of -30 degrees Fahrenheit, but Siegert says it has to be that cold "below the bark." In other words, **there's no guarantee** that this cold will cause populations to decline. Read the full story at New Hampshire Public Radio [nhpr.org](#).

UConn Researchers Go Into the Woods In Search of New Ways to Protect Power Lines

By Brian Dowling, *The Hartford Courant*

February 13, 2014, Storrs — Two professors, a master's candidate and a research assistant walked into a forest. Their boots crunching in the snow, the research team made it to their experiment, a young stand of sugar maples and other species that has been thinned out and wired with sensors. "They are swaying more," said Jenna Klinck, the master's candidate, who analyzes how trees react to forest thinning and build up strength afterward. The group has monitored this site for more than a year as part of its efforts to learn how managing the deeper section of roadside forests could reduce outages from major storms. Tree management plans from the state's two electric utilities largely ignore this slice of the state's forest — from about 10 feet to 100 feet in — even though researchers and the state's top forester say a significant number of outages are caused by trees falling into the lines from farther in the forest. Read the complete story at [The Courant](#).

Study Reveals the Give and Take of Urban Temperature Mitigating Technologies

Feb 10, 2014—Life in a warming world is going to require human ingenuity to adapt to the new realities of Earth.

Greenhouse-gas induced warming and megapolitan expansion are both significant drivers of our warming planet. Researchers are now assessing adaptation technologies that could help us acclimate to these changing realities. But how well these adaptation technologies — such as cool roofs, [green roofs](#) and hybrids of the two — perform year round and how this performance varies with place remains uncertain. Read the full story at [Phys.org](#).

It's Not Easy Being Green, Just Ask a Leaf

By Sara Brown

Martha's Vineyard Gazette, February 6, 2014

Scientists from Brown University and the Marine Biological Laboratory in Woods Hole found that pictures of forests do not directly correspond to peak levels of chlorophyll in leaves. A press release said the study has implications for how scientists study trees and climate change. The work was led by Brown graduate student Xi Yang and is published in the *Journal of Geophysical Research: Biogeosciences*. The press release said that automated photography has been used in the past as an easy way to do research in forests, and has produced significant findings in recent years. But to test the accuracy of the photographs, scientists placed a camera on a 50-foot tower above the Manuel F. Correllus State Forest, and timed the camera to take photos every hour for five hours a day from April to November 2011. Read the complete article at the [Martha's Vineyard Gazette](#).

Asian Longhorned Beetles Pheromone Could Be Used to Manage Pest

By A'ndrea Elyse Messer

Feb 13, 2014 (Phys.org) —Female Asian longhorned beetles lure males to their locations by laying down sex-specific pheromone trails on tree surfaces, according to an international team of researchers. The finding could lead to the development of a tool to manage this invasive pest that affects about 25 tree species in the United States. Read the full story at [Phys.org](#).

Oak Wilt Found for Second Time in New York State

Oak wilt is an aggressive disease that affects many species of oak (*Quercus spp.*) It is a very serious tree disease in the eastern United States, killing thousands of oaks each year in forests, woodlots, and home landscapes. Oak wilt was confirmed for the first time in New York State, September 2008, in Glenville, Schenectady County. In 2009, 73 infested or likely to become infested trees were destroyed. Additional infected trees were found in September, 2013. Read more at the [NY Department of Environmental Conservation](#).

On the Horizon

- Mar 3-5 COURSE FULL: Tree Risk Assessment Qualification Course, NEC-ISA, Portland, ME
- Mar 5 Massachusetts Environmental Education Society Annual Conference, Worcester, MA
<http://massmees.wordpress.com/annual-conference/>
- Mar 8 ISA Exam, Boylston, MA, www.newenglandisa.org
- Mar 11 UMass Community Tree Conference, Amherst, MA, www.umassgreeninfo.org
- Mar 14-16 Splicing Workshop, New England Chapter-ISA, Weare, NH, www.newenglandisa.org
- Mar 18 State Regulations Pertaining to Invasive Plant Management (A2), UMass Extension, Milford, MA, www.umassgreeninfo.org
- Mar 19 Fall River 3rd Annual Urban Forestry Workshop, Fall River, MA
- Mar 20-22 Tree Risk Assessment Qualification Course, NEC-ISA, Portsmouth, NH, www.newenglandisa.org
- Mar 22 Massachusetts Land Conservation Conference, Worcester, MA, www.massland.org/conference
- Mar 24-26 Tree Risk Assessment Qualification Course, NEC-ISA, South Burlington, VT www.newenglandisa.org
- Mar 25 MAA Safety Saves, Massachusetts Arborists Association, Wellesley, MA, www.massarbor.org
- Mar 25 MAA Dinner Meeting, Massachusetts Arborists Association, Framingham, MA, www.massarbor.org
- Mar 27-29 Tree Risk Assessment Qualification Course, NEC-ISA, Rockfall, CT, www.newenglandisa.org
- April 1 Deadline: Intent to Apply: Urban and Community Forestry Challenge Grants
- April 1 Tree Planting Professional Development Series, MTWFA, Sturbridge, MA www.masstreekeepers.org
- April 4 MCA Exam, Massachusetts Arborist Association, Wellesley, MA, www.massarbor.org
- April 5 ISA Exam, Amherst, MA, www.newenglandisa.org
- April 5 Mass Forest Alliance, Annual Meeting, Sturbridge, MA <http://massforestalliance.org/>
- April 8 The Invasive Plant Issue and Invasive Plant Identification (A3), UMass Extension, Milford, MA, www.umassgreeninfo.org
- April 18 Deadline: MA Arbor Day Poster Contest
- April 23 Scouting for Early-Season Landscape Pests and Problems, UMass Extension, UMass Amherst, www.umassgreeninfo.org
- April 24-25 Designing for Success: Ecological Restoration in Times of Change: Amherst, MA
- May 1 Deadline for Applications: Urban and Community Forestry Challenge Grants
- May 30 New England Chapter-ISA Tree Climbing Championship, Burlington, VT www.newenglandisa.org
- Oct 24-25 **DCR Tree Steward Training— SAVE THE DATE!**

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dcr
Massachusetts



Deval Patrick, Governor

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John P. Murray, Commissioner, Department of Conservation and Recreation

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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