Massachusetts Urban & Community Forestry Program

The Citizen Forester

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Pollinators in the Landscape III: Creating and Maintaining Pollinator Landscapes

By Rick Harper and Amanda Bayer

Our understanding of the urban forest doesn't have to be just limited to its trees. In a broader sense, the urban ecosystem includes a variety of habitats, including public open spaces/ grounds, greenways, rain gardens, and a plethora of private landscapes. Hence, those of us who manage these sites need to be aware of the different elements that comprise these spaces, in order to manage them in accordance with specific objectives.

Pollinator-friendly plants are just one part of creating and maintaining pollinator-friendly landscapes. The creation of pollinator habitats incorporates design, cultural practices, pest management, and weed management strategies. Pollen, nectar, water, forage plants, nesting areas, and shelter should all be considered during the design process. Be creative, and don't forget to think both big and small – pollinators can be supported in a variety of ways, from trees that provide shelter and nesting materials, to annuals planted in a window box for nectar and pollen.

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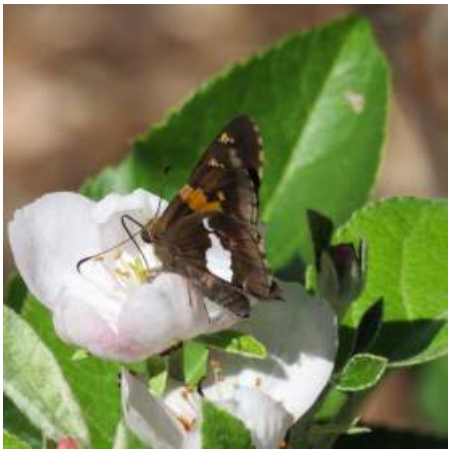
Pollinator Habitats

Familiarizing yourself with the local pollinators will allow for the creation of appropriate habitats. Nesting and shelter locations, pollen and nectar sources, and water needs vary among pollinators. Ground-nesting bees, which account for around 70% of native bees, need small areas of bare ground, sand, or sparse vegetation that are well drained and sunny. Bumble bees can use rodent burrows, existing holes, fallen leaves or plant matter, grassy areas, and meadows. Maintained landscapes do not always have appropriate nesting sites or materials, so created habitats might be necessary. Bundled hollow stems, bamboo, or reeds are good for cavity-nesting bees. Logs and stumps with beetle tunnels can be added to the landscape for cavity -nesting bees, along with nesting blocks. When placing potential habitat objects in the landscape, wind protection and sun exposure are important considerations. Shade and part shade areas are important, along with sunny areas, as they provide protection from inclement weather. Hummingbirds need perches and nest sites on tall trees and shrubs away from predators. Hummingbird nesting materials can include twigs, plant fibers, spider silk, lichens, or leaves. Fluffy or fuzzy plant fibers are commonly found in hummingbird nests and can include ornamental grass plumes, lambs ear foliage, fuzzy seedpods, or soft casings. Butterflies need perches for sunning, puddles, and forage plants for caterpillars. Clean water sources are important for many pollinators and can be provided by birdbaths, fountains, small ponds, puddles, or a damp salt lick.



Silver-spotted skipper on *Malus* sp., Johnny Appleseed Orchard, Springfield, MA. Photo: Mollie Freilicher

Plant selection and design can help ensure that pollinator -friendly plants are available throughout the year. Planting in clumps and repeating plants throughout the landscape will help avoid having pollinator habitats that are too

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Creating and Maintaining Pollinator Landscapes

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small or isolated. Be aware of pollen and nectar content in flowers – perennials often have more nectar than annuals, and wildflowers are some of the best sources of pollen. Cultivated plants can be bred to be sterile, and double or very showy flowers often have less pollen than simple single flowers. Floral features attract different pollinators, so having a variety of shapes, sizes, colors, and scents can increase pollinator diversity. Having foraging and nesting sites in close proximity can assist in protecting habitats. Have a diversity of plant materials, from perennials and annuals, trees and shrubs, to no- or low-mow areas. Consider putting plants where pollinators nest or overwinter away from high traffic areas; this provides protection for pollinators and can hide damaged plants. (Some life stages require pollinators to eat vegetation, so plan accordingly.)

Cultural Practices

Pollinator habitats also need consideration during garden clean-up, as fallen branches, stumps, and leaf debris can be pollinator habitats or overwintering sites. When possible, wait to trim and prune until after pollinator emergence in the spring. Limiting mowing to every other week, or setting aside areas that can be mowed less, as well as limiting pesticide applications, can help reduce pollinator stress.

Knowing what pests are actually harmful to your plants and using integrated pest management (IPM) monitoring strategies can help to limit pesticide use to times when pests reach critical levels. This also helps to limit pollinator exposure to pesticides. When pesticide applications are needed, the least toxic possible should be used and label recommendations should be checked and followed regarding use around pollinators and toxicity levels. Pesticides should be applied when pollinators are least active (such as late evening) and should be avoided on plants and weeds around blooming plants being frequented by pollinators. Use pesticides that do not persist on vegetation, and do not spray at low temperatures when dew formation can re-wet pesticides. Most pollinator poisoning occurs when pesticides are applied to blooming plants, but it can also occur from drift, contamination, or residues. Natural pest control through the use of beneficial insects should be used whenever possible.

Ruby-throated hummingbird on bee balm (*Monarda didyma*), Amherst, MA. Photo: Amanda Bayer

Red maple (*Acer rubrum*) flowers, Amherst, MA. Photo: Mollie Freilicher

Preventative measures such as groundcovers, weed barriers, hardscapes, and mulches should be used to control weeds, along with mechanical or manual weed control methods such as mowing, cutting, pulling, girdling, and tilling. Reintroducing natives and establishing desirable, stable plants can help to resist invasive species. Biological control, or natural enemies, can be used to keep invasive plants manageable when allowed to become established in pollinator landscapes. Biological controls are used to manage unwanted plants through destruction or competition and are best used when pest populations are low. If physical means prove ineffective, focused selective herbicides should be used. Weed pressure can be reduced through proper management of soil nutrition and irrigation, with over-fertilization and over-irrigation resulting in excessive weeds.

Pollinator Highlight: Bees

There are many different species of bees in the United States, with around 350 native bee species in Massachusetts. Bees are high energy and need pollen and nectar

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Creating and Maintaining Pollinator Landscapes

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Bee on common milkweed (*Asclepias syriaca*) Leverett, MA. Photo: Mollie Freilicher

from a variety of plants to feed themselves and their young. Nesting habitats vary for different types of bees so it is important to have a variety of potential habitats in the landscape. Bees are typically attracted to brightly colored flowers (except red; bees cannot see red) that are full of nectar. They prefer sweetly smelling flowers that are open in the daytime and have landing platforms. Tubular flowers with nectar at the base of the tube are often frequented by bees. Buzz pollination, which is a unique type of pollination to bees, is when the bee grabs a flower in its jaws and vibrates its wings to dislodge pollen trapped in the anthers. This is common for tomatoes, peppers, and cranberries.

Bees can be either social or solitary, with ¾ of native bees being solitary. Social bees include the bumble bee and honey bees. Solitary bees include carpenter, sweat, mining, and leafcutter bees. Some crops such as pumpkin, cherries, blueberries, and cranberries are better pollinated by native bees than honey bees. Tomato and eggplant are not pollinated by honeybees. Bees transport pollen by brushing against pollen, which sticks to special structures on their hind legs or abdomen.

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References:

Pesticide Task Force of the NAPPC. Protecting Pollinators: Why and how pesticide applicators can help them. http://pesticidestewardship.org/PollinatorProtection/Documents/NAPPC.pesticide.broch.Applicators17.pdf

USDA Forest Service. Pollinators. www.fs.fed.us/wildflowers/pollinators/animals/

US Fish and Wildlife Service. Attracting Pollinators to Your Garden. www.fws.gov/pollinators/pdfs/PollinatorBookletFinalrevWeb.pdf

National Audubon Society. How to Create a Hummingbird-Friendly Yard. www.audubon.org/content/how-create-hummingbird-friendly-yard

Lois Berg Stack and Frank Drummond. University of Maine. How To Create a Bee-Friendly Landscape. http://umaine.edu/gardening/master-gardeners/manual/ecology/how-to-create-a-bee-friendly-landscape/

The Xerces Society. Pollinator Plants, Northeast Region. www.xerces.org/wp-content/uploads/2014/09/NortheastPlantList_web.pdf

USDA NRCS. How Gardeners Can Help Pollinators www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/pollinate/gardeners/ www.whitehouse.gov/sites/default/files/docs/supporting_the_health_of_honey_bees_and_other_pollinators.pdf

Stubbs, C.S. and N. Coverstone. Understanding Native Bees, the Great Pollinators: Enhancing Their Habitat in Maine. University of Maine. Bulletin #7153 http://umaine.edu/publications/7153e/

New England Wildflower Society. Native Plants that Attract Pollinators. http://www.newenglandwild.org/grow/native-plants-attract-pollinators.pdf

Next page: Chart of plants to attract bees

Plants to Attract Bees

Trees and Shrubs:				
Scientific Name	Common Name	Flower Color	Size	Bloom Season
*Acer rubrum**	red maple	red	40-70′	spring
*Amelanchier canadensis**	serviceberry	white	25-30′	early spring
*Arctostaphylos uva-ursi**	kinnikinnick, bearberry	white	6-12″	late spring
*Aronia arbutifolia**	red chokeberry	white	6-10′	late spring
*Ceanothus americanus**	New Jersey tea	white	3-4′	summer
*Clethra alnifolia**	sweet pepperbush	white, pink	3-8′	summer
Erica spp.	heath	pink, white, purple, lavender	6-20″	spring-fall (species dependent)
Hypericum perforatum	St. John's wort	Yellow	1-3′	summer
*Kalmia latifolia**	mountain laurel	white, pink, multi	4-12′	early summer
Malus spp.	apple, crabapple	white, pink, red	10-40′	spring
Pieris spp.***	pieris	white, pink, red, multi	1.5-8′	spring
Prunus spp.***	plum and cherry	white, pink	10-30′	spring
*Quercus rubra**	red oak	yellow-green	50-75′	spring
Rosa spp.***	rose	white, yellow, red, pink, purple, orange	varies with type	summer
Salix spp.***	willow	yellow-green	30-80′	spring
Vaccinium spp.***	blueberry, cranberry	white	1-8′	spring
Perennials and Annuals				
Agastache foeniculum	anise hyssop	lavender, purple	24-48″	Summer-early fall
Allium schoenoprasum	chives	Purple	12-18″	late spring-summer
Asclepias spp.***	milkweed	pink, orange, red, purple, white	12-60″	summer-early fall
Borago officinalis	borage	blue	12-36″	summer
*Chelone glabra**	turtlehead	white	2-3′	fall
Crocus spp.	crocus	white, purple, lavender, yellow	3-6″	spring
*Echinacea purpurea***	coneflower	purple/pink (cultivars others)	2-5′	summer
Eurybia spp.***	aster	white, lavender, purple, pink	12-24'	late summer-fall
Galanthus spp.	snowdrop	white	6-12″	spring
*Liatris spicata***	blazing star	lavender	2-4′	late summer-early fall
*Lobelia cardinalis**	cardinal flower	red	12-24″	late summer-fall
*Monarda didyma***	bee balm	red	2-4′	summer
Narcissus spp.	daffodil	white, yellow, orange	6-30″	spring
*Penstemon digitalis**	beardtongue	white	2-5′	late spring-summer
Solidago spp.***	goldenrod	yellow	1-7′	fall
Symphyotrichum spp. ***	aster	purple, blue, lavender, white	12-24'	late summer-fall
*Symphyotrichum novae-angliae**	New England aster	white, pink		fall
Thymus spp.	thyme	purple, white	3-6″	summer
Tulipa spp.	tulip	orange, yellow, red, white, purple, lavender, multi	6-24″	spring
Viola tricolor	viola, Johnny jump-up	purple, blue, white, yellow	3-6″	spring, fall

*Native to New England **Native to East Coast

***Genus contains one or more species native to the eastern United States and/or New England.

Species Spotlight—
Seven-son flower, *Heptacodium miconioides*

By Mollie Freilicher, DCR Community Action Forester

Despite first being known in the United States over 100 years ago, seven-son flower has been slow to catch on. E. H. Wilson first collected the plant in 1907 in Hubei province, in western China, but it wasn't until 1916, in the volume *Plantae Wilsonianae,* that Alfred Rehder described the new genus and determined it to be in the *Caprifoliaceae* family. Even then, the plant was relatively little-known, without live specimens in the United States. In 1980, the Sino-American Botanical Expedition provided the opportunity for American botanists to see living plants in China and to bring back seeds to the U.S. It was during this expedition, that seeds of seven-son flower were brought to the U.S. for the first time. The Arnold Arboretum and the National Arboretum grew the seeds to plants. The Cary Arboretum in Millbrook, New York was an early recipient of seedlings. Through these three arboreta, the plant was first introduced to the U.S. By 1981, the Hangzhou Botanical Garden was distributing a second batch of seeds to arboreta around the globe. (To read more about the introductions and efforts the Arnold Arboretum made to learn more about seven-son flower, see Gary Koller's article listed in the reference list below.) In Massachusetts, Allen C. Haskell's nursery in New Bedford began propagating and marketing the plant. (Currently, this former nursery site is managed by the Trustees of Reservations.)

Even at the time Wilson collected his samples, seven-son flower was rare in China. Currently, the International Union of Concerned Scientists (IUCN) lists it as vulnerable on the Red List of Threatened Species, with occurrences in only two areas in central China. IUCN notes it is threatened by "indiscriminate cutting." In its native range, it occurs in woods or at edges of evergreen broadleaved forests (IUCN).

In the U.S., seven-son flower is hardy in zones 5-8 and is a small tree or shrub, reaching heights of 15-20 feet, with a spread one-half to three-quarters of the height. It has an upright, irregular habit, though it can be pruned to a single-stemmed tree. Michael Dirr writes that it "grows to its own beat." Like other members of the *Caprifoliaceae*, it is opposite, with simple leaves, three to six inches long and about two inches wide. They have a rounded base, acuminate tip, and entire margins that are a bit wavy. Koller notes their "deeply impressed trinerved veins" and writes that the leaves "are one of the plant's finest assets." It is not known for fall color, but sometimes it can be yellow.

Buds are light brown, imbricate, glabrous, and ovoid, occurring at a 45 degree angle to the stem. The bark is ornamental, with darker gray and red-brown strips, peeling to reveal light brown inner bark.

Seven-son flower is known for its creamy-white, fragrant flowers, which bloom in September, and occur in terminal panicles of seven flowers. Koller notes that the flowering period in Massachusetts can last from mid-August to early October. Dirr notes that butterflies visit the seven-son flowers in his garden and that others have observed hummingbirds feeding on the flowers. Once the petals fall

Photos: Form, bark, twig, leaf: John Seiler, Virginia Tech; flower: Morton Arboretum.

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Species Spotlight—Seven-son flower

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off, the fruit, a capsule, forms, and the sepals around it turn from green to reddish-purple, which adds additional interest to the plant for a few weeks.

Seven-son flower does best in well-drained acid soil in full sun or part-shade. It does not have serious pest or disease problems, is not known to escape cultivation, and is highly tolerant of salt. Because of its salt tolerance, Peter del Tredici, of the Arnold Arboretum, writes that it might make a good street tree. It is well-suited to borders, foundations, or fence lines, and can be used with other shrubs to screen views or create privacy. It also could be used as an accent plant around a building or garden feature.

Sepals (Morton Arboretum)

References

IUCN. The IUCN Red List of Threatened Species http://www.iucnredlist.org/details/32355/0/

Koller, Gary L. 1986. Seven-Son Flower from Zhejiang: Introducing the Versatile Ornamental Shrub *Heptacodium jasminoides* Airy Shaw. *Arnoldia* 46(4)2-14. http://arnoldia.arboretum.harvard.edu/pdf/articles/1986-46-4-seven-son-flower-from-zhejiang-introducing-the-versatile-ornamental-shrub-heptacodium-jasminoides-airy-shaw.pdf

Raver, Anne. 2002, October 13. CUTTINGS; Chinese Transplant With a Warming Soul. *New York Times.* Retrieved from http://www.nytimes.com/2002/10/13/nyregion/cuttings-chinese-transplant-with-a-warming-soul.html.

Growing on Trees

Celebration of Trees—Fall River, September 17

Please join the Fall River Street Tree Planting Program for "A Celebration of Trees," a free, family event to help promote awareness of the benefit of trees. Children will have the opportunity to learn about trees by participating in fun, hands-on activities, including tree identification through leaves, flowers, and bark, insect identification with real bugs, composting with worms, tree planting demonstrations, story time, and much more. Snacks and water will be provided.

Children will also receive a free keepsake that they can decorate and bring home!

Location: North Park, Fall River along Highland Avenue between Hood St. and Stanley St.

Date: September 17, 2016, 9:00 a.m. – 12:00 p.m.

Rain Date: September 18th

Fall River Street Tree Planting Program's (FRSTPP) website: http://www.frstpp.org/

Contact Mike Keane, mkeane@civitects.com, for more information.

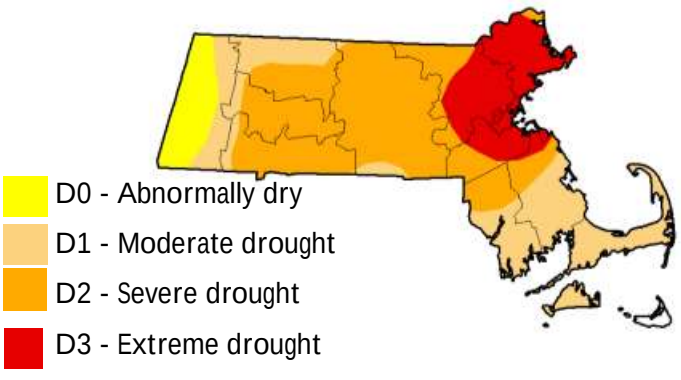
Drought Monitor

Conditions as of August 23, 2016

Keep those new trees watered!

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

Massachusetts drought management information



Growing on Trees

Grants

DCR Urban and Community Forestry Challenge Grants

Upcoming Deadlines: 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. NOTE: The 2016 application contains new guidelines for strategic planting grants.

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

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

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

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

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

TREE Fund Education Grants

TREE Fund education grants support the development of arboriculture education programs and materials that encourage children to explore nature and learn to care for the environment.

Arboriculture Education Grant Program

Supports the development of arboriculture educational programs and materials for K-12 students. Projects must relate to arboriculture or urban forestry and include a hands-on component; support is not provided for tree planting programs.

Award amount: up to $5,000 | Letters of intent accepted January 1 – March 1

Read more and find out what projects were approved in 2016.

http://www.treefund.org/grants/education-program-grants

Growing Greener—in Great Barrington

The town of Great Barrington recently completed an Urban and Community Forestry Challenge Grant tree planting project along Route 7. Starting in 2014, tree committee volunteers used i-Tree Streets to conduct a targeted tree inventory of select streets in town, including several impacted by a road project on Main Street, as well as trees along Route 7, a main corridor into town. Using that information, members of the tree committee spoke with property owners on Route 7 about planting trees in the setback area, and several property owners opted to have a tree planted. Trees were sited and planted according to principles of "right tree, right place." The town requested $2,000 to plant eight trees and town staff and volunteers have been keeping them watered.

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

Forest Legacy Program Request for Proposals Now Available for FY2018

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

For more information please contact Lindsay Nystrom, MA Forest Legacy Program Coordinator at lindsay.nystrom@state.ma.us or 508-792-7714 x114 or go to www.mass.gov/dcr/forest-legacy.

Data Points Podcast Episode 10 – 600,000 Trees and A Map

By Sharon Paley and Andrew Nicklin Podcast: Play in new window | Download

Nearly 30,000 acres of land. 600,000 trees on city streets. How does the New York City Department of Parks & Recreation manage so much of the city? "Everything starts with a map," says Jacqueline Lu, NYC Parks Director of Data Analytics. Visualizing and analyzing data to understand how all the assets it oversees is the Department's fundamental approach. In this episode, Andrew chats with Jackie, not just about what data usage on such a scale looks like, but also about the Parks' street trees census. The Department is in the midst of its third such census now. Because NYC Parks relies heavily on 2,500 volunteers to collect tree census data, the project is also a community stewardship opportunity. Find out more: http://govex.jhu.edu/data-points-podcast-episode-10-new-york-city-parks-trees/

Trees are Key—Podcast

Trees are Key with Paul Johnson, Texas A&M Forest Service, will help listeners better care for their trees. This short weekly podcast will feature a short lesson, a weekly tree highlight, and upcoming tree-related events around the state. Sample topics include Why Trees are Key, How To Hire a Pro: To Help You Care For Your Trees, What Do Trees Need To Thrive, Trees As Investments, and How To Water Your Tree. Find out more and listen at: http://texasforestservice.tamu.edu/podcasts/treesarekey/.

Tree Board University

Tree Board University: http://www.treeboardu.org/ offers a free online training course to teach volunteer tree board and tree committee members about trees and serving their communities in an advisory role. Tree Board University consists of eight free, self-paced training courses that include videos, multimedia presentations, and links to other online resources to help teach about the human relations side of urban forestry.

Urban Forestry Today

The Science and Practice of Cabling and Bracing

September 1, 2016 | 12:00 p.m. – 1:00 p.m. (ET)
Presenter: Mark Reiland, University of Massachusetts

In the Arboriculture/Urban Forestry profession, many are familiar with the practice of cabling and bracing to help provide support and stability for overextended and weakly-attached limbs. Join Mark Reiland, University of Massachusetts, Amherst, as he outlines the fundamentals and provides an update about emerging knowledge pertaining to the science and practice of cabling and bracing.

To attend, visit www.joinwebinar.com and enter the ID code 116-178-939.

For more information, contact:
Rick Harper, Department of Environmental Conservation, University of Massachusetts, Amherst
rharper@eco.umass.edu

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

Alliance For Community Trees Webinar

Municipal Tree Care Management in The U.S.

September 29, 2016 | 1:00 – 2:00 p.m. (ET)

For community trees to remain an asset and increase in value, they need care and regular maintenance. Join us on September 29th to hear Dr. Rich Hauer explain Municipal Tree Care and Management in the U.S.: A 2014 Urban and Community Forestry Census of Tree Activities, which addresses the many approaches communities take to manage public trees. Register now.

i-Tree 2016 Webinars

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

All instructional sessions begin at 1:00 p.m. (ET)
September 20, 2016 - Looking at i-Tree HYDRO
October, 19, 2016 - DESIGN and CANOPY
November 16, 2016 i-Tree STREETS
December 21, 2016 - i-Tree Roundtable: Answering Your Questions About Using i-Tree
CEU Credits: Society of American Foresters CFE units and International Society of Arboriculture (ISA) CEUs are expected to be awarded for attending these online sessions. Each session is planned to last 1 hour.

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

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.

Urban Waters Federal Partnership

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

Future Webinars
October 12, 2016 | 1:00 p.m.-2:15 p.m. (ET)
December 14, 2016 | 1:00pm-2:15pm (ET)

Farm Woodlot Management Online Course

From the Northeast Beginning Farmers Project of Cornell University
September 27, 2016 – November 1, 2016
Find out more at: http://www.nebeginningfarmers.org/online-courses/all-courses/farm-woodlot-management-bf-150/.
Other courses are also available, including Introduction to Tree Fruit Production. Go to: http://www.nebeginningfarmers.org/online-courses/all-courses/.

Correction from the August 2016 issue of *The Citizen Forester:* The infographic on Tree City, Tree Line, and Tree Campus USA that appeared on page 9 should have included the Tree Line USA utility, National Grid.

Growing on Trees

Massachusetts Soils Conference

September 23, 2016 | 8:30 a.m. to 4:00 p.m., Mount Wachusett Community College, Gardner, MA

More information, including a tentative agenda, speaker bios and how to register, is available on the Worcester County Conservation District website.

EPA Announces Fifth Annual Campus RainWorks Challenge

EPA announces the fifth annual Campus RainWorks Challenge prize competition that asks student teams to design green infrastructure for their campus. This year, teams will incorporate climate resiliency and consider community engagement in their stormwater management designs. Students will form teams with a faculty advisor to submit in either the master plan or demonstration project categories. Registration for this year's competition will be open from September 1-30, 2016. Submissions for this year's competition will be due December 16, 2016, and winners will be announced in Spring 2017. Find out more at epa.gov.

Tree Steward Training Registration—Now Open

October 14-15, 2016, Harvard Forest, Petersham,

The 2016 DCR Tree Steward Training will take place Friday, October 14, to Saturday, October 15, at the Harvard Forest in Petersham. At this year's session: learn about tree planting, i-Tree, pests, pruning, tree boards, tree ID, and funding urban forestry programs and participate in a roundtable discussion on urban and community forestry. We'll have a mix of indoor and outdoor sessions. Registration is available on the DCR Urban and Community Forestry website (www.mass.gov/dcr/urban-and-community-forestry. Click "Branching Out" on the right)

Deadline to register: October 5.

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

UMass Green School Arboriculture Track

Trees are treasured features of our communities and neighborhoods, and frequent storm events over the past few years have highlighted the challenges of maintaining and protecting trees in the landscape. Working outdoors - whether on the street, in a park, or in a client's backyard - exposes arborists to a variety of unique issues every day. This curriculum will help attendees learn to identify potential problems and to avoid being injured on the job. Topics of particular benefit to arborists include arboricultural safety standards, construction injury to trees, pruning, cabling and guying, insect and disease problems of trees, and tree risk identification and management. This track is designed especially for arborists, tree wardens, and municipal DPW workers.

Daily Schedule: With the exception of the first day which starts at 8:45 am for everyone, lectures run daily 9:00 am to 3:15 pm, with a 1-hour break for lunch.

Green School runs October 24 – December 12 in Milford. Early bird rate (by 9/23/16) is $825. After 9/23/16, the cost is $925. Register by October 7, 2016. There may be financial assistance available for attendees: workforcetrainingfund.org/programs/express-program.

Find out more and explore the full schedule at: https://ag.umass.edu/landscape/education/green-school/green-school-arboriculture-track.

Gleanings

The Removal and Transformation of **One of New York's Largest Trees**

See how the New York City Parks Department helped find new life for a huge European elm in Prospect Park that died in 2015 and had to be removed. Andrew Ullman, Director of Brooklyn Forestry for the Parks Department, turned to local lumber and furniture company RE-CO Brooklyn to mill lumber from the tree and produce lasting wood products.

Find out more: Read a blog post, watch a video, and find out more at RE-CO Brooklyn. Read this account on 6sqft.com and also coverage in this *Wall Street Journal* article.

And remember: Always wear your Personal Protective Equipment!

Western Mass. Tree Wardens Dinner Meeting

Herbicides on Rights-of-Way and Forest Health Update

September 20, 2016, 5:00 -7:30 p.m.
Bluebonnet Diner, Northampton
Speakers: Calvin Layton and Ken Gooch

Professional credits have been requested.

For more information, go to: http://masstreewardens.org/event/western-ma-tree-wardens-meeting/

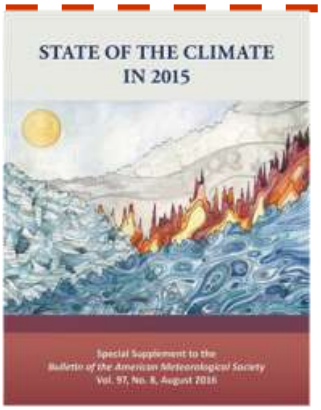
Registration Deadline: September 16

The Etymology of Parking

Ever wondered why the word "park" relates to cars as well as trees?

Read Michele Richmond's fascinating account of the history of the word in Arnoldia (Volume 73, Number 2, 2015.)

NOAA Releases 2015 State of the Climate Report



The "State of the Climate in 2015" report, compiled by more than 450 scientists from 62 countries, confirmed that 2015 surpassed 2014 as the warmest year since at least the mid-to-late 19th century. The record heat resulted from the combined influence of long-term global warming and one of the strongest El Niño events the globe has experienced since at least 1950. Most indicators of climate change continued to reflect trends consistent with a warming planet. Several markers, such as land and ocean temperatures, sea levels, and greenhouse gases, broke records set just one year prior.

View the Press Release.

Report Highlights.

Read the Full Report.

More info: https://www.ncdc.noaa.gov/bams

Gleanings

Go Birding by Tree

A New York City naturalist shares his unique approach of matching trees to certain bird species.

By Jesse Greenspan

July 29, 2016—When Ken Chaya first began birding in Manhattan's famed Central Park 30 years ago, he took the same approach as everyone else, relying entirely on his eyes, binoculars, and ears to detect species in the leafy canopy. Nowadays, Chaya still carries binoculars around his neck—two pairs, in fact—and listens closely for birdsongs. But he's adopted another nifty technique: tree telepathy. As a botanical expert who's known in some circles as the "tree guy," he's gained a deep understanding of birds' habitat preferences—one that goes beyond the write-ups found in ordinary field guides. By linking certain birds to very specific types of flora, he often knows what to expect without even looking up.

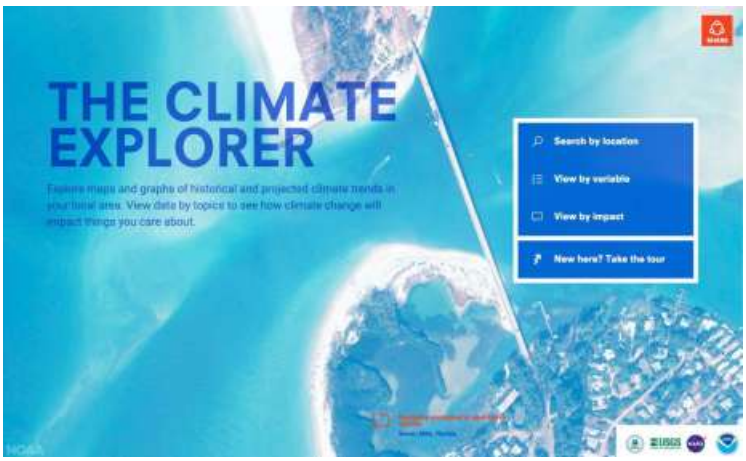
Pine warbler in pitch pine (*Pinus rigida*). Photo: Mollie Freilicher

The practice of "birding by tree" can fly anywhere, Chaya says, but it's especially useful in Central Park, which has an astounding 183 tree and woody-shrub species. Chaya knows every single one: In 2011, he co-created an incredibly detailed tree map that covers the 843-acre oasis. (He's also a freelance graphic designer, nature-walk leader, and author of an upcoming book on Central Park.) "No matter what the bird eats, whether it's insects, insect eggs, larvae, sap, seeds, fruit, spiders, spider mites—there's something here for them," he says.

Read the full story at: http://www.audubon.org/news/how-go-birding-tree

Climate Explorer

Residents, communities and businesses now have easy access to climate projections, through a few easy key-strokes, for every county in the contiguous United States.



NOAA's newly updated Climate Explorer offers downloadable maps, graphs, and data tables of observed and projected temperature, precipitation and climate-related variables dating back to 1950 and out to 2100.

Built to accompany the U.S. Climate Resilience Toolkit, the Climate Explorer helps community leaders, business owners, municipal planners, and utility and resource managers understand how environmental conditions may change over the next several decades.

Climate Explorer projections are based on two global climate model scenarios that describe how the abundance of heat-trapping gases in Earth's atmosphere may change through 2100. The tool provides projections for parameters such as changes in the number of days over 95 degrees F, number of days with heavy rain, and heating and cooling degree days.

Read more at: http://phys.org/news/2016-08-climate-countyplan-tool.html#jCp

A Case for the Use of Shrubs in Reducing Urban Stormwater

Read a condensed version of Cornell University Urban Horticulture Institute's publication of Woody Shrubs for Stormwater Retention Practices, from the Ecological Landscape Association (www.ecolandscaping.org/)

News

City of Rochester, NY , Takes New Approach to Save Trees from Emerald Ash Borer

July 25, 2016—It was almost two years ago when Emerald Ash Borer first showed up in Olmsted County. Now, the city is working to get ahead of the problem before it's too late, taking a different route than what was once used to stop the spread, as detailed in an article by Hubbard-owned KAAL.

Originally, the idea was to remove and replace ash trees. Now, there's a new way of thinking. "With technology and improved chemicals, it's quite inexpensive to retain a tree and because of the benefit we receive from a community back from the trees we found treatments are economically viable options," said City Forester Jeff Haberman. In March, the approved a strategic plan for the infestation. For the next 20 years, Rochester has committed to treating trees by injecting a chemical called TREE-äge. At about $1,000 a tree, that total comes to just more than $5 million for the city. Read the full article at kstp.com.

Los Angeles Uses Google Earth, Street View to Count Urban Trees

After four years of drought, the city's Bureau of Street Services is working to get a fix on the condition of its urban forest.

By Doug Smith, *Los Angeles Times*

July 27, 2016— (TNS)— The last time anyone counted, there were 700,000 street trees in the city of Los Angeles. That was more than two decades ago.

Now, after four years of punishing drought, the city badly needs a fix on the condition of its urban forest.

But doing that the old way — by sending out tree counters with clipboards — would cost about $3 million, money that's already committed elsewhere. So the city Bureau of Street Services has called on Caltech for help. And Caltech has called on Google. Pietro Perona, an academic who hopes to become one of the world's most prolific urban tree counters, has developed a method using Google Earth and Google Street View to let a computer do the counting. Read the full story at govtech.com.

State: Gypsy Moth Damage Nine Times Greater than in 2015

By Corin Cook

August 6, 2016—Milford, MA —August trees are looking more like November trees in some areas after gypsy moth caterpillars devoured leaves more aggressively than they had since the 1980s. The Metrowest Daily News reports a recent aerial survey completed by the Department of Conservation and Recreation (DCR) revealed that damaged caused to trees by gypsy moth caterpillars feeding in 2016 was more than nine times greater than the damage in 2015.

Each year, the DCR Forest Health Program conducts an aerial survey to measure the extent of damage caused to forests by different agents. The 2016 survey, conducted the second week of July, revealed 362,254 acres of damage from gypsy moths, crypt gall wasps, and conifer discoloration. Gypsy moths caused 352,774 acres of the damage. Last year, only 38,175 acres of gypsy moth damage was discovered in the aerial survey. Read the full story at wcvb.com.

News Headlines in Brief

Could London Become the World's First National Park City?

Planting Knowledge: Frankfort, KY Tree Board Tags 19 Trees with Value in Annual Benefits

Parks Can Also Be Green Infrastructure

4,000 Young Dawn Redwood Trees to Grow in Brooklyn This Fall

Homeowners in Florida Value Property Value Boost Brought about by City Trees

At 1,075, this Tree is One of the Oldest in Europe

An Insect Could Make Ash Baseball Bats a Thing of the Past

President Obama Creates What Could Be the Last Large National Park Site on the East Coast, in Maine

Global Forecast Assesses Countries' Invasive Species Risk, Response Capacity

On the Horizon

Sept 1	Urban Forestry Today webinar, www.joinwebinar.com and enter code 116-178-939
Sept 8	i-Tree Webinar, www.unri.org/webcasts/itreeworkshops/
Sept 9-11	Women's Tree Climbing Workshop, Petersham http://www.womenstreeclimbingworkshop.com
Sept 12	Deadline: Forest Legacy Proposals, contact Lindsay.nystrom@state.ma.us or 508-792-7714 x114
Sept 17	Celebration of Trees, Fall River Street Tree, upper section of North Park, Fall River, contact Mike Keane, mkeane@civitects.com
Sept 20	i-Tree webinar: Looking at i-Tree HYDRO, www.unri.org/webcasts/itreeworkshops/
Sept 20	Western Mass. Tree Wardens Dinner Meeting, Northampton, www.masstreewardens.org
Sept 21	Saluting Branches, http://www.salutingbranches.org/
Sept 23	Massachusetts Soils Conference, Gardner, http://worcesterconservation.org/
Sept 25	Town Forest Event, North Brookfield
Sept 27	Massachusetts Arborists Association Dinner Meeting, Framingham, www.massarbor.org
Oct 1	Deadline for Intent to Apply for DCR Urban and Community Forestry Challenge Grant
Oct 11	Urban Wood Utilization Webcast, http://www.na.fs.fed.us/werc
Oct 14-15	Tree Steward Training, Petersham, Register by October 5.
Oct 19	i-Tree webinar: Using Design and Canopy, www.unri.org/webcasts/itreeworkshops/
Oct 19-21	Certified Arborist Prep Course, New England Chapter-ISA, Acton, MA, www.newenglandisa.org
Oct 24 – Dec 12	UMass Extension Green School, Milford, http://ag.umass.edu/landscape
Nov 1	Deadline to apply for DCR Urban and Community Forestry Challenge Grant
Nov 6-8	New England Chapter-ISA 50th Annual Conference, Burlington, VT, www.newenglandisa.org
Nov 10-12	TCI Expo Tradeshow and Conference, Baltimore, MD,
Nov 15	Society of Municipal Arborists Annual Conference, Indianapolis, IN, www.urban-forestry.com
Nov 16	i-Tree webinar: i-Tree Streets, www.unri.org/webcasts/itreeworkshops/
Nov 16-17	Partners in Community Forestry Conference, Indianapolis, IN https://www.arborday.org/programs/pcf/
Nov 30 – Dec 2	New England Grows, Boston,
Nov 30 – Dec 2	American Society of Consulting Arborists Annual Conference, Boston, http://www.asca-consultants.org/
Dec 21	i-Tree webinar: i-Tree Roundtable: Answering Your Questions About Using i-Tree, www.unri.org/webcasts/itreeworkshops/
Dec 31	Deadline for Tree City, Tree Line, and Tree Campus USA Applications, contact Mollie Freilicher, 413-577-2966 or mollie.freilicher@state.ma.us

The Citizen Forester is made possible through a grant from the USDA Forest Service Urban and Community Forestry Program and the Massachusetts Department of Conservation and Recreation, Bureau of Forestry.

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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.), please contact Mollie Freilicher or click here.

dcr Massachusetts