Massachusetts Urban & Community Forestry Program

The Citizen Forester

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Be on the Lookout for the Spotted Lanternfly

By **Tawny Simisky and Rick Harper**

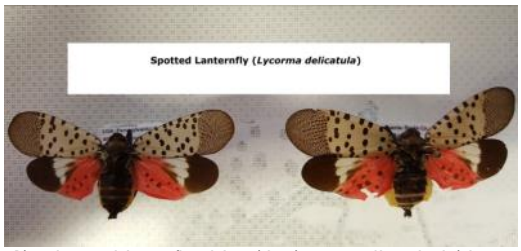
The spotted lanternfly (*Lycorma delicatula*) is a recently discovered, non-native insect to the United States. It has previously escaped its native China, India, and Vietnam and become an invasive pest in South Korea. When it was first discovered in Berks County, Pennsylvania, in 2014, authorities quickly determined that it is yet another organism that we would prefer not to have, and one that we should most assuredly attempt to keep from spreading. This planthopper is a piercing-sucking pest of over 70 species of plants, including ornamental landscape trees-shrubs and agricultural food crops. **At this time, it is not known to occur in Massachusetts.** Anyone who suspects they have found a spotted lanternfly in MA should immediately report it to: https://massnrc.org/pests/report.aspx . The following information is adapted from a fact sheet for the spotted lanternfly, also available at: https://ag.umass.edu/landscape/fact-sheets/spotted-lanternfly .

Host/Range

The spotted lanternfly (*Lycorma delicatula*), also known as a lanternmoth, is neither a fly nor a moth. This insect is a member of the Order Hemiptera (true bugs, cicadas, hoppers, aphids, and others) and the Family Fulgoridae (i.e., the planthoppers). The Berks County find was confirmed on September 22, 2014. In November 2017, a single individual lanternfly was also found in both Delaware (November 20, 2017) and New York (November 29, 2017), as accidental hitch-hikers in shipping. On January 10, 2018, Virginia Cooperative Extension reported the finding of numerous adult spotted lanternflies and egg masses at a location in Frederick County, Virginia.

Up Ahead:

The spotted lanternfly is considered native to China, India, and Vietnam. It was introduced as a non-native insect to South Korea and Japan prior to its detection in the United States. In South Korea, it is considered an invasive pest of grapes and peaches. A 2014 United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) bulletin states that the PA Department of Agriculture found significant populations of the spotted lanternfly at multiple properties at the time of its detection, including residential properties and a commercial property with a specialty stone business. That company was reported to import over 150 shipments from China, India, and Brazil annually, according to the bulletin.



Pinned spotted lanternfly adults with wings open. Note the bright red coloration visible on the hindwings. Photo: Tawny Simisky.

The spotted lanternfly has been reported on over 70 species of plants, including:

Tree of heaven (*Ailanthus altissima*) (preferred host), apple (*Malus* spp.), plum, cherry, peach, apricot (*Prunus* spp.), grape (*Vitis* spp.), pine (*Pinus* spp.), pignut hickory (*Carya glabra*), sassafras (*Sassafras albidum*), serviceberry (*Amelanchier* spp.), slippery elm (*Ulmus rubra*), tulip poplar (*Liriodendron tulipifera*), white ash (*Fraxinus americana*), willow (*Salix* spp.), American beech (*Fagus grandifolia*), American linden (*Tilia americana*), American sycamore (*Platanus occidentalis*), big-toothed aspen (*Populus grandidentata*), black birch (*Betula lenta*), black cherry (*Prunus serotina*), black gum (*Nyssa sylvatica*), black walnut (*Juglans nigra*), dogwood (*Cornus* spp.), Japanese snowbell (*Styrax japonicus*), maple (*Acer* spp.), oak (*Quercus* spp.), and paper birch (*Betula papyrifera*).

During the autumn months in PA, adults have been found to prefer feeding and mating on tree of heaven. Based on a 2015-2016 host plant evaluation, however,

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the proximity to tree of heaven was not found to significantly influence the number of spotted lanternfly found on other host plants. After spending time on tree of heaven, the insects disperse to lay eggs in a variety of locations throughout the local site.

Adult spotted lanternflies seen feeding in a vineyard in PA. Photo courtesy of the PA Department of Agriculture.

Description/Life Cycle

Adults are one inch long and one-half inch wide at rest. The forewing is gray with black spots of varying sizes, and the wing tips have black spots outlined in gray. The hind wings have contrasting patches of red and black with a white band. The legs and head are black, and the abdomen is yellow with black bands. Early instars (immature stages; 1st, 2nd, and 3rd instar) are black with white spots. By the last immature stage, the 4th instar, they develop red patches in addition to the black color with white spots. Both the immature insect and the adult are quite visually striking. Adults are especially so when they have been startled and expose the bright red coloration on the hind wings. When the adult is at rest, particularly on the trunk of the tree of heaven, their gray, spotted color may actually cause them to blend with their surroundings. Freshly laid egg masses appear as if coated with a white substance. As they age, the egg masses look as if they are coated with gray mud, which eventually takes on a dry/cracked appearance. Very old egg masses may look like rows of 30-50 brown seed-like structures aligned vertically in columns. Coated egg masses may look like "weird" gypsy moth egg masses, but of course, they are very different insects and should not be confused.

Spotted lanternfly adult at rest. Note the wings are held roof-like over the back of the insect. Photo courtesy of Gregory Hoover.

Spotted lanternfly egg masses (left and top of photo) with a gypsy moth egg mass (right). Photo courtesy of Gregory Hoover.

As with most insects, the timing of their life cycle can vary based on local temperatures. The following information is based on observations reported from PA:

Spotted lanternfly first instar nymph (immature). Note that the nymph is black with white spots. This coloration persists through the third instar. Photo courtesy of Gregory Hoover.

Spotted lanternfly produce one generation per year, and overwinter in the egg stage. Egg hatch occurs sometime in May and nymphs (immatures) undergo four instars. The 1st, 2nd, and 3rd instars are black with white spots. These immatures will feed on the various host plants listed above, depending upon availability. These early instars have been found to move up and down the host plant on a daily basis as they feed. This makes capturing some of them with sticky bands placed around host plants possible, though this method is less effective as the insects progress through the last nymphal instar and adult stages due to changes in their behavior. The final immature stage, the 4th instar, develops red patches over the black and white spots and is typically present in July. Within the same month, these 4th instar nymphs develop into adults who have been described as weak fliers, though they have functional wings. As one might suspect from a planthopper, however, they are capable of jumping and may use their wings to aid them in the process. Adults may aggregate in large numbers.

Spotted lanternfly fourth (final) instar nymph (immature). Note the color change to red and black with white spots. Photo courtesy of Gregory Hoover.

In the fall in Pennsylvania, the adults are frequently found mating and feeding on tree of heaven; however, they disperse widely to lay their eggs. Adult females lay brown/tan, seed-like eggs in rows on host plants and other smooth surfaces. These rows are often oriented vertically and then covered with a white, waxy secretion that quickly turns gray-brown in color. Each mass can contain 30-50 individual eggs, and researchers believe each female lays at least two of these masses each season. As the egg masses age, the gray waxy coating will crack and begin to look even more like dried mud. Egg-laying may commence in September and continue through late November/early December. Egg hatch can commence in May, and the life cycle continues.

Damage

The adults and immatures of this species damage host plants by feeding on sap from stems, leaves, and the trunks of trees. During spring months (late April – mid May), nymphs (immatures) may be found on smaller plants and vines, and new growth of trees and shrubs.

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Excessive amounts of honeydew excreted by spotted lanternflies and the subsequent growth of sooty mold. Photo courtesy of Vivian Dutton.

Third and fourth instar nymphs may migrate to the tree of heaven and can be observed feeding on trunks and branches. Trees may be found with sap weeping from the wounds caused by the insect's feeding. The sugary secretions (excrement) created by this insect may coat the host plant, later leading to the growth of sooty mold. Homeowners may find the blackish appearance of significant amounts of sooty mold rather unpleasant. Insects such as wasps, hornets, bees, and ants may also be attracted to this sugary exudate or to sap weeping from open wounds in the host plant. This may cause alarm among residents who have low tolerance levels for stinging insects. Host plants have also been described as giving off a somewhat unpleasant, fermented odor when this insect is present, further reducing the quality and enjoyment of residential yards and landscapes.

By mid-summer, adults can be found on trunks of host trees such as the tree of heaven, or on other host plants growing in close proximity. According to the USDA, dusk is a great time to inspect your trees or other host plants for signs of this pest, as insects tend to aggregate in large groups on the trunks and stems of plants at that time of day.

Host plants, bricks, stone, lawn furniture, recreational vehicles, and other smooth surfaces can be inspected for egg masses. Egg masses laid on outdoor residential items, such as those listed above, may pose the greatest threat for spreading this insect via human-aided movement.

Management

This insect has not been detected in Massachusetts at this time. If you believe you have found any of the above-described life stages of the spotted lanternfly in Massachusetts, please report it here:
Massachusetts Introduced Pests Outreach Project:
https://massnrc.org/pests/report.aspx

Spotted lanternfly is currently known to the following counties in PA: Berks, Bucks, Carbon, Chester, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Philadelphia, and Schuylkill County. For a map of the locations, visit the updated Spotted Lanternfly Quarantine Map here: http://bit.ly/2lGJQzQ. Certain municipalities within those counties are subject to a quarantine created by the PA Dept. of Agriculture. In an effort to stop the risk of human-aided spread of this insect, their quarantine has restricted the movement of certain articles out of towns where this insect has been detected, including brush, debris, or yard waste, landscaping or construction waste, logs, stumps, firewood, nursery stock, and outdoor residential items, such as recreational vehicles, tractors, tile, stone, etc. For more information regarding the quarantine, visit the PA Department of Agriculture web page: http://bit.ly/2iofehr.

Adult spotted lanternflies aggregated in large numbers in a residential PA landscape. This insect has a negative impact to the quality of life for residents. Photo courtesy of the PA Department of Agriculture.

Until November 2017, this invasive insect was only known to PA, but it has now been reported in Delaware, New York, and Virginia. The DE Department of Agriculture announced the finding of a single female spotted lanternfly in New Castle County in the Wilmington, DE area. At this time, officials in DE note that it is unclear if this individual was an accidental hitchhiker, or evidence of an established population in the state. For more information about this find, visit: https://news.delaware.gov/2017/11/20/spotted-lanternfly-confirmed-delaware/ . The New York State Department of Agriculture and Markets reported the finding of a single dead individual spotted lanternfly in the state on November 29, 2017, from earlier in the month. A single dead specimen was confirmed at a facility in Delaware County, NY, which is located southwest of Albany. The NYS Dept. of Agriculture and Markets states that this dead individual may have come in on an interstate shipment. For more information about the find in NY, visit http://on.ny.gov/2DOxlaV. On January 10, 2018, Virginia Cooperative Extension reported the finding of numerous adult spotted lanternflies and egg masses at a location in Frederick County, VA. For more information about the find in Virginia, visit: https://ext.vt.edu/agriculture/commercial-horticulture/spotted-lanternfly.html.

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Spotted Lanternfly

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Further Resources

The Pennsylvania Department of Agriculture:
http://www.agriculture.pa.gov/protect/plantindustry/spotted_lanternfly

PennState Extension:
https://extension.psu.edu/spotted-lanternfly-what-to-look-for

https://extension.psu.edu/spotted-lanternfly-identification-and-life-cycle

https://extension.psu.edu/spotted-lanternfly-biology

https://extension.psu.edu/spotted-lanternfly-host-study

The United States Department of Agriculture, Animal and Plant Health Inspection Service:
https://www.aphis.usda.gov/aphis/resources/pests-diseases/hungry-pests/the-threat/spotted-lanternfly/spotted-lanternfly

https://www.aphis.usda.gov/publications/plant_health/2014/alert_spotted_lanternfly.pdf

Massachusetts Introduced Pests Outreach Project and Massachusetts Department of Agricultural Resources:
https://massnrc.org/pests/pestFAQsheets/spottedlanternfly.html

*To request free spotted lanternfly ID cards, visit**:**
http://bit.ly/FPOMOrder

Tawny Simisky is an Extension Entomologist at the UMass Extension Landscape, Nursery, & Urban Forestry Program. Rick Harper is the Extension Assistant Professor of Urban & Community Forestry in the UMass Department of Environmental Conservation.

Save the date for an EAB Field Day
September 11, 2018 | Easthampton

Find out More: https://ag.umass.edu/landscape

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.

Webcasts and Events

Urban Forestry Today Webcast

Can We Enhance the Urban Environment with Non-native Trees & Shrubs?
June 14, 2018 | 12:00 - 1:00 p.m. (Eastern)

Linda Chalker-Scott, Ph.D., Washington State University

Attend live and receive Free ISA/MCA CEUs by visiting **www.joinwebinar.com and entering the code: 586-200-731.**

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.

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/.

USDA NRCS Science and Technology Webinar

Environmental Markets 101
June 13, 2018 | 2:00 p.m. - 3:00 p.m. (Eastern)

Participants in this webinar will learn the basics of environmental markets on private agricultural and forest lands in the United States.

Find out more at conservationwebinars.net.

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.

Western Mass Tree Wardens Dinner Meeting

June 12, 2018, 5:00 - 7:30 p.m. | Northampton
Get ready to welcome summer! Meet and network with tree wardens, tree companies, and utility arborists at the quarterly gathering of the Western Mass. chapter.
Topics:
Diagnosing and Managing Emerald Ash Borer – Nicole Keleher, DCR Forest Health
Tree Planting in the Urban Environment – Rachel DeMatte & Sarah Greenleaf, DCR Urban and Community Forestry – Greening the Gateway Cities
1.5 ISA, 1.0 MCA, and 1.0 Pesticide (Core, 35, 36) credits will be offered.
Find out more and register at www.masstreewardens.org or go to the event page. Register by June 7.

The American Oaks: Diversity, Ecology, and Identification

June 9, 2018, 9:30 a.m. – 1:00 p.m. | Waltham
Join Tim Boland, Executive Director of Polly Hill Arboretum, to understand the great diversity of oaks found throughout North America and locally in New England. Find out more: http://www.grownativemass.org/programs/workshops.

Species Spotlight—*Carpinus betulus*, European hornbeam

By **Mollie Freilicher**

Form (UConn)

European or Caucasian hornbeam, also called common hornbeam, (*Carpinus betulus*) is native to Asia Minor and Europe. A member of the Betulaceae family, it is a medium-sized tree, reaching heights of 40 to 60 feet, with a similar spread, and with a rounded form and dense canopy at maturity. In its native range, it is found in lowland and lowland hills in deciduous woodlands, often with oaks, creating a forest community of oak-hornbeam. It is shade tolerant; in Europe, its tolerance is second to beech. Here in the United States, European hornbeam is hardy to USDA Zone five to seven, and as in its native range, its success is limited by heat.

Leaf (Virginia Tech) (UConn)

Leaves of European hornbeam are alternate, simple, and oblong-obovate, three to five inches long, with doubly-serrate margins. With somewhat sunken veins, the leaves have a sort of quilted appearance. The leaf surface is waxy-smooth and dark green above and somewhat paler below. In fall, the leaves turn yellow or yellow-green before dropping off the tree.

Female flower with bracts (Virginia Tech) (UConn)

Buds are scaled, brown, and usually pressed against the stem. The stem is smooth and brown, with conspicuous lenticels. The bark is gray and muscly-looking, like our native hornbeam (*Carpinus caroliniana*).

Bark (Virginia Tech) (UConn)

European hornbeam is monoecious, with both male and female flowers on the same tree. Neither flower is ornamental. Like other members of the birch family, the flowers are catkins, with male catkins about one and one-half inches long and female catkins longer, at one and one-half to three inches long. Female flowers appear with three-lobed, toothed, leafy bracts.

Male flower (Virginia Tech) (UConn)

The fruit is a small nutlet, one-quarter-inch long and growing at the base of the bracts. The fruit matures in fall, September-October.

In the United States, European hornbeam does not have serious pests of diseases, but can be affected by leaf spots, cankers, and twig blights.

European hornbeam does best in well-drained soils, but can grow in a wide variety of soil conditions. For best growth, plant European hornbeam in full sun, though it can tolerate moderate shade. In the landscape, European hornbeam can be used as a screen or hedge (it is tolerant of heavy pruning), in groupings, in planters, or as a specimen tree. Michael Dirr recommends using a cultivar, as they may be preferable to the straight species in the landscape. There are a few columnar forms including 'Fastigiata' and 'Franz Fontaine,' for tight spaces or for when a columnar form is desirable.

Twig (Virginia Tech) (UConn)

References

Carpinus betulus in Europe: distribution, habitat, usage and threats. European Atlas of Forest Tree Species

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

Virginia Tech http://dendro.cnre.vt.edu/dendrology/syllabus/factsheet.cfm?ID=942

Tree City, Tree Line, and Tree Campus USA Forum & Awards Ceremony

Thank you to our sponsor nationalgrid and to the City of Northampton for hosting!

On May 30, 2018, the DCR Urban and Community Forestry Program held its annual recognition ceremony for participants in Tree City, Tree Campus, and Tree Line USA. This year's event was held at the Garden House at Look Park in Northampton and was generously sponsored by National Grid. DCR recognized 87 Tree City USA communities, one Tree Line USA, and three Tree Campus USA schools. Eleven communities won Growth Awards, including Medford, which was named a Sterling Community, for earning a Growth Award for ten years.

The morning speaking program kicked off with Julie Coop, DCR Urban and Community Forester, and Priscilla Geigis, DCR Deputy Director for Conservation and Resource Stewardship. The Mayor of Northampton, David Narkewicz, provided an introduction to the city. John Berryhill, Landscape Curator, Smith College talked about Smith College as a Tree Campus USA. Tree Warden Rich Parasiliti, Jr., and Tree Commission Chair Lilly Lombard, shared the story of the urban forestry program in Northampton, highlighting the critical partnership between the Tree Commission, Tree Warden, and local non-profit, Tree Northampton. Rick Harper, UMass Extension Assistant Professor, presented information on working with volunteers, and the morning wrapped up with a presentation by Lance Wade and Brande Tarantino of National Grid on the roles of vegetation supervisors at National Grid. That concluded the morning speaking program. Attendees enjoyed a catered lunch by Seth Mias Catering of Hatfield. Following lunch, DCR Director of Forest Stewardship, Peter Church, addressed the crowd and proceeded with presenting the awards.

Priscilla Geigis, Deputy Commissioner for Conservation and Resource Stewardship, DCR.

Rich Parasiliti, Jr., Northampton Tree Warden & Highway Superintendent and Lilly Lombard, Chair, Public Shade Tree Commission.

Brande Tarantino and Lance Wade, National Grid.

L-R: Julie Coop, DCR, Lance Wade, Anne-Marie Moran, Brande Tarantino National Grid, and Peter Church DCR.

Members of the Northampton Public Shade Tree Commission, the city's tree crew, Tree Northampton, and Mayor David Narkewicz.

Host Community 11 years: Northampton *G*

Tree Line USA: National Grid

Tree Campus USA: College of the Holy Cross, Smith College, UMass-Amherst

First year Tree City: Gardner, Hanson, Revere

35 Year Tree City: Wellesley

30 Year Tree City: Brookline, Hingham

25 Year Tree City: Chicopee

20 Year Tree City: Brockton, Leominster, Lowell, Medford *GS*, Orleans, Peabody, Quincy

15 Year Tree City: Weston

10 Year Tree City: Everett, Mattapoisett, Walpole, Warren

5 Year Tree City: Chatham, Chelmsford, Maynard, Medfield

Amherst 31
Andover 19
Arlington 16
Bedford 18
Belmont 32
Beverly 17
Boston 22
Boxford 12
Cambridge 26 *G*
Chelsea 14 *G*
Danvers 31
Duxbury 27
Easton 26
Fall River 13
Framingham 27
Grafton 18
Great Barrington 6
Greenfield 16
Groton 22
Hanscom AFB 31
Haverhill 22
Ipswich 16
Lanesborough 13
Lawrence 16
Lexington 29
Longmeadow 16
Ludlow 12
Lynn 28
Malden 3
Marblehead 19
Marion 21
Marlborough 7
Milton 9
Nantucket 19
Natick 11
Needham 23
New Salem 2
Newburyport 22 *G*
Newton 29
Petersham 8 *G*
Pittsfield 13
Plymouth 29
Reading 33
Rochester 3 *G*
Sandwich 12
Saugus 19
Sheffield 8
Somerville 23 *G*
South Hadley 23
Springfield 32
Stoneham 18
Sturbridge 29 *G*
Sutton 18
Swampscott 27
Wakefield 17
Waltham 16
Watertown 27
West Bridgewater 24
Westborough 9
Westfield 12 *G*
Weymouth 18
Winchester 7
Worcester 32 *G*

G Growth

GS Sterling Growth

Celebrate 125 Years of Stewardship!

The Department of Conservation and Recreation (DCR) operates one of the most diverse park systems in the country – overseeing 450,000 acres of parks, forests, beaches, bikes and pedestrian trails, watersheds, dams, and parkways – for the people.

One hundred and twenty-five years ago, DCR's foundation began with the creation of a regional system of parks to preserve our natural resources for the public as the City of Boston continued to expand. As the first of its kind in the country, the Metropolitan Park System was formed on June 3, 1893, with Beaver Brook Reservation in Belmont and Waltham as the first park acquired for all the people of the Commonwealth to enjoy recreation and green space.

The state's acquisition of other treasured properties, including the first wilderness area, now Mount Greylock State Reservation, soon followed. The agency's critical water supply protection responsibilities also date from the beginning. DCR's diverse portfolio solidifies its stewardship and leadership in conservation and recreation of the Commonwealth.

DCR is inviting everyone to celebrate 125 years of stewardship and enjoy programs that highlight DCR's efforts to preserve the Commonwealth's history. Please check out the listing of Preservation Month programs here: https://www.mass.gov/service-details/dcr-celebrates-national-preservation-month-celebrating-125-years-of-stewardship.

Share your Preservation Month experiences on social media: @MassDCR #DCRpresmo #preservationmonth #ThisPlaceMatters #DCR125years!

Francis W. Rockwell: camping trip on Mt. Greylock, 1909. (Lenox Library Association)

Wachusett Reservoir, planting brushy pasture land with white pines and sugar maples, Boylston, Mass., April 11, 1903. (Comm. of MA)

Hancock Hill, Blue Hills Reservation, date: ca. 1870–1930 Parker, Warren S., (Thomas Crane Public Library)

The Waverly Oaks, Detroit Publishing Co. (Library of Congress)

Growing on Trees

Upcoming Classes

The New England Wildflower Society
www.newenglandwild.org

Wetland Shrubs – July 7
Native Woody Plant Materials – Starts August 28
New England Plant Communities – Starts July 17
Tree Identification – Starts July 23
Urban Gardening Series: Native Lawn Alternatives for Urban Spaces – July 28

The Arnold Arboretum
www.arboretum.harvard.edu

Emergency Response and High Angle Rescue – June 13-14
Forest Bathing - Half Day Retreat – Year Round, 1st Saturday and 1st Thursday of each month
Tree Identification Primer – June 24
Tree Health Assessment – July 18
Tree Load in Risk Assessment – July 19

Tower Hill Botanic Garden
www.towerhillbg.org/

Hadwen Arboretum Tree Census with Worcester Tree Initiative – Tree Census – June 7
Pruning Flowering Trees & Woody Plants in Worcester – June 16
Pruning Flowering Trees & Woody Plants – June 27

Save the Date – Upcoming Conferences

International Society of Arboriculture International Conference and Tradeshow
August 5-8, 2018 | Columbus, OH

Trees and Utilities Annual Conference
August 28-30, 2018 | Omaha, NE

New England Chapter-International Society of Arboriculture Annual Conference and Tradeshow
November 4-6, 2018 | Mystic, CT

Society of Municipal Arborists Annual Conference
November 5-6, 2018 | Irvine, CA

Partners in Community Forestry
November 7-8, 2018 | Irvine, CA

TCI Expo
November 8-10, 2018 | Charlotte, NC

Tick Awareness

To paraphrase Larry Dapsis, Entomologist and Tick Project Coordinator for Cape Cod Extension, tick season in Massachusetts runs from January to December. (Though, it does kick into high gear spring to fall.) As the growing season progresses and we spend more time outside, it is important to protect ourselves from ticks.
Read the complete 'Top 10 Things Everyone Should Know about Ticks These Days.'

10. Ticks crawl up.
9. All ticks (including deer ticks) come in small, medium and large sizes.
8. Ticks can be active even in the winter.
7. Ticks carry disease-causing microbes.
6. Only deer ticks transmit Lyme disease bacteria.
5. For most tick-borne diseases, you have at least 24 hours to find and remove a feeding tick before it transmits an infection.
4. Deer tick nymphs look like a poppy seed on your skin.
3. The easiest and safest way to remove a tick is with a pointy tweezer.
2. Clothing with built-in tick repellent is best for preventing tick bites.
1. Tick bites and tick-borne diseases are completely preventable.

Send a Tick to College!

Did you know you could send a tick to college? The UMass Lab of Medical Zoology provides tick testing services and can test your tick for a variety of pathogens. Get results within 3 days. ***For a limited time, testing a tick is just $15 for Massachusetts residents.*** Find out more at http://www.tickdiseases.org/

Tick Encounter Resource Center
http://www.tickencounter.org – a clearinghouse for everything you ever wanted to know about ticks, including tools to help you identify ticks, information on prevention, frequently asked questions, and more.

Growing on Trees

UMASS Green School Will be Offered Fall 2018

October 17 – December 17 | Milford

UMass Extension's Green School is a comprehensive course for horticultural professionals who wish to gain an understanding of economically feasible and environmentally responsible plant and land care practices and the relation of those practices to the protection of the environment.

This course is designed for practitioners such as landscapers, lawn care specialists, nursery operators, sports field managers, public and private grounds managers, arborists, and others in the green industry. Both experienced professionals, as well as those entering the green industries, benefit from this course.

The curriculum, which emphasizes a systems-based approach to plant care, is based on current research and focuses on environmental stewardship, Best Management Practices (BMPs), and integrated pest management (IPM). Students develop an understanding of how proper management practices can enhance conservation of precious natural resources such as soil and water.

Green School is taught by University of Massachusetts Amherst Extension Specialists and UMass Stockbridge School of Agriculture faculty. Instruction is done via classroom-style lecture and interactive activities and is supplemented through online resources, via an online learning management system.

Specialty Tracks: Arboriculture, Landscape Management, and Turf Management

Registration begins in June 2018. Sign up for the Green School Mailing List: https://ag.umass.edu/landscape/email-list

Find out More: https://ag.umass.edu/landscape/education/umass-extensions-green-school

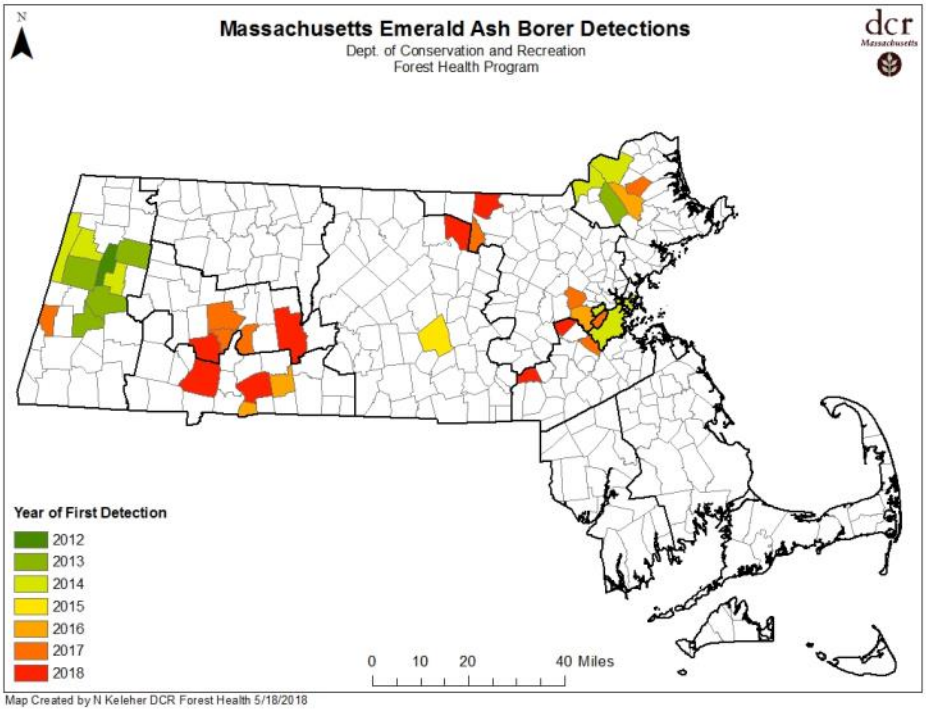
Teaching with i-Tree: Free Lessons, Worksheets, Software, and More

The "**Teaching with i-Tree**" unit includes three hands-on activities that help middle and high school students discover and analyze the many ecosystem services that trees provide. Students input data they collect into a *free* online tool that calculates the dollar value of the benefits provided by a tree, or a set of trees. Find out more and download the curriculum: www.plt.org/curriculum/teaching-with-itree/

Emerald Ash Borer Update

As of May 18, emerald ash borer has been detected in over 30 municipalities in eight counties in Massachusetts. The latest detections include Springfield, Westfield, and Southampton.

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



Gleanings

U.S. Cities Lose Tree Cover Just When They Need it Most

By **Richard Conniff**

May 7, 2018— Scientific evidence that trees and green spaces are crucial to the well-being of people in urban areas has multiplied in recent decades. Conveniently, these findings have emerged just as Americans, already among the most urbanized people in the world, are increasingly choosing to live in cities. The problem—partly as a result of that choice—is that urban tree cover is now steadily declining across the U.S.

A study in the May issue of *Urban Forestry & Urban Greening* reports metropolitan areas are experiencing a net loss of about 36 million trees nationwide every year. That amounts to about 175,000 acres of tree cover, most of it in central city and suburban areas but also on the exurban fringes. This reduction, says lead author David Nowak of the U.S. Forest Service (USFS), translates into an annual loss of about $96 million in benefits—based, he says, on "only a few of the benefits that we know about." The economic calculation involves several such benefits that are relatively easy to express in dollar terms—the capacity of trees to remove air pollution, sequester carbon, conserve energy by shading buildings, and reduce power plant emissions. Read the full story at Scientific American.

Snake Worms Wriggle into Region, Threatening Maples

By *Matt Hongoltz-Hetling*

April 14, 2018—Researchers say that when it comes to invasive earthworms, a particularly nasty annelid species poses a growing threat to a large chunk of New England's forest ecosystem, including sugar maples. Crazy snake worms, an Asian invasive prized by fishermen for their aggressive wriggling, first came to the attention of Justin Richardson in 2011, when he began working on a doctorate at Dartmouth College.

Richardson, currently an assistant professor at the University of Massachusetts Amherst, has fond memories of the field and lab work he used to fuel his dissertation – he'd visit locations such as the Montshire Museum in Norwich and use a spade to dig up worms from the black, spongy "organic hemic horizon" that lies just beneath the leaf litter in a healthy forest.

After each worm safari, Richardson popped some of his squirming captives into an "acid worm stew," using a mass spectrometer to tease out how much gasoline-produced lead had accumulated in their bodies. Others he freeze-dried and ground into tiny pieces, which he then incinerated. The ash and fumes yielded up data on levels of mercury, which enters the ecosystem by way of coal-burning plants in places like Ohio. Read the full story at Valley News.

Stormwater and Schools

The EPA Mid-Atlantic Region recently published a guide for cities and school districts interested in using green infrastructure on school grounds to manage stormwater as well as teach valuable lessons about conservation and environmental protection. The Storm Smart Schools guide outlines the multiple benefits of school-based green infrastructure and eight steps to implementation. (From the EPA GreenStream)

News Headlines in Brief

Trees Are Not As 'Sound Asleep' As You May Think

5 Times People Used Trees to Change the World

Dying 700-Year-Old Tree Put on Insecticide Drip in Final Attempt to Save It from Termites

Greening the Gateway Cities—Chicopee

Tree Corps Program in Cleveland pays participants as they learn community forestry

The Global Importance of Large-Diameter Trees

New CDC Tick Study Adds to Promise of Permethrin-Treated Clothing

Emerald Ash Borer Found in Maine

On the Horizon

Jun 2 ISA Certification Exam, (Registration deadline: May 16), Dighton, www.newenglandisa.org

Jun 3 Swann State Forest Centennial Celebration, 1:00 - 3:30 p.m., Monterey (Approx. location: 165 Brett Road, off Blue Hill Road, Monterey)

Jun 5-6 Chainsaw Skills & Safety - 2 Day, BayState Roads, Dighton, www.umasstransportationcenter.org

Jun 6 Landscape Pests and Problems Walkabout: Insects and Cultural Problems, Sandwich, www.umassgreeninfo.org

Jun 9 New England Tree Climbing Championship, New London, CT, www.newenglandisa.org

Jun 9 Workshop: The American Oaks, Grow Native Massachusetts, Waltham, http://www.grownativemass.org

Jun 12 Western Mass Tree Wardens Meeting, Northampton, www.masstreewardens.org

Jun 12 Webcast: Understanding Community Trees and Forests, 1:00 p.m. (Eastern)

Jun 13 Webcast: Environmental Markets 101, 2:00 p.m. (Eastern) www.conservationwebinars.net

Jun 14 Urban Forestry Today Webcast, 12:00 (Eastern) www.joinwebinar.com, code: 586-200-731.

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

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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.), contact Mollie Freilicher or click here.

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