

## Understanding the True Costs of Growing and Producing Urban Trees

By **Rick Harper** Results from root morphology research (Neal and Lass 2014) of landscape trees grown in pot-in-pot (PiP) containers, balled-and-burlapped (B&B), and in-ground fabric containers (IGFC) have provided useful insights into the way urban trees are grown and respond in a nursery setting. The results from related research provided an analysis of the costs and returns associated with these production systems (Lass and Neal 2014).

Trees from that study were then transplanted to an urban environment and used in a third study (Green et al. 2015) to evaluate differences in tree planting times and associated costs. Differences in tree size, rootball weight, and root morphology were all determined to be important factors in the costs of planting different types of nursery grown trees in the urban landscape.

### Tree Root Morphology and Production Systems

The root morphology research (Neal and Lass 2014) was conducted over a three-year period and aimed to demonstrate how differing production systems might impact root growth and development and influence overall quality of a finished nursery-grown tree. Up to 100 specimens of three tree species – swamp white oak (*Quercus bicolor*), river birch (*Betula nigra*), and crabapple (*Malus x 'Prairiefire'*) – were planted in Amherst, MA, and Durham, NH, in April 2010. When the specimens were finally dug, measured, and weighed, it was found that tree height and trunk caliper did not differ across the production systems and

tree species, except for river birch, where IGFC and PiP trees were notably smaller than their B&B river birch counterparts. Root defects believed to limit tree survival and growth like circling, bent, and girdling roots, were found to be minimal in B&B trees and severe in PiP trees, across all tree species. Tree roots from IGFC were found to be modified by their fabric bags, often forming root “nodules” against the sides and bottom of bags. Although all methods produced medium-sized roots, PiP trees had mostly fine, lower-order roots, while B&B trees generally featured large, higher-order roots, since most fine roots were left in the field as part of the digging process.

To see how the trees performed in a new growing site, twelve harvested river birch trees from each of the three systems were transplanted in the spring of 2012 and left for two growing seasons. The following November (2013), their roots were exposed with an air spade. PiP roots were found to feature a north-south cardinal spread of 3.57m (11.7 ft), IGFC featured 3.57m (12.1 ft) of roots, and the B&B root spread was 4.05m (13.3 ft). This finding seemed to indicate that B&B-transplanted trees responded by producing the highest volume of healthy tree roots, compared to other production systems, over two growing seasons.

### Costs and Production Systems

Research was also conducted in the second study with the objective of estimating the costs and returns for the production of the same river birch trees. Researchers measured the installation costs for each production system, including time, machinery, labor, supplies, and irrigation required to plant each river birch tree in the nursery. Harvest costs were measured after two full growing seasons, during the fall of 2011. Each production

(Continued on page 2)

#### Up Ahead:

Costs of Producing Urban Plants	1-2
Species Spotlight	3
Growing on Trees	4-7
Growing Greener	5
Gleanings	8
News	9
On the Horizon	10

# True Costs of Growing and Producing Urban Trees

(Continued from page 1)

system employed a different method of harvesting, requiring different machinery, number of laborers, supplies, and time. These costs, added to planting costs, the initial price of trees, general maintenance, herbicides, and various other expenses, comprised the total production costs. It was found that PiP featured the highest production cost, while IGFC costs were the lowest.

Costs variations were also explored. Average production costs for B&B trees were estimated, with 95% confidence, to be contained by the interval of \$60.37 to \$65.33 per tree. PiP average costs per tree were estimated to be from \$73.10 to \$74.92 per tree, and IGFC average costs were estimated to be \$54.46 to \$55.55 per tree.

This study highlighted that, from an economic standpoint, each production method features its own strengths and weaknesses. For example, B&B trees had an advantage in planting costs per tree; however, B&B costs increased substantially after harvest, due to affiliated machinery and processing expenses. The PiP system offered a low harvest cost, but had an initial high planting cost. IGFC, although having a slightly higher planting cost than B&B trees, featured a lower harvest cost, making it the lowest cost and greatest net income method per (river birch) tree.

## Costs and Tree Planting in the Urban Environment

Researchers wanted to build on these two existing studies to develop a scientifically-based understanding of the average cost of planting trees in an urban environment and to measure how those costs vary. Trees grown using an additional fourth (bare-root, BR) production system were added to the transplant study. Researchers believed that this critical information would be useful to urban foresters/tree wardens, municipal arborists, and community foresters, who routinely identify budgetary constraints as a key-limiting factor in relation to the management of urban trees.

More about this third study regarding the costs of planting trees in the urban environment will be detailed in an upcoming edition of *The Citizen Forester*.

## Literature Cited

Green, B.L., R.W. Harper, and D.A. Lass. 2015. [Differing Nursery Production Systems Impact Cost of Planting Oak Species in the Urban Environment](#). HortTechnology 25(5):651-656.

Lass, D. and C. Neal. 2014. [Getting to the Roots: Production Effects on Tree Root Growth and Morphology](#). Amer. Nurseryman. 214(7):10-14.

Neal, C. and D. Lass. 2014. [Costs of growing river birch in different production systems](#). Amer. Nurseryman. 214(8):10-14

**Rick Harper** is Extension Assistant Professor in the Department of Environmental Conservation, UMass-Amherst.

## DCR Arbor Day Poster Contest: 2018 Theme - My Community, My Trees

You are invited to join fifth-grade teachers across Massachusetts in the 2018 Arbor Day Poster Contest, sponsored by the Department of Conservation and Recreation, the U.S. Forest Service, and the Massachusetts Tree Wardens' and Foresters' Association.

This year's theme, "**My Community, My Trees**," is designed to increase students' understanding of trees and of the role trees play in their community.

- To participate, have 5<sup>th</sup> grade students create posters around the theme "My Community, My Trees."
- Hold a school poster contest. (Home schooled or non-participating school students may submit their posters and enter the contest individually. See contest booklet for details.)

- Submit the winning poster from the school to DCR.

From the posters submitted, DCR will select the contest's winning posters. Winners are recognized in a ceremony and receive many prizes.

For more information go to the DCR Urban and Community Forestry [web-site](#) or download the [detailed instructions](#) (PDF).

**Contest deadline: March 15, 2018**

Questions on the program? Contact Mollie Freilicher 413-577-2966 or [mollie.freilicher@state.ma.us](mailto:mollie.freilicher@state.ma.us)



First place winner-2017.  
Sophia K. Elm Street School, Walpole.

# Species Spotlight—Southern magnolia, *Magnolia grandiflora*

By **Mollie Freilicher**



Jackson magnolia 2017, [npr](#)

At the White House, in December 2017, the oldest tree on the grounds was significantly pruned. Andrew Jackson had planted the tree in memory of his wife in 1829 and the tree, a southern magnolia (*Magnolia grandiflora*), had far surpassed its typical lifespan of 120 years. In fact, it has lived over 190 years,

kept alive in later years through the diligent care provided by arborists, who installed cables (and concrete in the 1980s).

This month, we will look at southern magnolia, a tree outside its comfort zone here in New England.

Southern magnolia is native to the southeastern United States, along the Atlantic and Gulf Coastal Plain, from Maryland, south to central Florida, and west to eastern Texas. It is hardy in USDA zones six to ten. Southern magnolia is a large evergreen



Jackson magnolia and the Easter Egg Roll c. 1944, [Library of Congress](#)

tree that typically reaches heights of 60 to 80 feet, with a 30-to-50-foot spread. It has a pyramidal-to-oval form, with dense foliage and low branches.

Leaves of southern magnolia are alternate and elliptical in shape, with entire margins. They can be quite large – five-to-ten inches long and two-to-five inches wide. They are quite thick and dark green in color, with brown hairs on the underside. As an evergreen, the leaves do not change



Leaf, [Virginia Tech](#)

color in the fall, but remain on the tree.

Twigs are stout and pubescent, with a terminal bud that is rusty-red in color. The bark of southern magnolia is brown-to-gray and smooth, possibly with visible lenticels. As trees mature, the bark becomes scaly. Magnolias are typically planted for their flowers, and southern magnolia is no exception. It is monoecious, with a large, fragrant flower. The white flowers, which occur singly, can be up to a foot in diameter! (Typically, however, they are more like six-to-eight inches.) They



Bark, [Virginia Tech](#)

bloom in late spring, and they may bloom again in the fall or even sporadically throughout the summer. The fruit is an aggregate of follicles, which start developing as green and then turn red and finally brown, in color. The aggregate is three-to-five inches long and has a bright red half-inch-long seed. The fruit serves as



Fruit, [Virginia Tech](#)



Fruit, [Virginia Tech](#)

food for squirrels, opossum, quail, turkey, mice, chipmunks and is an important food source for migratory birds, including eastern kingbirds, mockingbirds, wood thrushes, robins, and red-eyed vireos. The pollen of southern magnolia is high in protein and attracts beetles and other pollinators.

In its native range, southern magnolia is a popular tree, and its dense foliage makes it a good choice for screens or hedges, as well as a specimen tree. It is also known as a “hurricane-resistant” tree, by having a high survival rate after storms. In urban areas, the leaves can be a nuisance, however, as they drop throughout the summer and are thick and leathery, requiring someone to pick them up. The southern magnolia will grow in full sun or part shade, and some managers believe it grows best in part shade.



Bud, [Virginia Tech](#)

There are some northern cultivars that could be grown in Massachusetts, particularly in warmer microclimates in our communities, in areas protected from wind. The cultivar ‘Edith Bogue’ is one cultivar considered to be winter-hardy – perhaps the hardest—and that has shown an ability to tolerate snow loads. Michael Dirr is a little down on the form and “lackluster foliage” of ‘Edith Bogue,’ but says that in the north, this is the cultivar to use. Another cultivar to try in the north is ‘Bracken’s Brown Beauty,’ known for its lustrous green upper leaf surface and rusty-brown, tomentose underside. Andrew Hillman, former arborist for Ithaca, NY, has reported that most of the ‘Edith Bogue’ magnolias he planted about 20 years ago in the city are still alive and well.

Dirr, M. A. 1998. *Manual of Woody Landscape Plants*. 5<sup>th</sup> Ed. Champaign, IL: Stipes.

THE CITIZEN FORESTER



# Growing on Trees—Webinars and Events

## Urban Forest Connections

The USDA Forest Service's Urban Forest Connections webinar series brings experts together to discuss the latest science, practice, and policy on urban forestry and the environment. These webinars are open to all. Past webinar presentations and recordings are available [here](#).

### The Green Heart Project: Studying the Impact of Trees and Green Space on Cardiovascular Health

March 14, 2018 | 1:00 - 2:15 p.m. (Eastern)  
Ray Yeager, University of Louisville  
Chris Chandler, The Nature Conservancy

#### Future webinars:

April 11, 2018 | 1:00 p.m. - 2:15 p.m. (Eastern)

May 9, 2018 | 1:00 p.m. - 2:15 p.m. (Eastern)

June 13, 2018 | 1:00 p.m. - 2:15 p.m. (Eastern)

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

## Forestry and Natural Resources Webinar

### Nature and Health in Communities: A Review of Best Available Science

March 14, 2018 1:00 – 2:00 p.m. (Eastern)  
The Green Cities: Good Health website is an informational portal to the extensive research on nature and human wellness response. Dr. Kathleen Wolf, the project director, will provide an overview of the science and its relevance in community policy and planning.

Find out more and register for this free webinar at [forestrywebinars.net](http://forestrywebinars.net).

## Ecological Landscape Alliance

### 24th Conference & Eco-Marketplace

March 7- 8, 2018 | UMass-Amherst  
For more information and to register, go to [Ecolandscaping.org](http://Ecolandscaping.org).



## Sustainable Communities and Campuses Conference

April 27, 2018 | Plymouth

Call for **Presenters** and **Exhibitors**  
[www.MaSustainableCommunities.com](http://www.MaSustainableCommunities.com)

## Urban Forestry Today Webcast

### Real Facts about Climate Change and Urban Trees: How Should We Prepare?

March 15, 2018 | 12:00 - 1:00 p.m. (Eastern)

Richard Cowles, PhD, Connecticut Agricultural Experiment Station

Attend live and receive Free ISA/MCA CEUs by visiting [www.joinwebinar.com](http://www.joinwebinar.com) and entering the code: 206-666-939

*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.*

## Ecological Landscape Alliance Webinar

### Invasive Plants: What Are They? And What Can Be Done?

March 21, 2018 | 7:00 - 8:00 p.m. (Eastern)

Presenter: Bruce Wenning, horticulturist, The Country Club, Chestnut Hill, MA

Register: <http://www.ecolandscaping.org/event/webinar-invasive-plants-can-done/>

## Forestry and Natural Resources Webinar

### Planning and Timing Are Critical for Saving Your Urban Ash Forest from EAB

Dr. Cliff Sadof - Department of Entomology, Purdue University

Mar 28, 2018 | 1:00 p.m. - 2:00 p.m. (Eastern)

This webinar will give an update on the status of the emerald ash borer (EAB), as well as advances in treatment and management strategies.

#### Who should participate?

Foresters \* Land Owners \* Land Managers \* Natural Resource Professionals \* Urban Foresters \*  
Federal Employees

Arborist and Forestry continuing education credits will be available.

For more information, go to [forestrywebinars.net](http://forestrywebinars.net).

## Growing Greener—in Groton

Staff from the Urban and Community Forestry Program spent a morning in Groton this past month working with members of the Friends of the Groton Tree Warden on setting up an i-Tree Streets project to track trees the group has planted in Groton over the years. Is your community interested in conducting a tree inventory? Contact [Julie Coop](#) or [Mollie Freilicher](#) to find out what resources are available.

## Growing on Trees

### Grants: NOAA Environmental Literacy Grants:

**Supporting the Education of K-12 Students and the Public for Community Resilience – \$2 million**

[For more information, click here!](#)

*Eligible Entities: State, local, and Indian tribal governments*

The goal of this Federal Funding Opportunity is to support the education of K-12 students and the public so they are knowledgeable of the ways in which their community can become more resilient to extreme weather events and/or other environmental hazards and become involved in achieving that resilience.

Many U.S. communities are increasingly contending with issues related to preventing, withstanding, and recovering from disruptions caused by extreme weather, such as severe storms, tornadoes, hurricanes, flooding, heavy precipitation events, persistent drought, heat waves, increased global temperatures, acidification of the ocean, and sea level rise. These extreme weather and climate events put stress on infrastructure, ecological systems, and the humans who live in the impacted places.

Project topics must relate to NOAA's mission in the areas of ocean, coastal, Great Lakes, weather, and climate sciences and stewardship and should focus on one or more of the goals of NOAA's Next Generation Strategic Plan: healthy oceans; weather-ready nation; climate adaptation and mitigation; and, resilient coastal communities and economies.

For more information, visit the funding opportunity description: <https://www.grants.gov/web/grants/view-opportunity.html?oppld=298495>. **Applications Due: April 6, 2018**

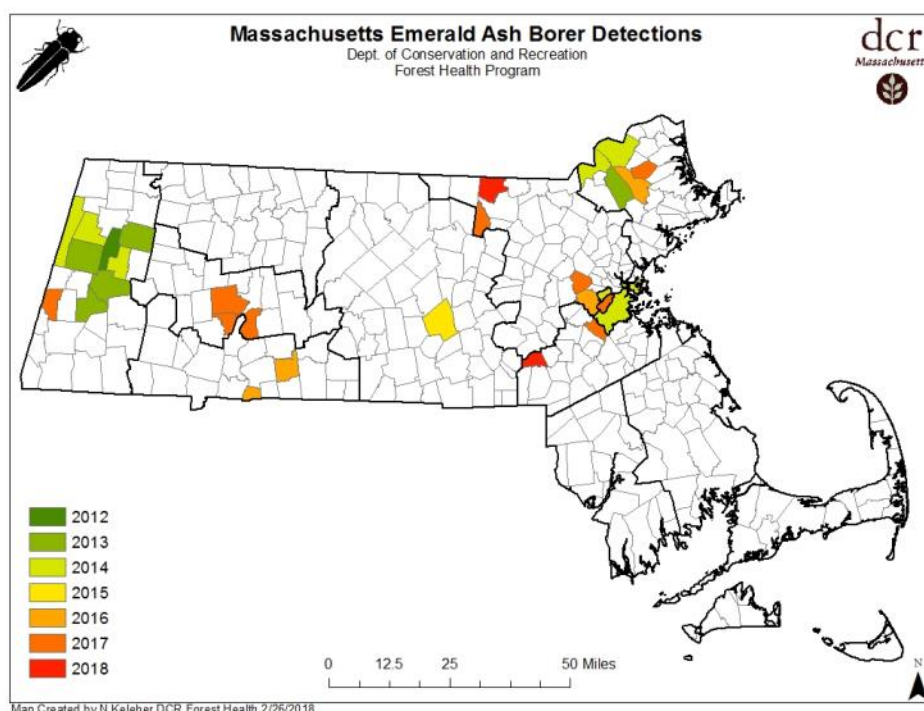
## Emerald Ash Borer in Massachusetts

The map at right, prepared by Nicole Keleher, DCR Forest Health, shows detections of emerald ash borer (EAB) in municipalities as of February 26, 2018.

In February, DCR Forest Health identified emerald ash borer for the first time in Medway.

It is not too early to start planning how your community will respond to EAB.

[Contact the DCR Urban and Community Forestry program](#) to learn about steps your municipality can take to mitigate risk, reduce cost, and preserve canopy in your community.



# Growing on Trees

## Western Mass Tree Wardens Dinner Meeting

Tuesday, March 13, 2018 | 5:00 - 7:30 p.m., Bluebonnet Diner, Northampton, MA | Cost \$30

Get ready to welcome spring! Meet and network with tree wardens, tree companies, and utility arborists from around the region at the quarterly gathering of the Western Mass. chapter.

### How Does Climate Impact Trees?

**Rick Harper**, Ext. Asst. Professor, UMass-Amherst—How will recent weather occurrences and longer-term trends impact tree health? In this session, we will discuss important stress factors that can influence the condition of our urban trees, as well as some management strategies.

### Western Mass's Changing Climate

**Alex Bryan**, Climatologist, U.S. Geological Survey—From false springs to freezing roots, invasives to ice storms, and windthrow to wildfires, climate change poses many risks to urban tree canopies. But first, how is the climate changing in Western Mass and how do we know?

MCA and ISA credits have been requested. For more information, call

781-894-4759 • [Sign up online!](#) For information on both programs, go to [www.masstreewardens.org](http://www.masstreewardens.org).

## Southeastern Mass Tree Wardens & Arborists Dinner Meeting

March 14, 2018 | 6:00 - 8:30 p.m.

Boston Tavern, Middleboro

The spring meeting will feature guest speaker Ed Carpenter of North American Training Solutions, speaking on Emergency Rescue and High-Angle Rescue. CEUs will be available. [Find out More](#)

## UMass Community Tree Conference – NEW DATE & LOCATION

March 5, 2018 | Campus Center, UMass-Amherst

This one-day conference is designed for tree care professionals, volunteers, and enthusiasts including arborists, tree wardens/municipal tree care specialists, foresters, landscape architects, and shade tree committee members. For more information and to register, go to [UMass Extension](#).

## New Tool Helps Cities Use Trees for Stormwater Management

By **F. Alan Shirk**

Communities wrestling with critical stormwater management issues have a new tool to help local decision makers throughout the U.S. integrate trees into facility design regulations and policies for new and retro-fitted installations.

[TreesAndStormwater.org](#) developed by the Ohio Kentucky Indiana Regional Council of Governments ([OKI](#)), the [USDA Forest Service](#), and other national partners, was created specifically to help overcome the widespread lack of understanding, acceptance, and credibility of using trees for green infrastructure to manage stormwater. The site includes a document builder, hundreds of case studies, videos, methods and best practices, benefit calculators, and other tools on how adding trees can boost overall system performance, often at lower costs.

Read the full story at [sustainablecitynetwork.com](http://sustainablecitynetwork.com).

## More Resources on Stormwater

The [Municipal Online Stormwater Training Center](#) (MOST Center) has launched two new video series:

["Public-Private Partnerships: Leveraging the Strengths of Government and the Private Sector"](#) features local government leaders in the Chesapeake Bay watershed who engaged P3s in innovative ways to better manage stormwater and achieve shared community goals.

["Local Leaders: Innovative Approaches to Solve Environmental Challenges"](#) spotlights area experts who have defied long-held assumptions, built relationships with nontraditional partners, and pushed the envelope to achieve better results for their communities.

Watch [here](#) for these videos and more to come.

<http://mostcenter.org>

# Growing on Trees

## From the New England Chapter ISA Arbor Day Grant

This grant awards up to \$1,000 to a municipality, non-profit organization, or institution that demonstrates need to promote and support their Arbor Day celebration. Communities must complete and submit their Arbor Day Grant application by March 31, 2018.

For more information and to apply, go to the Grants and Scholarships page on the New England Chapter ISA [website](#).

## Scholarships

The New England Chapter ISA offers scholarships to students pursuing two-year, four-year, or graduate degrees in arboriculture, urban forestry, and related fields. One scholarship is open to graduating high school seniors and two scholarships are for current undergraduate and graduate students. The deadline to apply is April 1.

For complete information, go to the Grants and Scholarships page on the New England Chapter ISA [website](#).

## From the Massachusetts Tree Wardens' and Foresters' Association

### Announcing the 2018 Arbor Day Seedling Program

The [2018 order form](#) is now available!

The MTWFA sells seedlings to fund its scholarship program and to promote Arbor Day and tree planting. Seedling purchasers include municipalities, garden clubs, private firms, arborists, and other interested individuals and organizations.

Seedling proceeds support [annual scholarships](#) for college arboriculture students.

Order deadline: **April 15, 2018.**

Find out more at <http://masstreewardens.org/arbor-day-seedling-program/>



## Natural Resources Conservation Service Conservation District Seedling Sales



Seedlings are also available from local conservation districts. Contact your [local NRCS office](#) to find out if there is a seedling in your district.

Districts with known seedlings sales:

[Berkshire Conservation District](#)

[Bristol County](#)

[Middlesex Conservation District](#)

[Worcester County Conservation District](#)

## National Wildfire Community Preparedness Day Coming in May

The global nonprofit National Fire Protection Agency (NFPA) and State Farm Insurance Company are sponsoring the fifth National Wildfire Community Preparedness Day on May 5, 2018.

Participants will help raise wildfire awareness, promote collaboration, and bring neighbors together to work on projects that can help protect homes, neighborhoods, and entire communities from future wildfire risk or current post-fire impacts. Learn more, access resources, or apply for a \$500 award for your project by March 2, or put your project on a national map, at [NFPA's web site](#).





# Gleanings

## About My Woods App

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

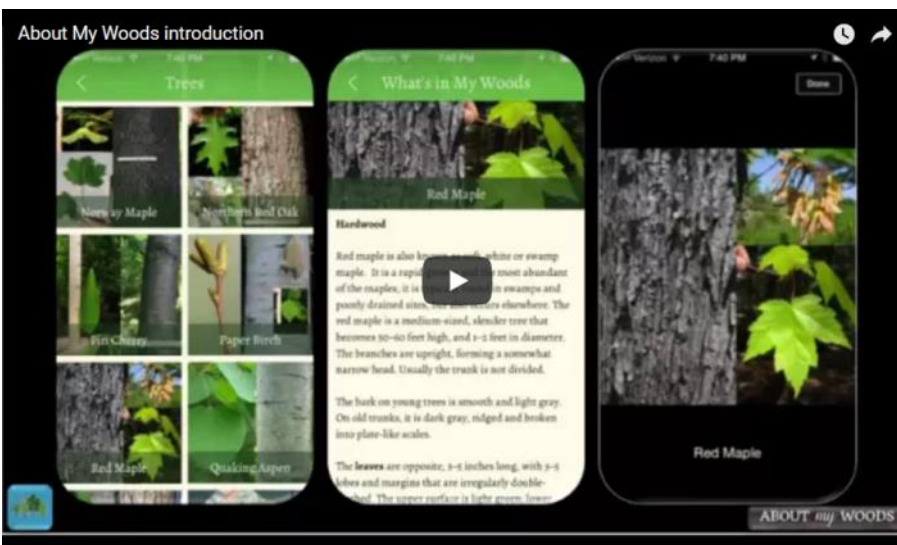
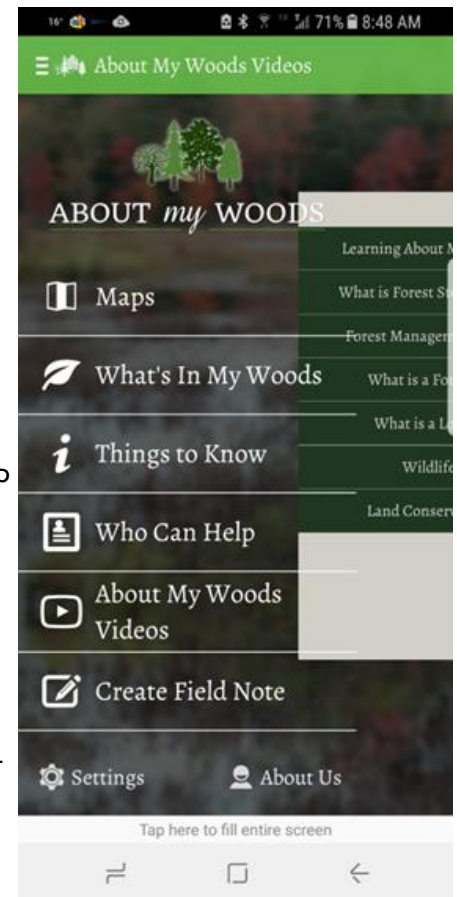
Available for both Android and Apple smartphones and tablets, you can access the app by going to the App Store (Apple) or Play Store (Android) and simply typing “About My Woods” in the search bar. You can also go to [www.aboutmywoods.org](http://www.aboutmywoods.org) and see the app instructional video to learn how to use *About My Woods*. A link to a web version also can be found there.

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

This past year, seven brand new forest stewardship videos were produced specifically for *About My Woods*. We know you will enjoy them – and learn a lot, to boot!

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

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



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

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

Watch a [video](#) about the app!



# News

## Ash Tree Data Puts Newburyport Ahead of the Game

By Richard K. Lodge

February 20, 2018 — The state's forest pest outreach coordinator said Thursday the city is well-positioned to monitor scores of street trees for the invasive emerald ash borer, thanks to the database created by a Newburyport man. Javier Marin, who works for the Massachusetts Department of Agricultural Resources, met with members of the Newburyport Tree Commission and Wayne Amaral, Deputy Director of the Department of Public Services, to talk about the invasive beetle. In the meeting, Marin, the outreach coordinator, offered to set up a training session this spring for anyone interested in learning how to monitor ash trees for the presence of the pest. Marin credited Jeffrey Esche, who runs the nonprofit Northeast Urban Forest Advocacy in Newburyport, who has identified 138 white, green, or black ash trees on public streets, parks, or cemeteries in Newburyport; 27 on other government property; and, 24 on private land. Esche has photographed, measured, and made a visual assessment of all the trees, assigning a condition rating to each. In a summary, Esche wrote that "Newburyport's ash population is in 'good' condition with much of the population not having reached a half lifespan, yet with a substantial 'veteran' population." Read the full story at [newburyportnews.com](http://newburyportnews.com).

## New England Grows to Dissolve After 25 Years

February 12, 2018— After 25 years, the award-winning horticultural tradeshow New England GROWS is discontinuing operation. The GROWS board of directors, representing the four founding partner organizations, made the unanimous decision to dissolve and disband both the GROWS event and the organization. "The decision to dissolve New England GROWS was difficult, but we all believe it is the right decision at the right time," said GROWS President Michelle Harvey of Lakeview Nurseries in Lunenburg, MA. "Changes both within and outside of the industry contributed to the decision to close GROWS, but this does not diminish the significant and positive contributions GROWS has made to the local green industry over the past 25 years." Read the full release at [newenglandgrows.org](http://newenglandgrows.org).

## Plymouth Pitch Pine on the Menu of Voracious Southern Beetle

By Frank Mand

February 18, 2018 - Wellfleet – They weren't supposed to be here, ever. The name, after all, is the southern pine beetle. That's what the Department of Conservation and Recreation's Forest Health Program Director Ken Gooch told the Old Colony this week, speaking from an airport in Phoenix, Arizona. Gooch is often at the airport or in the air. In his job as Forest Health Director, he spends a great deal of time flying across Massachusetts, looking down. It's his observations from above that tell us how bad the moth infestations have been, and his flights that often give us the first intimations of troubles to come.

So Gooch and others have seen limited numbers of these destructive insects working their way north for several years - seen them from the air and in traps - but, until recently, weren't overly concerned. "Even if they make it here," Gooch said Thursday, speaking of what he and other experts refer to as "SPB" with a trace of exasperation in his voice, "they aren't supposed to survive."

They need several generations in a year to build their numbers to the point where they can overwhelm the defenses of the conifers they infest. Winter was our best defense, Gooch explained, the cold killing them off before they could survive for several generations and reach critical mass. That's still our best chance.

"Our hope is that we get real winters, that climate keeps it in check," Gooch said. But traps are showing more and more locations where SPB is found, and with each month setting another record for average temperatures, it now seems inevitable that our traditional defenses will fail. Read the full story at the [Wicked Local Plymouth](http://WickedLocalPlymouth.com).

## News Headlines in Brief

[Coastal Cities: Hazard Mitigation, Recovery Plans](#)

[First New Species of Temperate Conifer Tree Discovered in More Than a Decade](#)

[North Country Researchers Seeking to Produce 'Sweeter' Maple Trees](#)

[Tree Rings Reveal Increased Fire Risk for Southwestern U.S.](#)

[A Closer Look at the Tallest Trees in the World](#)  
[SUNY ESF Professor Researches Benefits of Planting More Trees in Cities](#)

THE CITIZEN FORESTER

# On the Horizon

- Mar 5** **NEW DATE!** UMass Community Tree Conference, Amherst [www.umassgreeninfo.org](http://www.umassgreeninfo.org)
- Mar 7-8** Ecological Landscape Alliance, Conference and Eco-Marketplace, Amherst, [www.ecolandscaping.org](http://www.ecolandscaping.org)
- Mar 13** Western Mass. Tree Wardens Meeting, Northampton, Topic: Trees and Climate Change, [www.masstreewardens.org](http://www.masstreewardens.org)
- Mar 14** [Urban Forest Connections Webcast](#), 1:00 p.m. (Eastern)
- Mar 14** [Forestry and Natural Resources Webinar](#), 1:00 p.m. (Eastern)
- Mar 14** [Southeastern Mass. Tree Wardens and Arborists Assoc. Dinner Meeting](#), Middleboro, [www.masstreewardens.org](http://www.masstreewardens.org)
- Mar 15** **Deadline for DCR Arbor Day Poster Contest**
- Mar 15** Urban Forestry Today Webcast, 12:00 p.m. (Eastern), [www.joinwebinar.com](http://www.joinwebinar.com); code: **206-666-939**
- Mar 20** TCIA: Cert. Tree Care Safety Professional Workshop, Windsor, CT, [www.tcia.org](http://www.tcia.org)
- Mar 21** Ecological Landscape Alliance Webinar, 7:00 p.m., [www.ecolandscaping.org](http://www.ecolandscaping.org)
- Mar 24** Mass. Land Conservation Conference, Worcester, [www.massland.org/conference](http://www.massland.org/conference)
- Mar 27** Safety Saves and Dinner Meeting, Mass. Arborists Assoc., Wellesley and Framingham, [www.massarbor.org](http://www.massarbor.org)
- Mar 28** Webinar: Planning and Timing – EAB, 1:00 p.m. (Eastern), [www.forestrywebinars.net](http://www.forestrywebinars.net)
- Mar 28** [Fall River Urban Forestry Workshop](#)
- Mar 29** Sustainable Landscape Management Education Day, UMass Extension, Wareham, [www.umassgreeninfo.org](http://www.umassgreeninfo.org)
- Apr 7** MCA Exam, Mass. Arborists Assoc., Wellesley, [www.massarbor.org](http://www.massarbor.org)
- Apr 27** Arbor Day in Massachusetts
- Apr 28** DCR Park Serve Day. Pick a Park. Give a Day. Make a Difference. <https://www.mass.gov/service-details/park-serve-day>
- May 2** TREE Fund Webinar, 2:00 p.m. (Eastern), [www.treefund.org](http://www.treefund.org)
- May 5** [National Wildfire Community Preparedness Day](#)
- May 16** Landscape Pests and Problems Walkabout- Diseases and Weeds, UMass Extension, Westfield, [www.umassgreeninfo.org](http://www.umassgreeninfo.org)
- Jun 2** ISA Certification Exam, (Registration deadline: May 16), Dighton, [www.newenglandisa.org](http://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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