



Massachusetts Department of Conservation and Recreation

# THE CITIZEN FORESTER

Urban & Community Forestry Program

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## Community Tree Nurseries

### Starting and Operating a Town Nursery

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**H**ow can we increase the number and diversity of trees being planted in public spaces around our city? This question is one that Greenfield Tree Committee members pondered in the late 2010s, as their tree inventory found that the number of public trees were dramatically declining due to factors such as age and disease. The answer, they decided, was to start their own community tree nursery!

After research and planning in 2019, the group established the community tree nursery in 2020. Greenfield Tree Committee documented their process in their [Nursery Toolkit](#) which was funded by a grant from the USDA Forest Service and the Massachusetts Department of Conservation and Recreation Urban and

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dcr  
Massachusetts



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Community Forestry Program in 2024-2025. The [Nursery Toolkit](#) captures lessons learned and details the complete story of starting and operating a community tree nursery.

Greenfield, MA is a small city in the Connecticut River Valley and, like many other municipalities across the Commonwealth, the city struggles with budget constraints and staffing for their forestry department. Greenfield Tree Committee (GTC), a non-profit volunteer organization, has served an important role in



increasing and maintaining a level of public tree planting and maintenance that had been absent for years in Greenfield. However, a daunting challenge for the small group has been to source affordable trees of diverse species, that could help to improve climate resilience and wildlife habitat.

In 2020, with funds from a U.S. Forest Service Landscape Scale Restoration Grant available to them, GTC made the decision to start their own nursery. The group defined the following goals for their new nursery:

- To provide low- to no-cost trees to the city for planting in public spaces – decreasing or eliminating the need for purchasing from an outside nursery
- To be able to control quality and availability of trees
- To be able to experiment with less commonly available trees

The capacity of the nursery was anticipated to be about 250 trees growing in grow bags above ground, with the goal of producing about 75 trees per year.

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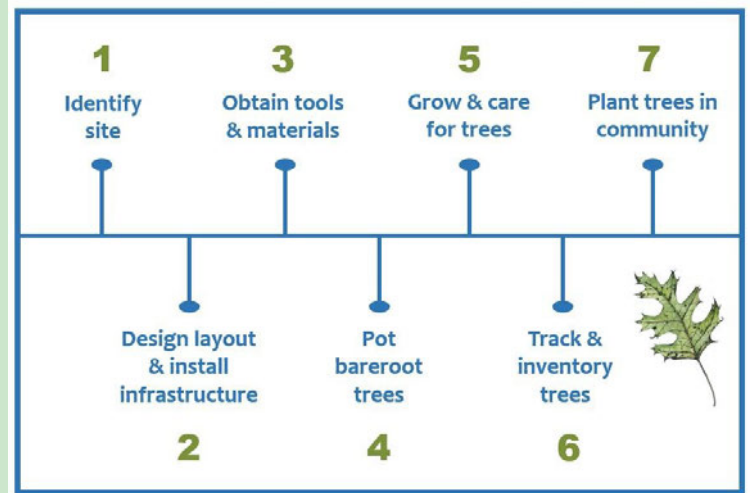
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Although the evolution of GTC's tree nursery has not been without its bumps and challenges, the group shares the following steps they took - and other towns can take - to start their own nursery:

**Step 1: Identify Site.** Identifying a site on which to situate the nursery was perhaps the most important decision GTC had to make. Although GTC is not an official city organization, the city was willing to allow the group to operate on a vacant city-owned site. This is a good option for other communities because this should offer a low- or no-cost avenue to gaining access to land.

Elements of a good tree nursery site include 1) land that is relatively flat and well-drained, 2) land that is cleared and located in full sun, 3) a water source that is nearby and available for use, and 4) land that is available at low or no cost. The site GTC chose is located on the Just Roots Community Farm and checks all these boxes.

### Steps to Start Up and Operate a Tree Nursery



**Step 2: Design Layout and Install Infrastructure.** Once GTC secured their 1/5-acre site, they planned the layout, including four sections for trees, a shed for storage, and room for vehicles to access the area inside the fence.

Along with protecting the site with a high fence, one of the most immediate needs was to connect to the nearby well pump house to bring water to the site. This was done by running a water line to a hose bib GTC installed in the nursery and then connecting the irrigation system and timer to the hose bib.

The nursery is laid out with five trees per row (spaced about 3' apart) allowing for easy access to

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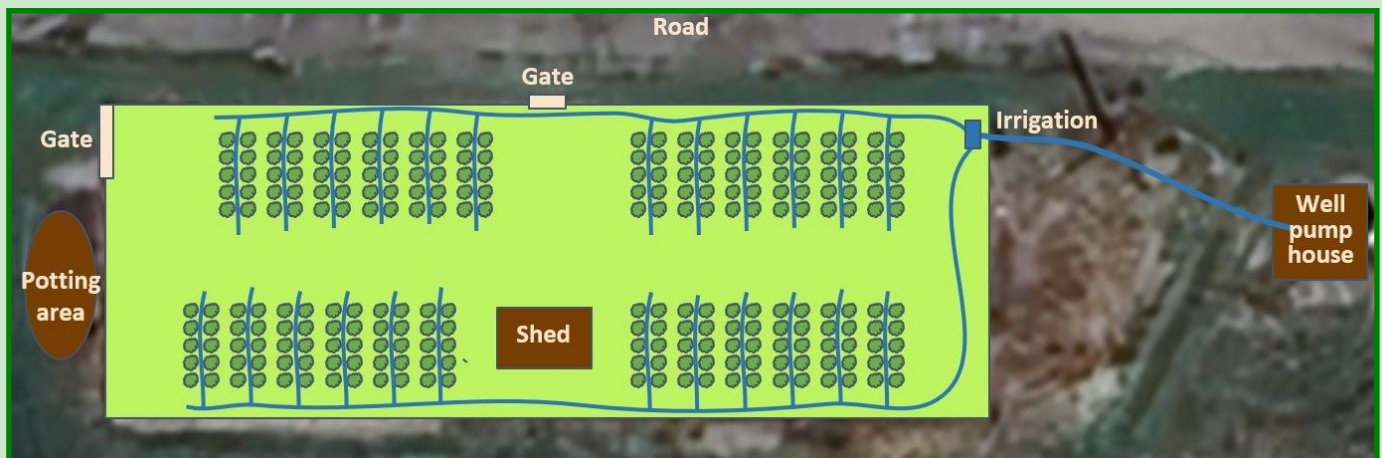
trees and for the ability to shut down individual irrigation lines as trees leave the nursery.

### Step 3: Obtain Tools and Materials.

Greenfield Tree Committee's nursery started out with the bare minimum of tools. The group has slowly added tools as they've needed them. Some tools include 1) implements for pruning such as loppers and pruners,

and works well for above-ground growing. The potting medium provides a nutrient-rich environment in which tree roots – and mycorrhizae – thrive.

In the first few years of nursery production, GTC was able to order tree whips through a local tree nursery that was generous enough to add GTC's orders to their own orders, eliminating the need for GTC to have to meet large minimums



2) materials for growing such as grow bags, potting medium, fertilizer, and bamboo stakes, 3) a toolbox for repairs, and 4) materials for planting trees in our community such as hardwood stakes, arbor lock, and water bags.

The potting medium used by GTC is comprised of three parts well aged wood chips and one part compost,

and to pay significant shipping costs. In 2025 GTC was able to meet the higher minimum order requirements and ordered from a grower out of the Pacific Northwest. Taking this step enabled GTC to have access to a wider selection of tree species and cultivars.

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GTC's bareroot trees are about six to eight feet tall with moderate branching. Starting with relatively larger tree whips means less time trees spend in the nursery (2 to 3 years), less labor going into



maintaining the trees, and less opportunity for trees to die while in the nursery.

#### **Step 4: Pot Bareroot Trees.**

Receiving and potting up the bareroot trees is one of GTC's biggest events of the year. They typically have

a crew of twelve to fifteen volunteers working on a variety of tasks – assembly-line style.

Because the nursery does not have cold storage and because the site is exposed and windy, GTC has to act quickly when the trees are delivered to get them potted, staked, and attached to irrigation. Here are the steps GTC follows for successful bareroot tree planting:

**RECEIVING TREES:** Bareroot trees are received in late March to early April and the roots are kept moist until potting.

**MIXING POTTING MEDIUM:** Three parts wood chips are mixed with one part compost for the potting medium. The materials are sourced within a few miles of the nursery.

**HYDRATING ROOTS:** Roots dry out quickly especially in the sun, so they are kept hydrated while awaiting potting.

**POTTING TREES:** Bareroot trees are placed in grow bags and potting medium is tamped down around the roots and watered.

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**FINISHING TREES:** Newly potted bareroot trees are labeled, staked, and lined out in the nursery where irrigation is attached.

### Step 5: Grow and Care for Trees.

For GTC's nursery to be maintained adequately, a minimum of two work crews a month (three to four people for an hour or two each time) is typically needed. Additionally, volunteers perform inspections of the irrigation system when it is scheduled to run, to make sure the timer is functioning correctly, and to check for leaks and other issues. Irrigation failures can have devastating impacts



on nursery trees – setting back their growth or even causing mortality.

### Step 6: Track and Inventory Trees.

Greenfield Tree Committee maintains an [ArcGIS-based inventory](#) of trees planted in public spaces in the more populated areas of Greenfield. The inventory is regularly updated as more trees are planted. In the coming years, a complete re-inventory of trees will be conducted to determine how well trees are growing and how many trees have been removed.

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For their nursery inventory, GTC currently uses Google Sheets to keep an up-to-date list of available trees and to note their readiness for planting. GTC may integrate their nursery inventory with their GIS inventory in the coming years.

**Step 7: Plant Trees in the Community.** Greenfield Tree Committee responds to resident requests for trees. They plant trees at no cost in tree belts and in front yards (within about 20 from the street or sidewalk). In order to receive a tree, a resident must commit to watering the tree twice weekly through autumn.

GTC also hosts one or two neighborhood tree planting events a year. Once GTC identifies a neighborhood to plant in, they work with community members to help canvass that area to find volunteers and gain support for the tree planting.

To maximize the benefits provided by trees, GTC plants shade trees where there are no overhead utilities or PV panels present. GTC will plant small stature trees where there are overhead utilities or where the planting space will not otherwise accommodate a large shade tree.

What else does it take to start and operate a small scale tree nursery? GTC's successful operation includes the following essential elements:

- 1) Administration and oversight including recruiting and scheduling volunteers, maintaining an inventory, and ordering supplies.



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- 2) Fundraising for ongoing costs such as the purchase of tree whips and supplies.
- 3) Receiving technical support (asking for help) on elements of growing such as fertilizing, staking and pruning for optimal growth.

The initial start-up costs for GTC's nursery were about \$25,000, and the annual costs for tree whips, supplies, insurance and the land lease are about \$7,500. GTC's nursery depends upon a strong and dedicated group of volunteers, and a vision for a greener, more robust public tree canopy in Greenfield.

Thinking about starting a nursery in your community? Learn more by reading Greenfield Tree Committee's Nursery Toolkit at [www.greenfieldtreecommittee.org/resources](http://www.greenfieldtreecommittee.org/resources).

**Guest Author:** *Mary Chicoine,  
Greenfield Tree Committee*

#### References:

[www.greenfieldtreecommittee.org/resources](http://www.greenfieldtreecommittee.org/resources)

<https://www.fs.usda.gov/managing-land/private-land/landscape-scale-restoration>

<https://www.mass.gov/guides/urban-and-community-forestry-challenge-grants>





# Forester Focus

A deeper look into today's Urban Forestry topics



## Arbor Day Poster Contest

### *The Annual Student Award Program*

This year saw another round of terrific submissions to the Arbor Day Poster Contest! Students from across the state worked diligently on their art projects, centered on this year's theme, "Trees Around the World."

Prizes were awarded for first place in each grade, with one also selected as the grand prize contest winner.

- Claire J. of Forestdale School in Malden won Overall Contest 1st Place and 1st Place for 5th graders
- Brinley M. of Petersham Center School in Petersham won 1st Place for 4th graders
- Sterling A. of Mullein Hill Christian Academy in Lakeville won 1st Place for 3rd graders

The annual Arbor Day Poster Contest is sponsored by the Department of Conservation and Recreation, the U.S. Forest Service, and the Massachusetts Tree Wardens' and Foresters' Association.



DCR Urban and Community Forestry Coordinator Julie Coop with the Forestdale School in Malden

The goal of the program is to increase students' understanding of their relationship with the urban forest and the trees around them. DCR and our partner educators see this as an important step toward student appreciation of trees and of the environmental benefits they provide to our communities.

Help spread the word about this program to the schools in your community! This is a great opportunity to engage our youth around the importance of their natural environment. The children of today will be the tree planters of tomorrow, continuing to pass on the gift of trees to future generations.

### **Poster Contest Rules:**

- All entries must be the original artwork created by a student who is currently in the 3rd, 4th or 5th grade. A student may enter the contest only once.
- The poster must be related to the contest theme in some way. The current theme must be on the poster. All words must be spelled correctly and be written clearly.
- Entries must be no smaller than 8.5 x 11" and no larger than 14 x 18."
- Entries must be done on paper that will allow for duplication, display, and framing.



Submit your school's entry to DCR's Urban and Community Forestry Coordinator, Julie Coop, as described on the "School Winner Report Form" on page six of the application.

For more information, visit:

<https://www.mass.gov/guides/annual-arbor-day-poster-contest>

*Photos: DCR*



# CLIMATE RESILIENCY

## Asian Longhorned Beetle Eradicated in Holden

*Milestone was Achieved Through a Partnership Between DCR, MDAR, and USDA*

**Holden** - The Massachusetts Department of Conservation and Recreation (DCR), Department of Agricultural Resources (MDAR) and the United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) announced that effective immediately, the Town of Holden will be the first community removed from Worcester County's Asian Longhorned Beetle (ALB) quarantine zone. This follows years of efforts to control the harmful invasive species. ALB was previously eradicated from the City of Boston in 2014.

"The Asian Longhorned Beetle is a highly destructive invasive species that threatens the health and future of our native trees in communities across Massachusetts," said former **DCR Commissioner Brian Arrigo**. "Eradicating ALB in Holden is a major victory that was achieved through years of dedicated collaboration between DCR, MDAR, and USDA. This milestone not only protects local forests and neighborhoods but also marks a significant step toward eliminating ALB from Massachusetts."

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“This is a huge accomplishment for the town of Holden. We will need people who live in and around ALB infestations in Massachusetts to continue to help look for and report the damage the beetle causes to trees,” said **APHIS’ National Operations Manager for the Asian Longhorned Beetle Eradication Program Josie Ryan**. “By looking at your trees and reporting any suspicious tree damage, you can help us find the beetle sooner and eliminate it quicker.”

The City of Worcester and surrounding areas in Holden, Boylston, Shrewsbury, and West Boylston were first put under ALB quarantine in 2008. Holden is the first community in this area to be removed from the quarantine zone, after surveys confirmed that ALB was not detected. DCR is continuing efforts to eradicate the ALB population in the remaining Worcester area communities within the quarantine zone.



“MDAR congratulates the ALB Cooperative Eradication Program in this important step towards eliminating Asian Longhorned Beetle from the Commonwealth,” said **MDAR Commissioner Ashley Randle**. “Given the threat that ALB poses to maple and other hardwood trees, it is critical that we protect the state’s natural resources, including the maple sugaring industry, from the impact that would be felt should this pest be allowed to spread.”

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Originally discovered in the United States in 1996 in New York, the first infestation of ALB in Massachusetts was found in 2008 by a homeowner in Worcester. ALB is hazardous to many hardwood trees, particularly maples. Trees are unable to heal from the damage caused by ALB exposure and can become hazardous during extreme weather events due to their increased likelihood of falling or losing branches. To prevent further spread of the insect, quarantines were established to avoid transporting infested trees and branches from the area. Early detection of infestations and rapid treatment response are crucial to successful eradication of ALB. If left untreated, ALB has the potential to cause more damage than Dutch elm disease, chestnut blight and spongy moths combined, potentially destroying millions of acres of treasured hardwoods in backyards and forests.

Residents living in the 97.7 square mile regulated area of Worcester County are urged to undertake the following precautions to prevent further spread of ALB:

- Check your trees for the beetle and the damage it causes and report any suspicions.
- Allow program officials access to inspect and remove any infested trees.
- Before hiring tree companies, confirm they have an ALB compliance agreement.
- Contact the ALB Eradication program or your local municipality to learn how to dispose of or move yard waste.
- Contact the program if you have any tree materials that might have ALB.
- Buy or gather firewood where you will burn it or use certified heat-treated firewood.

For more information about the beetle and program activities, please call the ALB toll-free hotline at 1-866-702-9938 or visit:

[www.mass.gov/guides/asian-longhorned-beetle-in-massachusetts](http://www.mass.gov/guides/asian-longhorned-beetle-in-massachusetts)

## Species Spotlight

### Japanese Zelkova, *Zelkova serrata*

**A** member of the elm family, Japanese zelkova (*Zelkova serrata*) is native to Japan, Korea, China, and Taiwan, where it grows in mixed woodlands, often on the southeastern side of mountains. It is a favored food for wildlife. Outside of its native range, Japanese zelkova is a popular landscape tree and is known for being a tough tree for urban settings.

It was introduced to the United States in 1862 and is often a tree urban foresters



and managers select as a substitute for American elm. (Japanese zelkova is still susceptible to Dutch elm disease, but less so than the American elm.)

Japanese zelkova is hardy to Zone Five, and we see it planted throughout Massachusetts. It is a medium-sized tree, reaching heights of 50 to 70 feet, with a spread of 50 to 60 feet. Vase-

shaped when young, the crown matures into a rounded form.



The leaves, dark green in color, are one-and-a-quarter to three inches long, alternate, simple, and elliptical, with crenate or serrate margins. In the fall, the leaves change and may be yellow, russet, purple, or shades in between.

The flowers of Japanese zelkova are monoecious and bloom in April, before the leaves. They are small and not



showy or ornamentally important. The fruit is a drupe that matures in late summer. The twigs zigzag and are

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# Species Spotlight—Continued

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reddish brown and slender. The buds are conical, pointy, and diverge greatly from the stem.

The bark of Japanese zelkova is gray, with prominent lenticels when young, but as the



tree matures, the gray exfoliates into reddish patches.

When planting Japanese zelkova, select a site with lots of sun and well-drained, moist, fertile soil.

It is adaptable to a range of pH. Once established, Japanese zelkova is tolerant of pollution and drought. Japanese zelkova makes an ideal specimen tree for parks and lawns and can also be used as a street tree.

In Japan and Korea, the largest zelkovas are found in communities, around temples. In Asia, Japanese zelkova is an important timber tree due to its strength and hardness, as well as its



ornamental characteristics that have lead sculptors and artists to favor the wood. The wood, with properties similar to teak and white oak, has myriad uses, from building and maintaining temples



in Asia, to fine furniture, to carvings and woodwork, to shipbuilding. Here, in the U.S., we utilize Japanese zelkova as a street tree where it is a tough, yet stately, member of the urban forest.

Photos:

DCR, [Virginia Tech](#) & [UConn Plant Database](#)



**TREE CITY USA®**

# Tree City USA Event in Malden



**TREE  
CAMPUS**  
HIGHER EDUCATION

An Arbor Day Foundation Program

This June, DCR Urban & Community Forestry Program celebrated the 2024 Tree City, Tree Line, and Tree Campus USA award winners, in Malden, MA. The event was graciously hosted at Malden High School.

Representatives from over 30 communities and universities were in attendance to receive their awards,

with an overall total of 86 cities and town who achieved their Tree City USA (TCUSA) certification for this past calendar year.

Attendees participated in educational workshops for continuing education credits. Presenters for the day were: Mayor Gary Christenson and Tree Warden Chris Rosa from the City of Malden, Emily Boss, Greenfield Tree

Committee, *"Tree Nursery Toolkit"* and Dave Celino, DCR Fire Chief, *"Preparing for the Worst."*

In 2024, Massachusetts Tree City USA communities invested \$36.6 million in 86 towns and cities representing 3.2 million people with over 16,000 hours of volunteer time.

Talk to your community about TCUSA today!



City of Malden hosting the Tree City USA event for DCR.



An Arbor Day Foundation Program

For more information, visit:

<https://www.mass.gov/guides/programs-in-partnership-with-the-arbor-day-foundation>



## 2024 Tree City USA Summary

# Massachusetts

**42**

Longest recognized community

**16,276**

Trees planted

**\$10**

spent per capita

**16**

Growth Awards

**26**

Longest Growth Award

**9**

Tree Campus Higher Education Campuses

**2**

Tree Line USA Utilities

**86**

Tree City USA communities

**51%**

of state living in a Tree City USA

**16,535**

Volunteer hours

**\$36,643,081**

Total spent on community forestry





# GGCP Continues to Achieve

**Fitchburg** — This June, the Greening the Gateway Cities Program (GGCP) in Fitchburg planted the 1,000th tree at a ceremony in Monument Park. DCR foresters Larissa Parse and Josh Soojian were joined by Fitchburg Rec. Director, James Bunnell, Historical Commission members and Parks Board members.

In addition to the celebration, Larissa Parse was awarded a special recognition certificate from the City of Fitchburg for her work and dedication to the tree planting efforts in the City. Congratulations to Larissa and the DCR team!



1,000 trees celebrated in Fitchburg with DCR and City staff and residents

Elsewhere in the state, DCR crews kept up the pace with 2,642 trees planted over the course of the spring season. With nine crews active in 20 Gateway Cities, DCR continues to provide the benefits of increased tree canopy to communities in need!



DCR Forester Larissa Parse and Fitchburg Rec Director Jim Bunnell



DCR Worcester crew improving the city



## News and Stories from the Northeast Region

The [Forest Service Urban & Community Forestry Program](#) provides *Urban Tree News in the Northeast*, a collection of articles published in the media that have relevance to urban forestry in the Northeast.

[How a "cool block" in one Massachusetts city could provide a template for combatting extreme heat](#)

[Tree honoring USS Massachusetts rededicated](#)

[Are Bradford pear trees banned in Massachusetts? Why they stink, literally.](#)

[Cultural burning by Indigenous peoples increased oak in forests near settlements](#)

[HERO students find common ground in researching outcomes of urban tree-planting program](#)

[DCR firefighters honored in Saugus](#)

[Forest Service to Abandon Nine Regional Offices](#)

[Tracking a New Forest Pathogen Killing Beech Trees](#)



# On The Horizon

September 4 to December 4	<b>Event:</b> MTWFA—Massachusetts Qualified Tree Warden (MQTW) Training. <a href="https://www.masstreewardens.org/mqtw-course/">https://www.masstreewardens.org/mqtw-course/</a>
September 30	<b>Event:</b> Understanding Woody Plants, Berkshire Botanical Garden—Stockbridge, MA <a href="https://newenglandisa.org/events/understanding-woody-plants">https://newenglandisa.org/events/understanding-woody-plants</a>
October 5 – 7	<b>Event:</b> New England ISA Annual Conference <a href="https://newenglandisa.org/events/2025-annual-conference-trade-show">https://newenglandisa.org/events/2025-annual-conference-trade-show</a>
October 15	<b>Webinar:</b> TREE Fund — Policy Strategies to Value and Retain Mature Urban Trees on Private Lands <a href="https://treefund.org/webinars">https://treefund.org/webinars</a>
November 17	<b>Event:</b> Urban & Community Forestry Society Conference—Hendersonville, NV <a href="https://ucfsociety.org/annual-conference/">https://ucfsociety.org/annual-conference/</a>
November 19–20	<b>Event:</b> Partners in Community Forestry Conference—Hendersonville, NV <a href="https://www.arboday.org/conferences-events/pcf">https://www.arboday.org/conferences-events/pcf</a>
	<b>Newsletter:</b> City Trees — a free bimonthly publication for anyone interested in urban and community forestry at any level. <a href="https://ucfsociety.org/city-trees/">https://ucfsociety.org/city-trees/</a>
	<b>Podcast:</b> This Old Tree — <i>Heritage trees and the human stories behind them.</i> Old trees are awe inspiring links to the past that fire our historical imagination. <a href="https://www.thisoldtree.show/">https://www.thisoldtree.show/</a>



## Tree Tip:

Make sure to water your trees!

How often you should water will depend on the size of your tree, soil conditions, and weather conditions. Newly planted trees require much more water than established ones. Here are some tree tips from the Arbor Day Foundation:

[www.arborday.org/perspectives/how-properly-water-your-trees](http://www.arborday.org/perspectives/how-properly-water-your-trees)



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