THE SHADE TREE

A BI-MONTHLY BULLETIN DEVOTED TO NEW JERSEY'S SHADE TREES

Volume 96 — January - February 2023 – Issue 1 & 2

This Issue Presents…

FISHER ASKS FOR HELP WITH SLF BATTLE

The New Jersey Farmer, December 1, 2022

NJDA encouraging residents to destroy spotted lanternfly egg masses.

New Jersey Department of Agriculture Secretary Douglas Fisher is encouraging New Jersey residents to help take part in eliminating spotted lanternfly egg masses.

While the adult spotted lanternflies cannot survive the freezing temperature, they do lay egg masses that survive the winter and then hatch in late April or early May.

"The more of these egg masses that can be destroyed now and before spring, the less of these nuisance pests there will be next year," Fisher said.

Spotted lanternfly egg masses hold between 30-50 eggs of the invasive species. One sign to look for to see where spotted lanternfly has been is a black sooty mold on a tree. The spotted lanternfly prefers the Tree of Heaven, which is common in New Jersey.

The egg masses can be found on almost any kind of surface, including on vehicles, park benches, steps or outdoor stairways, or on the sides of buildings.

The egg masses can be scraped with a credit card (or something similar).

It is important to press against the egg mass and hear the eggs popping as they are being scraped. The popping sound signifies the eggs are being destroyed.

Scraping cards are available at the Rutgers Extension office in each county.

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BULLETIN OF THE NEW JERSEY SHADE TREE FEDERATION
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Since Oct.1, 2021, NJDA and USDA staff have scraped nearly 340,000 egg masses and treated almost 20,000 acres.

While the Spotted Lanternfly is not a threat to humans or animals, it is known to feed on numerous types of vegetation.

The Spotted Lanternfly is native to Asia, but arrived in the U.S. in Berks County, PA, on a shipment in 2014.

The species has been advancing ever since. Due to the insect's excellent hitchhiking ability, there are now 14 states that have confirmed populations.

For homeowner and business resources, and other information about spotted lanternfly go to www.badbug.nj.gov.

CLIMATE CHANGE IS FORCING CITIES TO RETHINK THEIR TREE MIX

By Alex Brown, Stateline.org, December 27, 2022

Cities need to plant more trees. But not just any trees.

As communities prepare for a massive influx of federal funding to support urban forestry, their leaders say the tree canopy that grows to maturity 50 years from now will need to be painted with a different palette than the one that exists today.

"You need a tree that's going to survive the weather of today and the climate of the future," said Pete Smith, urban forestry program manager with the Arbor Day Foundation, a Nebraska-based nonprofit that supports tree planting and care.

Forestry experts say trees are critical infrastructure that can help cities withstand the effects of climate change by providing shade, absorbing stormwater and filtering air pollution. But to do that, the trees themselves need to be resilient.

"We're developing planting lists that are diverse, that look at tolerance to drought, storm events and flooding, heat, changes to the highs and lows," said Kevin Sayers, urban forestry coordinator with the Michigan Department of

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Natural Resources. “The extremes in the weather are really going to limit us.”

While arborists look for trees that will thrive in the climate conditions they’re likely to face in the coming decades, scientists say they can’t simply count on a handful of climate “winners.” Many cities, for example, have lost vast amounts of their tree canopy because they relied too heavily on one tree type that was later wiped out by a pathogen or pest, such as Dutch elm disease or the emerald ash borer.

“Unless we start diversifying the urban forest, we’re going to end up losing quite a bit of it again,” said John Ball, South Dakota State University Extension forestry specialist and South Dakota Department of Agriculture specialist on forest health.

Ball urges cities not to plant more than 5% of any one genus of tree, but many communities have struggled to reach the diversity goals that he and other forest health experts recommend. Foresters say it takes effort to determine which trees will grow in challenging urban conditions, and nurseries often lack the less common trees they’re looking for.

Amid those challenges, cities and states are preparing to receive $1.5 billion in urban forestry funding approved by Congress earlier this year as part of the Inflation Reduction Act. Forestry leaders say that the newfound support will be transformative, but turning the money into a healthy tree canopy decades from now will be a complicated task.

“The pressure is on, but in a good way,” said Kesha Braunskill, urban forestry coordinator with the Delaware Forest Service. “This is a once-in-a-career opportunity for all of us in urban forestry, and how we use it is going to impact those who are in our positions 50 years from now.”

‘A Little More Picky’

Some cities already are making changes.

Jeremy Harold, green space manager for Harrisonburg, Virginia, said the city once took a “cookie cutter” approach to tree planting, but is now working to broaden its species mix. The city sits in the Shenandoah Valley within the Appalachian Mountain range, but it has added trees such as willow oak and sweetgum from Virginia’s coastal plain region.

“I’m putting them in our inventory now, because as temperatures rise, those trees will be adapted,” Harold said. “We’re looking for species that can tolerate those temperatures and survive.”

In Seattle, many of the city’s bigleaf maples and western red cedars are struggling in urbanized areas. Foresters are now careful to plant them in favorable microclimates, with conditions such as good soil moisture and north-facing slopes

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that remain cooler.

"We're being a little more picky about where we put them on the landscape," said Michael Yadrick Jr., plant ecologist with Seattle Parks and Recreation.

Meanwhile, the city is planting more Pacific madrone and Garry oaks that tolerate hotter, drier conditions. And within individual tree species, it's adding trees grown from seeds taken from further south in their range, with the goal of adding resilient genotypes to the mix.

State officials in Texas operate a genetic improvement program that has produced nine "Texas Tested, Texas Tough" tree species that are adapted to handle difficult conditions, including Shumard oaks and bald cypress.

"They've gone through this iterative process for decades and have proven to perform in this harsh environment that is Texas urban areas," said Gretchen Riley, Forest Systems Department head with the Texas A&M Forest Service.

The agency provides seedlings to communities and is working to offer seeds to growers who can produce their own supply. It's also working with six other states in the region to exchange species and genetic lines and test their viability in various conditions.

Scientists at the University of Florida are working to determine which trees best withstand high winds. They're hoping to expand an existing Florida-based classification system by looking at research from hurricane-prone communities worldwide.

"We'd like to see this list used to target wind-resistant species in areas where a tree falling over could damage property or harm people or infrastructure," said Allyson Salisbury, a researcher at the university.

Foresters say their preparations won't result in a complete makeover of the trees they plant. They emphasize that such decisions are an inexact science that could carry unintended consequences.

"People say we should bring species up from Southern locations," said Lydia Scott, director of the Chicago Region Trees Initiative, a partnership of organizations and agencies dedicated to improving the area's urban canopy. "That's fine until we get a two-week cold snap in the winter that kills off all those trees that are not adapte
d to the cold."

A Need for Seed

Above all, experts say that diversity is the best way to ensure that many trees survive the changes that are coming, rather than pinning all their hopes on guesstimates of which trees might thrive. In most communities, the existing tree

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canopy is far from that goal.

"Many cities are dominated by a small number of species or genera," said Mark Ambrose, a research assistant with the North Carolina State University College of Natural Resources. Ambrose, whose position is funded by the U.S. Forest Service, has researched the makeup of the country's existing urban tree canopy.

Elm trees once were among the most prominent trees in America's urban forests. When Dutch elm disease wiped out many of those trees, many cities replanted with ash. Now they're taking down millions of trees that have been ravaged by the emerald ash borer. Today, maples proliferate in cities, and foresters are casting a wary eye toward any threats to those trees.

"You could plant elm and ash anywhere on any soil and grow them," said Ball, the South Dakota forestry specialist. "Now we're done with the easy trees. You better know what your soils are like. You've got to understand the micro-environments in your community and fine-tune your plantings."

Urban forestry leaders say they want to plant a greater diversity of trees, but getting the seedlings they need has proven to be challenging.

"Nurseries have a shortage of the species diversity we're looking for, and that's tough to crack because it's the private sector," said Keith Wood, a contractor with the National Association of State Foresters who staffs the group's committee on urban and community forestry.

Arborists cite a feedback loop wherein nurseries grow only what sells, and cities buy only what's available. Some have gotten around that loop by contracting with nurseries in advance to grow the seedlings they'll need in the coming years. The Chicago Region Trees Initiative plants 54 tree species, some of which it pays for over a five-year period as nurseries grow them.

"We're getting the species we want, the sizes we want, the numbers we want, all when we want them," said Scott, the Chicago-area leader.

Some cities are reluctant to contract for trees years in advance, unwilling to take on inflexible cost obligations amid unpredictable budget cycles.

But nurseries need some certainty if they're going to grow less-marketable and harder-to-cultivate species on a large scale, said Nancy Buley, communications director with J. Frank Schmidt & Son Co., a large nursery in Oregon that supplies many urban planting efforts.

"For the cities and nonprofits to get the more unusual trees to meet their species diversity goals," she said, "they're really going to need to contract in some way.

DOGGETT . . . Liquid asset for trees and tree care companies.

The fastest growing segment of the tree care industry is liquid tree fertilization and Doggett is leading the way. The spectacular growth in this field has come from the fact that the fertilizing method that helps trees the most also helps tree care companies the most.

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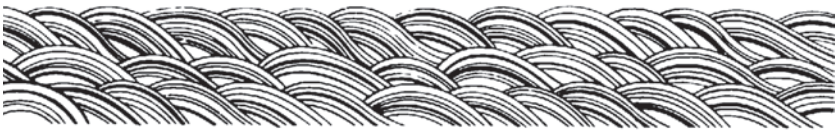

PACIFIC NORTHWEST'S 'FOREST GARDENS' WERE DELIBERATELY PLANTED BY INDIGENOUS PEOPLE

By Andrew Curry, Science.org, April, 22, 2021

Finding suggests humans have added value to forests in lasting ways.

For decades, First Nations people in British Columbia knew their ancestral homes—villages forcibly emptied in the late 1800s—were great places to forage for traditional foods like hazelnuts, crabapples, cranberries, and hawthorn. A new study reveals that isolated patches of fruit trees and berry bushes in the region's hemlock and cedar forests were deliberately planted by Indigenous peoples in and around their settlements more than 150 years ago. It's one of the first times such "forest gardens" have been identified outside the tropics, and it shows that people were capable of changing forests in long-lasting, productive ways.

"It's very creative and sort of unique work," says University of Kansas, Lawrence, plant ecologist Kelly Kindscher, who was not involved in the research. "Many of us know there are historical imprints on the land, but tend to dismiss Native Americans and Aboriginal people globally in terms of their impact."

Because these wild-looking forest gardens don't fit conventional Western notions of agriculture, it took a long time for researchers to recognize them as a human-created landscape at all. Many ecologists argued until recently that such islands of biodiversity, seen also in Central and South America's tropical rainforests, were an accidental and fleeting byproduct of fire, floods, or land clearing. Without constant maintenance, ecologists assumed, the "natural" forest would quickly take over.

To show that the forest gardens were the result of human activity, Simon Fraser University historical ecologist Chelsey Geralda Armstrong first identified village sites near the city of Vancouver, Canada, and two closer to Alaska that local tribes were forced to abandon in the late 1800s.

Counting and identifying the species growing on and around the former settlement sites, she found they harbored a far more diverse mix of plants than the surrounding conifer forests. The plant species also filled a wider range of ecological niches. "It's striking to see how different forest gardens were from the surrounding forest, even after more than a century," says Jesse Miller, a Stanford University biologist and co-author on the study.

Meanwhile, nearby patches of land logged decades ago and left to regrow on their own were covered with just a few species of conifers and didn't have the same colorful, edible catalog of species. "The forest gardens bucked the trend," Armstrong says.

That suggests the forest gardens were not only deliberately cultivated by Indigenous gardeners, but also remained resilient in the face of dominant local flora long after people left the scene, the researchers report today in Ecology and Society.

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PACIFIC NORTHWEST'S 'FOREST GARDENS' WERE DELIBERATELY PLANTED BY INDIGENOUS PEOPLE

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The mix of different species was probably key to their persistence, Miller says: "There's less open niche space, so it's harder for new species to come in."

The forest gardens were filled with plants that benefited humans, but they also continue to provide food for birds, bears, and insect pollinators, even after 150 years of neglect. It's evidence that human impact on the environment can have long-lasting positive effects. "A lot of functional diversity studies have a 'humans are bad for the environment' approach," Armstrong says. "This shows humans have the ability to not just allow biodiversity to flourish, but to be a part of it."

Other researchers say the findings could help boost the case that Indigenous knowledge has an important place in conservation efforts. "Anthropologists and archaeologists have been arguing in favor of this, but there's been a lot of resistance from ecologists over the past 20 years," says Patrick Roberts, an archaeologist at the Max Planck Institute for the Science of Human History who was not involved in the research. This study, he says, is an important piece of evidence showing human modification can add value to ecosystems.

It also helps explain a mystery that puzzled many European anthropologists when they first visited the Pacific Northwest in the late 1800s. Despite the absence of what the Europeans considered "agriculture"—cultivated fields and annual cycles of planting and harvesting—the tribes they encountered were socially complex, with large, sedentary populations and hierarchical societies. "That stumped a lot of anthropologists," who thought Western forms of agriculture were necessary for complex societies, Armstrong says. "Now we know it wasn't just salmon."

WINTER STRESSES ON TREES & SHRUBS

Winter's heavy snow and ice, as well as frozen soil conditions, can damage cherished trees and shrubs in suburban landscapes. Even areas without major snowfall experience high winds and huge fluctuations in temperatures during winter. But homeowners can lessen the adverse effects of winter weather with preventive maintenance.

What can happen in winter, and how you can avoid it

"Branches of trees can break due to the excessive weight of ice or snow," says Tchukki Andersen, staff arborist with the Tree care Industry Association. "Proper pruning encourages the formation of the strongest possible branches and branch attachments. When pruning alone isn't enough, properly installed cables and rigid braces can add support to a weakened part of the tree."

Winter winds cause evergreens to lose moisture from their needles. Even some deciduous trees suffer from winter drying. If water is not available as moisture is drawn from living cells, permanent damage will result. The best prevention consists of planting only hardy species in areas of prolonged exposure, watering

WINTER STRESSES ON TREES & SHRUBS

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plants adequately in the fall and mulching to insulate the soil and roots from severe cold.

On Sunny days in winter, the tree's trunk and main limbs can warm to 15 degrees higher than the air temperature. As soon as the sun's rays stop reaching the stem, its temperature plummets, causing injury or permanent damage to the bark. The two main types of injury are known as sun scald and frost cracking. The effects of sun scald and frost cracking can be reduced by sound arboriculture practices to maintain overall health and also by covering the trunks of young, susceptible trees with a suitable tree wrap.

Winter is a good time to prune

"Most skilled arborists prefer pruning when trees are dormant," says Andersen. "With no leaves on the tree, the arborist is better able to evaluate its architecture and spot dead or diseased branches. In addition, since the ground is frozen damage to the turf underneath the tree due to falling limbs and tire tracks is negligible. This is also a good time to check trees for diseases and other damage."

Here are some other ways the Tree Care Industry Association recommends to improve the health of your living landscape:

- Aeration around trees helps improve water and air movement in the soil. This strengthens the tree's root system and reduces soil compaction.
- When planting, choose hardy trees available in your area as they have better chances for survival in severe weather conditions. Choosing the best location and following proper planting procedures should be your highest priorities.
- Stop fertilizing trees in early fall to allow them to prepare for winter.
- In case of moderate storm damage, restoring the tree to its former health and beauty may take some time, but it generally can make a full recovery. Broken, hazardous limbs should be removed immediately. Pruning to remove broken stubs and restore the balance of the crown can be put off a little while, but shouldn't be delayed more than one growing season.

This information is brought to you by the Tree Care Industry Association.

NJ SHADE TREE FEDERATION OFFICERS AND DIRECTORS FOR 2022 – 2023

Subsequent to The New Jersey Shade Tree Federation's Annual Business Meeting, a formal vote on the election of Officers and Executive Board was concluded in January 2023.

The following are re-elected and new members of the Executive Team.

Officers:

Pam Zipse – President, with the NJ Tree Foundation
Neil Hendrickson – Vice-President, Retired, with Readington Township
Richard Wolowicz, Executive Director

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NJ SHADE TREE FEDERATION OFFICERS AND DIRECTORS FOR 2022 – 2023

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Emily Farschon, Membership Outreach Coordinator

Directors:

2023: Steven Chisholm, Jr. – Aspen Tree Expert Co
George Sweetin – Chatham Borough
George Meglio – Woodbridge Shade Tree Commission
Barbara Ronca, PhD – Bridgewater Township

2024: Joshua Fass, Site One
John Linson, The Shade Tree Department
Brittany Carino – Atlantic City Electric
Liz Stewart – River Edge Shade Tree Commission

2025: *Mary Charlotte Gitlin, Paul Cowie Associates
*Alfred Bircher, Professional Tree
*Jeff Cramer, South Brunswick
*Christopher Raimondi, Raimondi Horticultural Group

*Voted in during via email vote January 2023.

An additional change to the Federation's Officers and Directors is hiring Emily Farschon to the full-time position of Membership Outreach Coordinator. This change took place on February 16, 2023.

NJ URBAN & COMMUNITY FORESTRY PROGRAM CORE TRAINING

The NJ Urban & Community Forestry Program will hold their CORE Training Online this Spring, March 10, 2023- April 7, 2023.

Registration fee: $30.00. Registrations due by March 8th.

One requirement to be Accredited with the NJUCF program is that at least two representatives (one municipal employee and one local volunteer), active in the local Urban and Community Forestry Program and the care of its tree and forest resources, complete Core Training.

This Spring, Core Training will be hosted online as a 4-week short course consisting of 6 pre-recorded "modules" for registrants to complete at their own pace from March 13th to March 31st. To complete Core Training registrants must complete the online material/quizzes and participate in a mandatory real-time discussion over Zoom (March 31st).

Agenda & Pacing Guide

March 10th - Online Course Opens

March 13th- Zoom, Introduction & Canvas Demo

March 13-31st - Complete Modules 1-6, Videos & Quizzes

1. New Jersey Urban and Community Forestry Program: What is it and how does it work?

2. Trees101: Structure, Function, Identification, Jargon

3. Elements of a Successful Community Forestry Program: Tree Planting and Maintenance from Planning to Practice

4.Tree Risk Management: Why Trees Fail, Defects, Targets, Assessment

5. Legal Issues In Community Forestry: Shade Tree Commissions & The Law

6. Elements of a Successful Community Forestry Program: Community Forestry Management Plans

March 31st - Zoom, Q & A with Speakers (Mandatory)

April 7th- Online Course Closes

All quizzes and CORE Trainee Information Form must be submitted prior to April 7th!

Core Training will be accessed through the Rutgers Canvas learning management system and will require reliable internet access. Registrants will receive an account login invitation for the email account registered prior to the March 10th start date.

No refunds are provided. To receive Core Training credit participants must attend and complete all required sections of the course.

Core Training does not provide credit for NJUCF CEUs.

To download a copy of the registration form go to https://urbanforestry.rutgers.edu/njucfce/core-training-documents.html

CALENDAR OF EVENTS 2023

Save the dates for these important events coming up in 2023

March 2nd-3rd	NJ ISA Garden State Tree Conference—Atlantic City
March 10th- April 7th	NJ Urban & Community Forestry CORE Training—Online Course
April 28th	Arbor Day
May 17th	NJSTF Tree Talk—7:00-8:30 pm EST
	Zoom link to be sent to member email list in May
September 13th	NJSTF Tree Talk—7:00-8:30 pm EST
	Zoom link to be sent to member email list in September
October 26th-27th	NJSTF 98th Annual Conference—Cherry Hill
November 14th-16th	League of Municipalities 108th Annual Conference—Atlantic City
December 6th	NJSTF Tree Talk, 7:00-8:30 pm EST
	Zoom link to be sent to member email list in December

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