

THE SHADE TREE

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

Volume 94 – November - December 2021 – Issue 11 & 12

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BULLETIN OF THE NEW JERSEY SHADE TREE FEDERATION

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IN MEMORIAM: WILLIAM DENNO

It is with deep sorrow to share the news of William 'Bill' Denno's passing on September 16, 2021.

After serving in the Army, he attended the University of Massachusetts's Stockbridge School of Agriculture. His career path led him to a position at Jersey Central Power and Light, where he led the Forestry and Transportation Divisions. He served as President of the NJ Society of Tree Experts and the New Jersey Shade Tree Federation (1979-1982).

Bill had many interests including cooking, gardening, fishing, crabbing and was an avid woodworker. Bill also started and ran his own tree service company.

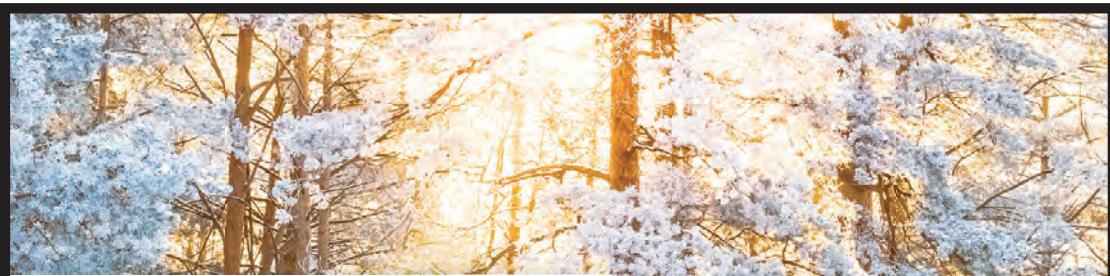
On behalf of the New Jersey Shade Tree Federation, we offer our condolences and sympathy to his family.

COLLABORATION TO BETTER UNDERSTAND ROADSIDE TREES

The Michigan State University Department of Forestry
The Forestry Source September 2021 Vol. 26. No. 9

The Michigan State University (MSU) Forestry Department and the United States Department of Agriculture (USDA) Forest Service-Forest Inventory and Analysis program, have introduced a new partner into their collaboration to better understand urban trees: the Road commission of Kalamazoo County (RCKC).

David MacFarlane, Professor of Forest Measurements and Modeling for MSU, first made contact with the Road Commission of Kalamazoo County in 2020. MacFarlane's current research project is exploring the role of urban forests in climate medication and adaptation with data and interventions, including the potential for trees in urban areas to uptake carbon and provide shade as means of influence and climate. The process includes collecting detailed tree measurements that are used to build models of trees that translate into metrics of the condition and value of forests. This means seeing how much a particular tree might offer in terms ecosystem services like shading, flood control, and greenhouse gas absorption. In the initial stages, the MSU-USDA urban tree research collaboration has focused on trees on campus, but now it is being expanded to urban areas across the state. "I have been using MSU campus as a model city, but have reached out to other cities and institutions that manage



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UNDERSTANDING ROADSIDE TREES *Continued from page 83*

trees in urban environments- ‘urban’ here meaning any environment dominated by man-made structures that the trees are growing in,” MacFarlane explained. This is where the road commission stepped in.

The RCKC’s Asher Drain project was the first collaboration between the agencies. Tree removal is one of the first phases of an infrastructure project, especially if the footprint of the road or structure is being increased. For the RCKC, they asked the property owner being impacted how they’d like the tree removal process to be completed. Their options include keeping the wood or having it removed from the property, owners often opt to have it removed from the property completely. MacFarlane’s team typically engages in “destructive sampling” of trees, where they are taken down and dissected. In this practice, they take measurements from all parts of the tree, top to bottom. In doing so, they’re able to find data like the amount of carbon captured in the tree, strength of the wood in the stem, bark, and branches, and the number of leaves and the shade cast. The Asher Drain project allows for MSU to capitalize on removals required for road infrastructure improvements, so as not to have to sacrifice a perfectly healthy tree in the name of science.

MacFarlane is experimenting with a new laser scanner capable of producing 3-D images of trees. The scans can be analyzed to understand the structure and function of the trees within their surroundings and without destructive sampling. But it is important to verify that the scanner can accurately reproduce the data from destructive sampling. Laser scanning was performed before any work began at the Asher Drain site. The RCKC Project Engineer, Rebekkah Ausbury, coordinated the tree removal dates with Sam Clark of MacFarlane’s team to streamline the process. Once the trees were grounded, MSU personnel were able to collect disc samples from the trunk, branches and leaves to verify the scan results.

This strategic collaboration between academia, federal government, and local government is a rare find in public service. It’s not often that research efforts can take advantage of ongoing infrastructure improvements to achieve better understanding-but could it be? The RCKC encourages other public agencies to keep an open mind when it comes to interagency collaborations- and lend a hand when you can. We all have opportunity to learn from these efforts.

SEASON’S GREETINGS

The Executive Board and Directors of the New Jersey Shade Tree Federation wish to thank everyone for their support over the past year. Best Wishes are being extended for a Happy Holiday Season. May the New Year be healthy, happy and prosperous to each and every one of you!

THANKS TO OUR CORPORATE SPONSORS

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to the following sponsors who have contributed
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STREET TREES: THE STRUGGLE FOR SURVIVAL

By Peter Del Tredici, Arnold Arboretum

What Makes a Good Street Tree?

- Native vs. Non-native: one hears a lot about using native trees for street planting as though the urban street was a native habitat and that native trees outperform non-native trees. The issue for street trees is survival under existing conditions, including introduced pests and pathogens. Nothing is native to the city!
- Bottomland vs. Upland: river corridors & floodplains provide an abundance of highly disturbed, high-light habits characterized by fluctuating water level and heavy soils. The trees that grow there are preadapted to do well on urban streets where the soil is compacted and low in oxygen. Examples of native bottom-land species that grow well as street trees include: silver maple, river birch, green ash, honey locust, sweetgum, pin oak and the once ubiquitous American elm.
- Hybrid trees typically outperform either of their parents in novel ecosystems. These species have been selected by horticulturists for their performance in cultivated landscapes. Famous examples include: London planetree (*Platanus x acerifolia*), the saucer magnolia (*Magnolia x soulangeana*), hybrid poplars, elms, lindens, yews, maples crabapples and cherries.

Ecological Services of Trees

Everyone talks about the role trees can play in mitigating climate change by absorbing CO₂, but in an urban context the most important services that trees provide help make cities more livable for all their inhabitants – both human and not human. They do this in multiple ways:

- Providing animals with food and habitat
- Erosion control on slopes
- Stream, lake & river bank stabilization
- Storm water infiltration & water quality protection
- Temperature reduction via shade production & transpiration
- Improve the aesthetics of the urban environment
- Unfortunately, urban trees also provide some disservices including clogging drains and damaging foundations, lifting sidewalks, taking down power lines & damaging property during storms, and causing allergies.

Structural Soils and Urban Infrastructure

- Giving trees adequate soil volume is key to their longevity in urban areas. This is often a problem because most developers want to give as little land as possible to trees. Over the past 40 years, several systems have been developed to make the space under the sidewalk available to trees and minimize soil compaction.
- Some of the systems involving filling the space with “structural soils” – mostly sand or gravel – that remain porous after they are compacted to support pavement. Other systems involve suspending the pavement over the planting area that is filled with loam. These are pretty much the only options one has when planting trees on top of urban infrastructure or in areas with heavy foot traffic. Comparing them in terms of expense and ecology would take an entire lecture.

Take Home Messages

- Select species based on their ability to tolerate existing site conditions rather than on their nativity. Nothing is native to the city street.
- Climate change issues plus increasing pressure from pests and pathogens has dramatically shortened the list of reliable street trees. We need help wherever we can get it.
- Trees need adequate soil volume in order to survive – make tree pits bigger and connect them whenever possible.
- Better to plant 1,000 well-maintained trees than 2,000 we don’t take care of. Trees need to grow for about 20 years before they begin to pay for themselves in terms of providing ecological services. They won’t make it to that age if we don’t take care of them when they’re young.
- Soil compaction is a big killer of urban trees. Do everything possible to keep people off the tree root zone. Give Me Drainage or Give Me Death!



CHANGING OF THE GUARD

After 16 years at the helm as the Executive Director of the New Jersey Shade Tree Federation, Donna Massa, has submitted her resignation. Donna shared that it was not an easy decision to make and she will miss all of the 'Tree Friends' that she has made throughout the years. Donna said that it was 'time for someone else to drive the bus.' The Federation members, officers and directors will miss her and are thankful for Donna's leadership where her efforts have made the Federation grow leaps and bounds.

Richard Wolowicz will serve as Interim Executive Director during this transition period.

NJ FEDERATION OFFICERS AND DIRECTORS FOR 2021-2022

The New Jersey Shade Tree Federation held its Annual Business Meeting on November 10, 2021 via a Zoom Conference Call. One of the agenda items was the election of Officers and Executive Board.

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

Officers:

- Pam Zipse – President, Rutgers University
- * Neil Hendrickson – Vice-President, Retired, Readington Township
- Richard Wolowicz, Interim Executive Director

Directors:

2022

- Michael Zichelli – Borough of Glen Ridge
- Frank Gallagher, PhD – Rutgers University
- Paul Cowie – Paul Cowie & Associates
- Jason Grabosky, PhD – Rutgers University

2023

- Steven Chisholm, Jr. – Aspen Tree Expert Co
- George Sweetin - ACRT
- George Meglio – Woodbridge Shade Tree Commission
- Robin Potter – Haddonfield Shade Tree Commission

2024

- *Joshua Faas, Plant Detectives
- *John Linson, The Shade Tree Department
- *Brittany Carino – Atlantic City Electric
- *Liz Stewart – River Edge Shade Tree Commission

**Voted in during Annual Business Meeting of November 10, 2021.*



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STORMS APPROACHING – WILL YOUR LANDSCAPE SURVIVE?

Winter is the season for some of nature's most severe weather. Storms in all shapes and forms create havoc throughout the country. One of the greatest dangers posed by storms is presented by falling trees. Unsafe trees are a threat to lives and property.

“Many shade and ornamental trees are damaged throughout the year by windstorms, lightning or ice and snow accumulations,” notes Tchukki Andersen, Board Certified Master Arborist and staff arborist with the Tree Care Industry Association. “Damage usually consists of a few broken branches. However more severe damage – such as splitting or pulling apart of branch unions, removal of large areas of bark, twisting and splitting of the trunk, or even uprooting – pose possible dangers.”

A few tree species, including Chinese elm, silver maple, boxelder and various poplars, have brittle wood that is easily broken. These rapidly growing trees cause a considerable amount of damage to homes, cars, buildings and utility lines each year. Homeowners should be aware of these characteristics and void planting them close to potential targets. If such trees are already growing in these locations, preventive pruning, bracing or cabling may help reduce storm damage this winter. This is particularly true as the tree grows in size and the weight and surface of the leaf and branch area increases.

Over the years, growing trees will “catch” more wind and become heavier, so they are prone to increased mechanical stresses, thus increasing the chances of failure. Larger trees will also affect an increased area should they or their larger limbs fall. This means that power lines, homes and other structures that might not have been threatened a few years ago might suddenly be under threat by a tree that has grown. Preparing trees for these natural disasters is a must and should be done well in advance of the stormy season. To help ease these dangers, have a professional arborist evaluate your trees. Doing this will help you determine potential weaknesses and dangers.

Look at your trees for the following warning signs:

- Wires in contact with tree branches.
- Dead or partially attached limbs hung up in the higher branches
- Cracked stems and branch forks
- Hollow or decayed areas on the trunk or main limbs, or mushrooms growing from the bark
- Peeling bark or gaping wounds in the trunk
- Fallen or uprooted trees putting pressure on other trees beneath them.

Remember, too, that a tree is a living thing, and its integrity and stability change over time, so don't assume that a tree that has survived 10 severe storms will necessarily survive an eleventh.

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



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