

THE SHADE TREE

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

Volume 92 – March - April 2019 – Issue 3 & 4

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NJ Community Forestry Corner: NJ URBAN & COMMUNITY FORESTRY PROGRAM STEWARDSHIP GRANTS – 2019

This year the NJ Urban & Community Forestry Program (NJUCF) is taking its applications for Stewardship Grants online. As one of only two programs selected by the NJ Department of Environmental Protection (NJDEP) to pilot the DEP's transition to an online grant portal, the 2019 NJUCF Stewardship Grants will require applying online using the SAGE system.

The 2019 Request for Proposals is now available on the NJUCF website. Proposals are due May 29, 2019. Two webinars, the one how to register and use the SAGE portal, and the second on how to complete the application, are scheduled for April 3 and 4, 2019 from 12pm to 1pm (1NJUCF CEU for each course will be provided). If you are unable to attend the webinars live, they will be recorded and posted, but CEUs will not be provided for the recorded webinars.

Make sure to sign up to receive the most up to date information from NJUCF by going to www.communityforestry.nj.gov and click on "Sign-up for the NJUCF Email List!", and to LIKE "NJDEP Urban & Community Forestry" on Facebook.

2019 NJ STATE ARBOR DAY CELEBRATION

Come join the NJ Forest Service, the NJ Community Forestry Council, the New Jersey Tree Foundation, and the Rutgers Urban Forestry Program in Celebrating Arbor Day in NJ: From Seed to Saw.

Friday, April 26, 2019

Rutgers Cook/Douglass Campus across from the Food Science Building • 9am – 11am
Portable Sawmill Demonstration and Training (2 NJUCF CEUs available)
• 11am Ceremony • 12pm Ceremonial Tree Planting

BULLETIN OF THE NEW JERSEY SHADE TREE FEDERATION

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2019 NJ STATE ARBOR DAY

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The University was selected to host this year's event, to celebrate the granting of initial candidacy to two programs at Rutgers University: The Urban Forestry Track in the Environmental Planning and Design Major and the Forest Ecology and Management Track in the Ecology, Evolution and Natural Resources Major by the Society of American Foresters' (SAF) Committee on Accreditation (COA). Candidacy indicates that a program has achieved initial recognition and is progressing toward SAF accreditation.

The ceremony will include the winner of the NJUCF and Rutgers Urban Forestry campus photo contest - My Tree, My Campus, recognition of milestone Tree City USA communities (1st year, 10 years, 20 years, 30 years, and 40 years), presentation of the J. Sterling Morton Award, and keynote address by Dr. Jason Grabosky of the Rutgers Urban Forestry Program.

Do you want to host the 2020 State Arbor Day celebration in your community? Email a letter of interest including any specific milestones or reasons for the state to celebrate Arbor Day with you, ideas of how Arbor Day with you will be unique, and the of tree planting you'd like host to celebrate your local urban and community forestry program to: Carrie Sargeant, NJ Urban and Community Forestry Program Coordinator, carrie.sargeant@dep.nj.gov.

**A FOLLOW-UP REGARDING THE STATUS OF
S2505: THE VEGETATION MANAGEMENT
RESPONSE ACT**

On February 7th, 2019, sponsoring Senator P. Sarlo hosted a meeting that included himself, Senator S. Oroho and their respective staffs, interested persons in the utility industry, and representatives of the NJ Shade Tree Federation and the League of Municipalities. The meeting lasted about an hour during which time the organizations were given the opportunity to express their concerns regarding S2505.

Dr. Jason Grabosky, current President of the NJ Shade Tree Federation, Liz Stewart, current Vice-President of the NJ Shade Tree Federation, Wayne Dubin, Past-President and current Executive Board Director of the NJ Shade Tree Federation, and John Anlian, Esq., current member and advisory council to the NJ Shade Tree Federation were in attendance.

SNOW AND WOODY PLANTS

“Snow is both friend and foe to trees and shrubs,” says Tchukki Andersen, staff arborist with the Tree Care Industry Association. “Snow causes its share of damage, as we all know, but in many cases, it also protects plants and their roots against extreme fluctuations in temperature that could damage or even kill them.”

Snow does cause four kinds of damage: bending; breaking; splitting and falling or uprooting. Whether woody plants will be damaged in one of these ways depends upon several factors. Coniferous evergreens, for instance, can bear more snow weight than broadleaf evergreens. A tree’s form can also be a factor in how well it will withstand heavy snow. Pine (low altitude), spruce and fir with spread branches are more likely to be damaged by heavy snowfall than trees with steeper angled branches.

Arborvitae is a good example of a plant that doesn’t handle heavy snow well. They tend to get tall, with multi-stemmed branches that are low to the ground.

“Snow will cause the branches to separate,” says Andersen, who doesn’t recommend planting arborvitae species in areas that get lots of heavy wet snow. She also recommends against planting them near buildings where snow can fall off the roof all at once in large piles. Small, rounded woody-stemmed plants would be a better choice but make certain to give them enough root space away from the structure.”

A tree’s structure is also a factor in whether it will be damaged by ice storms. A tree with good, right-angle branches will have less trouble than one with narrow crotches.

The type of snow is an important factor in potential damage to trees. Obviously, wetter snow is more damaging because it is heavier. And when the snow falls can be a factor. With a wet snow in March, when there are no leaves on the branches, the tree may be able to withstand damage pretty well. But that same snow in late spring or early fall, when the tree is filled with leaves, could add unbearable weight.

On the plus side, snow moderates root temperatures and provides moisture for spring. Snow helps insulate the ground, which is beneficial for two reasons. First, snow is a poor heat conductor, so the temperature changes very slowly from the top layer of the snow to the bottom. This keeps the ground from heating and cooling as air temperatures fluctuate. Heating and cooling often cause the ground to heave, which can be damaging to roots. Keeping the ground temperature more constant is a better environment for healthy roots. A covering of snow can help keep the ground warmer. Pile eight inches of snow on the ground and soil temperature seldom falls below 23 degrees.

“Finally, a little breakage isn’t always bad,” insists Andersen. “Nature prunes trees, too. A wet snow may break off small twigs and dead branches. It can do a good job of pruning that way.”

This information is brought to you by the Tree Care Industry Association and the Board of Certified Tree Experts.



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At the conclusion of the meeting, Senator Sarlo suggested that the NJ Shade Tree Federation develop a list of concerns and recommendations to address the concerns presented at the meeting. He added that these documents were to be forwarded to his staff for consideration prior to the next reading of the bill which would be brought forward for a final vote. The next reading of the bill was scheduled for February 21, 2019.

The NJ Shade Tree Federation provided a list of concerns and a suggested annotated version of the third reprint of the bill on Feb 12, 2019. Senator Sarlo’s office responded on Feb 13, 2019 stating the following:

“This is extremely helpful. Senator Oroho's staff and mine will go through the recommended changes and hopefully we can bring all parties closer together. Our goal here to codify what BPU regulates, give utility companies some flexibility and tools to protect their infrastructure, ensure pruning and removal work is being done by qualified tree experts, and at the same time respect the master plans and regulations of local shade tree and environmental commissions.”

We have not received any further information on the bill or its status. Here are a couple of helpful links to track the status of the Bill and to understand the Legislative Process.

NJ Legislature Website Home: <https://www.njleg.state.nj.us/>

Legislative Calendar: <https://www.njleg.state.nj.us/legislativepub/legal.asp>

The Path of Legislation in New Jersey:
https://njstatehousetours.org/tour/wpcontent/uploads/2017/12/2017Insidepage_LegProcside2.pdf

If you want to subscribe to get updates on specific bills go to:
<https://www.njleg.state.nj.us/bills/BillsSubscriptionLogin.asp>

CREATING URBAN TREE BIODIVERSITY WITHIN A UNIFORM STREET TREE LANDSCAPE

By Dr. Nina Bassuk
OpenAccessGovernment.org February 1, 2019

Street tree landscapes typically consist of uniform rows of a single species, generally selected for their high branch clearance from the ground, attractive appearance and high tolerance to urban stresses. However, the desire for uniformity, which can be seen in countries all over the world, has created a conflict between the cultural preference for visual uniformity and the practical need for species diversity.

Most cities exhibit a low species diversity when it comes to urban trees. This

may be caused by historical convention combined with the assumption that only a few species would adhere to cultural and design norms. However, the over-planting of a limited number of species called monocultures, have brought about the decline of formerly common and numerous types of tree. When a few trees dominate, their diseases and insect pests can proliferate causing tree decline.

Elms, chestnuts, and ash trees have been decimated by the proliferation of insects (emerald ash borer) and diseases (Dutch elm disease, Chestnut Blight). It is clear that design objectives must be balanced against the practical need for species diversity in street tree planting

Current strategies

Faced with the difficulty of balancing aesthetic and ecological concerns, current designers all too often short-change or even abandon one or the neighborhood with the same species, those favoring uniformity over practicality might now plant a single species for one or two blocks of a given street. Although this sort of compromise may feel like a bow to diversity, it isn't a true solution to the problem. Planting trees in somewhat smaller 'same species' blocks will not necessarily prevent the kinds of devastation associated with monocultures on a block by block basis, particularly if the species selected have already been heavily planted in the community.

For those favoring an ecologically sensible approach, the alternative to monocultures is sometimes to plant wonderfully diverse selections of trees that share no common characteristics whatsoever. The results of such efforts can be aesthetically disappointing and in a number of cases have led to public outcry. Unfortunately, this type of plant selection has served to fuel the idea that the only way to achieve uniformity in design is through the exclusive use of one species.

The case for visual uniformity

So, what makes uniform plantings so appealing in the first place? What makes them so difficult to give up? The advantages to uniformity are primarily aesthetic and have a long-standing tradition over many centuries internationally. A street lined with rows of more or less identical trees brings to most observers a sense of order and tranquility, even the domination of nature. In the most heterogeneous of neighborhoods, a uniform row of trees can have a cohesive influence, tying together diverse elements and creating a sense of neighborhood identity. Street trees can also soften the potentially jarring transitions from residential to commercial areas. Moreover, marching rows of identical trees have been used as a symbol of power by military commanders as they marched their armies down those uniformly designed streets.

The case for species diversity

Unfortunately, the appeal of same species plantings is ultimately outweighed by its disadvantages. Even if aesthetics were the only consideration, the fact that unhealthy or dying trees are unattractive makes the need to diversify unavoidably.

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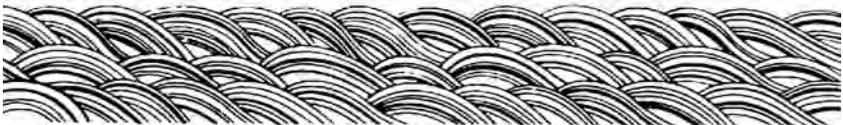
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Another factor that makes monocultures impractical is the tremendous diversity inherent in the urban environment. The challenges and stresses for trees can change dramatically within very small distances, often making it impossible for a single species to thrive uniformly throughout a given area. Variables, such as light, reflected temperature, drainage, soil compaction, limited rooting space, soil pH, availability of water, exposure to salt, and restrictions to crown development can vary tremendously even from one tree space to the next. A careful assessment of site conditions prior to plant selection rarely points to the selection of a single species. Even those who are aware of this fact often make the mistake of selecting one species that will purportedly survive under any and all difficult conditions. Such widely adaptable species dominate the aforementioned list of overplanted trees that have suffered decline, become unmanageable, or both.

A solution

To avoid similar problems in the future, it is clear that uniform plantings of a limited number of species must be avoided. But, is it possible to gain the practical advantages of diversity without giving up the aesthetic desire for uniformity? Fortunately, the answer is yes. Through the careful selection and grouping of plants, communities of trees can be created which, despite their genetic diversity can satisfy our desire for visual uniformity.

By breaking down the visual characteristics that distinguish one species from another into basic categories, we have selected a set of five criteria for putting genetically diverse species into aesthetically compatible groups. The first criteria concerns height to first branch. The distance from the ground to the first branches of the tree canopy creates the visual and physical envelope that we view or walk under. By keeping this space equal between trees, the walking or viewing experience appears alike between trees. The second and third criteria are tree size and shape. Nothing will create a uniform appearance less than a large tree planted next to a small tree or a narrow tree planted next to a broad spreading tree.

The other two criteria of less importance are branching density and foliage texture. They are given secondary consideration because they generally are not as obvious to the casual observer and can even become difficult to distinguish as the distance from the observer increases. By using these criteria, it is possible to have greater biodiversity in our cities while acknowledging the desire for visual uniformity.

HISTORY TEACHES US THAT CAREFUL THOUGHT MUST GO INTO PLANTING TREES

By Brett Bennett • The Conversation June 27, 2018

The idea that forests increase rainfall is an old idea that has inspired scientists and the public for centuries. Over 500 years ago, Christopher Columbus came to believe

that the American tropics had heavy, continuous afternoon rain because of its dense vegetation.

In the 1860s to 1890s, the idea inspired foresters in arid places, such as South Africa and Australia, to plant trees in the hope of making rain. These efforts failed and, as a result, foresters largely abandoned the idea that trees created rainfall. In fact, it seemed that planted forests actually lowered the water available from rivers and streams; this was a major problem in areas that lacked adequate water before trees were planted.

A change in understanding about the impact of trees on rain and water supplies played out 80 years ago in South Africa when farmers became so concerned that planted trees were leading to the loss of water in rivers that they forced the government to investigate the relationship between trees and water.

The subsequent research showed unequivocally that tree planting had an adverse impact on water supply in South African catchments. The scientific idea that forests influence rainfall fell into decline during the middle of the twentieth century. But it has regained popularity, particularly during the past two decades.

Evidence from various parts of the world now emphasizes the link between forests and rainfall. Maps showing where the world's rainfall originates highlight this.

A group of scientists have increasingly begun to describe trees as “pumps”, “generators”, and “makers” of rain. They want policies revised to account for forests' water-giving properties.

If successful, these ideas have the potential to revise environmental policy, ecosystems and water cycles in far reaching ways. But they also have the potential to cause significant problems if history is not heeded.

Research suggests we should be wary of planting trees in places where none exist, or where there are significant water constraints. The fact is that planting trees indiscriminately has in the past had harmful effects.

RETHINKING EARLIER THEORIES

There is strong evidence to suggest that atmospheric recycling - the transpiration of water from trees into the air as precipitation - plays an important role in rainfall in rainforests as well as deserts. A huge percentage of rainfall – sometimes over 50% in west and central Africa and the Amazon – is recycled from forests. In parts of Western China an amazing 80-90% of rain occurs because of recycling.

Despite having an uncertain future, the connection between forests and rain is now being explored with new vigor. Some scholars are calling for forests to be protected for their role in generating rainfall and maintaining climatic stability.. These scholars challenge the dominance of water policies that have been devised based on the idea

that forests limit water in rivers and streams. Rather, they argue that trees are necessary to generate rain downwind. Existing policies tend to prioritize catchments, such as rivers, rather than valuing forests for their cooling and rainmaking effects.

This new line of thinking, which will undoubtedly reshape future policy, should not lead people to simply assume that all trees are good everywhere and all the time. The reality is that trees are very capable of being heavy water consumers that take water away from downstream users.

Striking a balance between the need to create rainfall and to conserve water in catchments should be a key to formulating any new policies. A group of hydrological experts writing from The International Union for Conservation of Nature, the global authority on the status of the natural world, argue that the best approach is to protect areas where forests play a key role in generating rain locally or downwind, and to be sensitive to the potential decline of downstream water quantities.

Scholars who want to turn science into policy could create a detailed breakdown of world regions that may benefit from tree planting and those that are less likely to benefit. It makes sense that rainforests should be protected. What about arid regions or regions with highly variable rainfall cycles?

WHY HISTORY IS IMPORTANT

When devising policy, scientists should read more history to understand the social implications of changing policies. It is important not to repeat the same mistakes of the past, which have included planting alien trees in the middle of diverse grasslands, marginalizing the voices of people who do not benefit from these efforts, and reforesting highly diverse regions with species that aren't indigenous.

And people may be more biased towards pro-forestry policies, so there should be caution about not encouraging governments to just jump on the "more forests are always better" bandwagon.

Finally, researchers on all sides might think about getting together to design an ethical protocol for forest policy. For instance, should policies for rainfall generation be limited only to existing native forests or their previous ranges? What about the planting of alien trees, or trees in areas that were not formerly forests?

If the right balance is struck, the result will be resilient forests and water regimes that work.





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