



The Leaflet



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Tree Equity: Fancy Concept or For Real?

By: Rebecca Hankins, Forest ReLeaf of Missouri

Among the headlines that dominate the environmental conversation these days, a new one is emerging called Tree Equity. It may seem like some newly-contrived concept to sound important and relevant, yet it engulfed the front cover of National Geographic's July issue with a simple headline entitled "Beating the Heat". Simultaneously, National Geographic's podcast Overheard continued the conversation in an episode titled "Cooling Cities By Throwing Shade", which debuted on August 3. Articles from major cities around the nation are cropping up talking about Tree Equity. So what is it?

Tree Equity specifically focuses on the urban tree canopy (trees in our cities versus our forests). On the surface it is a conversation about where trees are in cities and why. More deeply, it is a compilation of layers of data that essentially point to one thing: urban trees are not equally distributed. American Forests, the nation's oldest national conservation organization, is the originator of this new buzz word with the launch of their nationwide Tree Equity Scores in 2021.

Tree Equity Scores combine existing tree cover stats with other data such as population density, poverty and unemployment rates.

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2021 Annual Forestkeepers Conference

The annual Missouri Forestkeepers Network Conference was held this year on October 8th at Klondike Park in St. Charles County, just outside of Defiance, MO. Klondike Park was formerly home to the Klondike Sandstone Quarry, which produced St. Peter Sandstone. This was crushed on-site to form silica sand used in the production of glass. The operation ceased in 1983, and St. Charles County acquired the land in 1999. Remnants of the quarrying operation have given the park its most unique feature, a lake surrounded by sandstone cliffs and white sand beaches from which eastern red cedar have sprouted. The resulting landscape looks wonderfully out of place in Missouri; it could pass for an alpine lake in the High Rockies.

This conference also marked the 25th anniversary of the Forestkeepers Network, and began with a discussion of the future of this program. Attendees agreed that it is important to look for new ways to engage future Forestkeepers while retaining the core values and activities that the network has successfully implemented in the past. After introductions, discussions and lunch, a tree planting demonstration workshop followed. This featured discussion of "root boxing", a technique developed by Gary Johnson, Professor Emeritus of the University of Minnesota's Department of Forest Resources.

Attendees were then treated to a tour of the park led by Park Services Manager Trey Bugh, who discussed the history and natural communities of the park. After the tour, Hank Stelzer of the University of Missouri Extension office gave a presentation on the White Oak Initiative, discussing the importance of white oak to our forest products industry, as well as North American ecology in general.



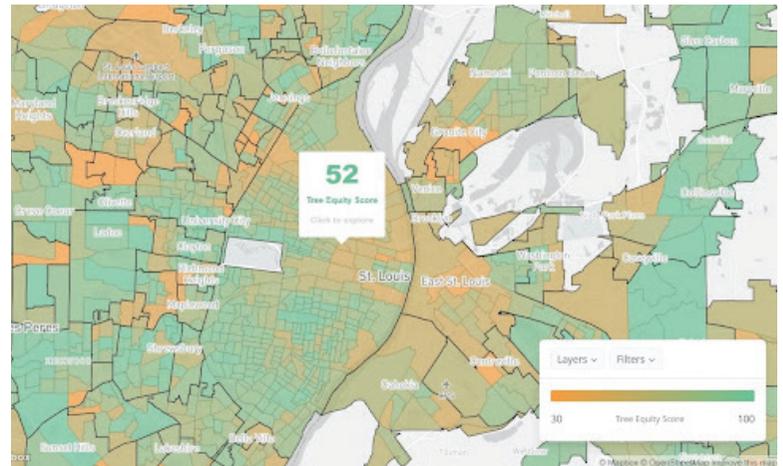
Complete the Missouri Forestkeepers Network Survey!



Please complete the inserted Missouri Forestkeepers Network survey, or fill it out online at <https://bit.ly/FKNsurvey>. As a thank you for completing the survey, a coupon for 10 free trees from the George O. White State Nursery in Licking, MO is included!

Tree Equity: Fancy Concept or For Real? (continued)

More information can be found at americanforests.org. This data determines whether there are enough trees in a location to provide optimal human health, as well as climate benefits. According to Jad Daley's press release statement, president and chief executive officer of American Forests, "It shows us exactly where the problems exist, where we need to concentrate investment to solve them, and where we need to bring people together – all different types of people and organizations." That doesn't sound like a concept at all, but a real solution to green infrastructure problems that are plaguing urban centers.



Forest ReLeaf of Missouri, the state-wide nonprofit tree nursery located in Maryland Heights, Missouri, is excited that Tree Equity is being talked about and taken seriously. For years, Forest ReLeaf has known that Missouri's urban tree canopies are not equally distributed and implemented a Priority ReLeaf program for those areas defined by low tree canopy. Now, with this new Tree Equity Score tool and local tree inventories, Forest ReLeaf can make further impact in these neighborhoods by using data to engage the communities and garner greater support from partners.

Every person deserves to experience trees. As we have seen through the Covid-19 pandemic, access to green spaces can make a huge difference to how people handle stress. If you are fortunate enough to live in a highly forested area, you may not even notice the soothing embrace trees wrap around you. Visit a highly urbanized city, where impervious surfaces and buildings abound, and you quickly notice the lack of green canopy. Tree Equity Scores address this problem and help everyone, no matter who they are, receive the many benefits that trees provide.

As always, Forest ReLeaf is here to provide anyone in Missouri access to free trees who have a planting project on public land. Our Project CommuniTree accepts applications for trees each spring and fall. To apply, visit moreleaf.org/plant/project-communitree/.

To learn more about Tree Equity check out www.treeequityscore.org. Be sure to click on their interactive map to find your hometown.



Featured Species

Common witch hazel

Hamamelis virginiana

It's not unusual to see spring flowering woody plants push out a few blooms in late summer or even further into fall, but there is only one woody plant that puts out its full season's bloom when the rest are closing up shop for the holiday season: common witch hazel (*Hamamelis virginiana*). As November's cold winds blow the leaves from the trees, and the season's glory fades into the grey of the coming winter, it offers one last burst of color into the chill air.

Common witch hazel is a larger plant than the other members of its genus, growing up to 20 feet tall. It is a plant of streambanks and lowlands, and while it appreciates moisture it is highly tolerant of compaction, clay soil, and salt, and can grow in anything from full sun to full shade. Doug Tallamy lists it as supporting 62 species of caterpillar. (A few species of *Eupsillia* "winter moths", are the odd cold-weather pollinators that assist *H. virginiana*'s seed formation.) Considering this extreme adaptability - from Maine to Mexico, sun or shade - its outstanding wildlife benefits, and its unique ornamental beauty, it's a shame this plant is almost nonexistent in the nursery trade.

Source: Mark Halpin, Forest ReLeaf of Missouri

Q: I often see large vines hanging from the canopy in the forest, but they aren't attached to anything near the ground. How did they get there?

A: These are most likely a species of wild grapevine (*Vitis* spp.), any one of several closely related species of *Vitis*, some native and some not, all of which are climbing vines that use tendrils to cling to trees and ascend up to 75 feet into the canopy.

As grapevines mature and grow thicker, their tendrils die off, and the vine loses connection to the host tree's trunk but remains attached to the upper canopy. This causes the curious phenomenon of vines appearing to free-hang in the air, often many feet from any tree's trunk. This has caused many people to wonder how they got into the tree's canopy in the first place - it appears as if they grew straight up into the air!

It's best to cut grapevine stalks and let the vines die off and fall from the tree on their own. Do not attempt to pull them out, this is potentially dangerous and harmful to the tree.

SOURCE: Mark Halpin,
Forestry Manager,
Forest ReLeaf of Missouri

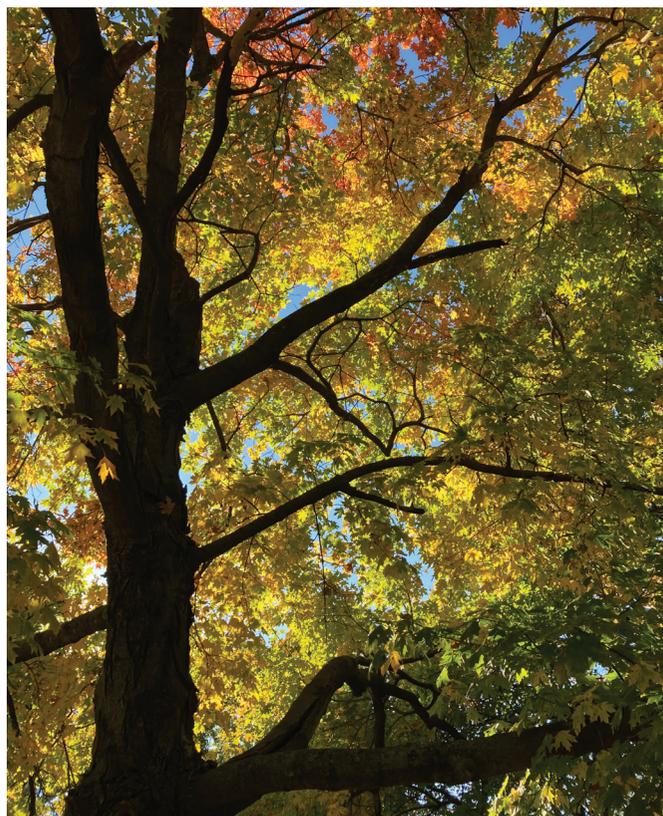
FOREST BULLETIN

Fall Leaf Change - Accidental Attraction

By: Mark Halpin, Forest ReLeaf of Missouri

The arrival of fall leaf change is always accompanied by articles explaining what causes this wondrous phenomenon. Every year we can learn anew about anthocyanins, responsible for the reds and purples, and carotenoid pigments, which provide the yellows and oranges, and the combination of cool nights and sunny days that cause them to show. As fascinating as this is, these articles always focus on the how, and seldom discuss why leaf change occurs. It's a more interesting question because as it turns out, we're not entirely sure. And isn't a mystery always more fun? Three different explanations have been advanced for the function of fall color.

One involves allelopathy, the chemical defense strategy plants use to inhibit the growth of other plants near them (black walnut is an example familiar to many Missourians). Anthocyanins do indeed appear to have allelopathic properties, giving plants an edge in the forest - like black walnut litter, anthocyanin-rich leaves inhibit seed germination and plant growth in the soil where they fall. Another theory relates to anthocyanins' photoprotective properties - they shield the leaf from light damage during periods of low temperature but high sunlight levels (typical of our autumn weather). This allows plants to fully absorb any remaining photosynthetic compounds in their leaves before they drop, maximizing energy storage over winter.



The only theory to address carotenoid pigments invokes an evolutionary phenomenon known as signalling. Famous examples of signalling include the garish colors of some venomous reptiles, or a male peacock's feathers - outlandish and costly displays boasting that the organism is so fit it can afford to waste resources. Because carotenoids and anthocyanins are costly to retain into the cool weather of fall, they send such a warning signal to potential insect predators.

So which theory is correct? Probably all three, to some extent. Evolution is not a straight line, and traits are often retained because they serve multiple purposes. What's interesting though, is that none of these theories explain why fall color should be so attractive. The beauty of springtime is no mystery; flowers are beautiful because they're supposed to be, their colors and aromas having evolved specifically to attract pollinators. Fall color, on the other hand, appears to be an evolutionary mixup. Like the bitter, stimulating alkaloids in coffee, chocolate and tea, or the sharp aromas of mint, citronella and other herbs, something intended to repel other creatures winds up attracting humans. A beautiful accident, and one to be thankful for.

Take a Hike!



Alfred Newton Gossett Conservation Area

A wide diversity of natural and cultural resources to explore!

The 671-acre area near Windyville was acquired by MDC in 2017. In its initial year under MDC ownership, staff surveyed the area, marked boundaries, constructed a parking area and conducted other start-up tasks that are part of the process of transforming a newly obtained piece of property into an MDC public use area.

The Gossett Area, a site that's primarily forest cover, is now open to public use. Whether someone is interested in hiking, nature photography, or summer squirrel hunting, the oak woodlands, old overgrown fields and Niangua River corridor slicing through the area can provide opportunities for outdoor recreation. The area is open 4 a.m. to 10 p.m. daily. The area will also be open for deer and turkey hunting this fall.

For more information about the area, call the MDC Lebanon office at 417-532-7612. Find out more about this and other MDC public use areas at mdc.mo.gov/discover-nature/places.

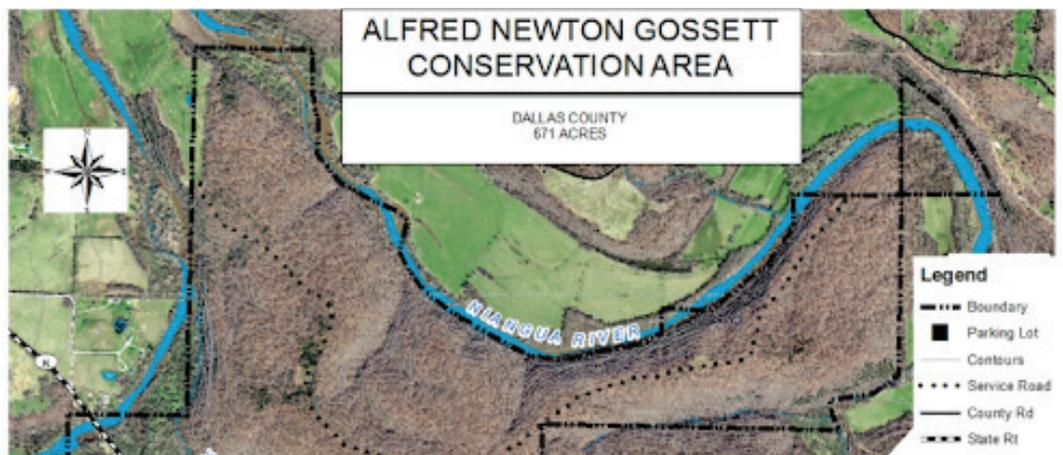
Acreage: 671

County: Dallas

Owner: MO Dept. of Conservation

Region: Southwest

Address: County Rd P-141.2,
Long Lane, MO 65590



Featured Events

Plant Identification: How to Know the Lichens

Date: Tuesday, January 11, 2022 | 6:00pm - 7:00pm

RSVP: mdc.mo.gov/events

Location: Online

The beauty of lichens is more noticeable and easier to observe, study and appreciate during the winter months. Lichens make a significant contribution to the biodiversity of Missouri's natural communities. This program will cover how to recognize the major groups of lichens as well as how to identify dozens of species of lichens which can be found year-round in Missouri. This is a virtual event. Participants will receive an email with the link approximately 24 hours prior to the event. Please check junk mail/spam folders if you do not receive the invitation.

Trees: Virtual Program: Winter Tree ID

Date: Saturday, January 15, 2022 10:00am - 11:00am

RSVP: mdc.mo.gov/events

Location: Online

Ever wonder how to identify trees when they have no leaves? Join us to learn the clues to help you identify trees by their twigs, fruits, and bark. Registration is required. The link for this virtual program will be sent on 01/14/22 by email. If you do not receive it that afternoon, please check your junk email. This program will not be recorded. For more information email Shepherd@mdc.mo.gov or call (417)334-4865 ext 0

Trees: Endangered Species: The Ozark Chinquapin

Date: Wednesday, January 19, 2022 1:00pm - 2:00pm

RSVP: mdc.mo.gov/events

Location: Online

The Ozark Chinquapin was a major player in our Ozarks forests; often it was the dominant tree species on many ridge tops and rocky slopes. The decline of the species had major effects on local wildlife food webs and traditional cultural uses. The hard-working Ozark Chinquapin Foundation, foresters and naturalists have been dedicated to saving this species, and there are success stories ahead. This program will look at this unique tree's place in our local ecology, and highlight the foundation's research. There are many ways local citizens can help conservation efforts. We invite interested nature enthusiasts to join us and learn about this worthy efforts.

Battle invasive bush honeysuckle along the Katy Trail!

Event sponsored by: Missouri State Parks and Magnificent Missouri

Join park staff and volunteers at the Augusta Trailhead to battle invasive bush honeysuckle along the Katy Trail from 1 pm-4 pm January 9th, 2022. The Augusta Trailhead is located at mile post 66.3 south of highway 94 on the south side of Augusta (towards the river).

Work teams will be assigned areas of bush honeysuckle to hack from the Augusta Trailhead. Wear comfortable high-top shoes or boots, durable work shirts with long sleeves and pants. Bring your own water and a snack. Tools, gloves and insect repellent will be provided at the trailhead. There are restrooms located at the Augusta Trailhead, if needed. Preregistration is highly recommended. For information on how to register, telephone Graham Cave State Park at 573-564-3476.

Welcome Members!

Malinda Atkins Wickersham
Jeff Blunt
Brenda Cameron
Benjamin Cavner
Vicky Elliott
Alex Frieden
Andrew Garner
Valerie Klipfel
Ryan Hebel
Rich Heimerl
Vaughn Meister
Tuesday Perry
Andela Poletti
Julia Sevin
Zach Smegner
Gary Smith
Rowan Smith
Noah Sutton
D Taylor-Zickler
Madison Twite
Kirsten Weis
Penelope Woodhouse

The Leaflet is produced by the Forest and Woodland Association of Missouri and the Missouri Forestkeepers Network in partnership with the Missouri Department of Conservation and Forest ReLeaf.

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MISSOURI

FORESTKEEPERS

NETWORK

The Missouri Forestkeepers Network now has 3,034 total members.

Spring and fall reporting periods resulted in 103 activity reports, 53 tree observation reports and 39 invasive species reports for a total of 195 reports.

Forestkeepers' 2020 Impact



11,493

trees planted



1,914

acres of unwanted
vegetation treated



3,864

acres included in
timber stand
improvement program



445

hours of advocacy



373

water sources
installed



4,966

hours planting &
caring for trees