Forest & Woodland Association of Missouri
Missouri Forestkeepers Network
Conservation Department Missouri
Serving nature and you

The Leaflet

Winter 2022

The logs lined up in a row are high-grade veneer logs, worth significantly more than the stacked, lumber grade logs. Can you spot the difference? Pictures taken at a harvest site in Madison County, MO by Hanks Stelzer, MU Extension, Forestry State Specialist.

In This Issue

How Much is my Tree Worth?

By: Mark Halpin, Forest ReLeaf of Missouri

How much is a tree worth? It's a question people commonly ask foresters, but a surprisingly complex one with an almost infinite number of possible answers. The simplest response might be "what's it worth to you?" Ultimately the market value is what the owner is willing to pay to keep it around, or willing to sell it for. With carbon credits, the owner of timbered land can even be paid just to leave their trees standing. The value is dependent on the purpose the tree is serving, and what value a given individual assigns that purpose.

A forester working for a logging operation will be able to easily give you a very straightforward answer. They will know the approximate market value of the species in question and be able to quickly make a rough assessment of how much wood it contains. In most cases, the average person would be shocked by what a low figure they quote. While a 25" DBH (diameter at breast height) black walnut (Juglans nigra), free of defects, may fetch $1,000-2,000 on average, a comparable northern red oak (Quercus rubra) would be maybe $150-300 (these are values for standing timber, not prices for delivered sawlogs which will be higher). Of course a single tree, in practical terms, is worth nothing to a logging operation. That $150 log would not justify the cost of bringing the equipment needed to haul it, whereas an acre of such timber might. (There are so many variables in timber pricing that these are necessarily very rough estimates).

Continued on Page 3

Woods Updates

Frost Flowers

In early winter when temperatures drop suddenly, blooms of ice can occasionally be found nestled among leaves in forests and prairies. This winter phenomenon, called frost flowers, occurs on the bases of specific wildflower stems when the ground is warm, yet the air temperature is below freezing. The plant's dry stem continues to pull water up from the ground, which freezes as a collection of thin ribbons of ice "petals" of the frost flower when exposed to air.

Redbuds and Phenology

Early budding trees add beauty to the winter landscape, but also offer scientists insight into how weather patterns affect tree growth.Trees such as Redbuds have been used by researchers to track shifting weather patterns. Projects like the USA National Phenology Network (Phenology refers to recurring plant life stage cycles) use citizen science data of redbuds across the nation to monitor shifts in cold snaps and understand how late freezes impact trees, fruit, and seed production.

Winter Animal Tracks

Many of the animal woodland residents can be hard to spot in the winter. The roost in trees or hide in burrows from the cold and predators, venturing out to find seeds and bark of native trees. Looking at snow tracks, like the turkey prints shown above can be a useful tool to understand the type of over wintering animal your woodlands are supporting. For resources to help learn identify and understand tracks, reach out to your local MDC center.

How Much is my Tree Worth? (continued)

Lumber value or the value of the tree delivered to a sawmill, however, is perhaps the lowest value the majority of trees could be assigned. If we assess value based on ecological benefits, using iTree software for example, that 25" northern red oak provides $33 of benefits each year in terms of air pollution and stormwater abatement. The same tree has sequestered over 10,000lbs of carbon dioxide in its lifetime - another $235 in benefits. Those benefits grow each year; once the tree reaches 35" DBH it is providing over $48 in benefits each year and has sequestered a total of $532 worth of carbon dioxide - more than double what it had at 25". Now consider an acre of forested land - how many such trees are on it? The ecological value is staggering, and this is not even considering wildlife benefits. If that same 25" tree is roughly 50 feet away from a home, on the southwest side, its annual benefits increase to $79 mostly from energy savings, and at 35" it is $94. Every year the tree grows, that number grows a little larger. No matter how you stack it, it takes only a few years for the tree to surpass its lumber value in terms of ecological services it provides. This is not to imply that logging operations are not valuable. We need forest products, and well-managed forests, being logged responsibly, are a huge net benefit to our environment - the value of such trees should be calculated as lumber value+ecological value, a benefit to our environment and economy. Such eco-benefits, while outpacing lumber value, are also at the lower end of the spectrum.

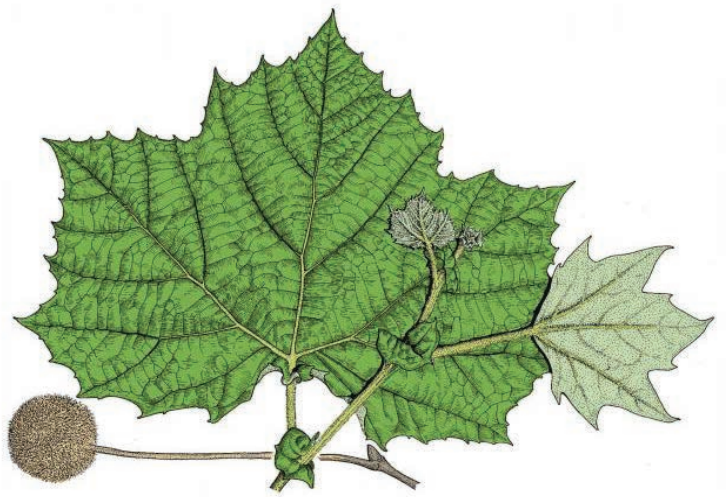
Trees reach their highest monetary value when they are tied to developed property value, which can increase by 3-15% when a quality shade tree is present (Wolf, Kathleen L, PhD, University of Washington (2007) City Trees and Property Values. Arborist News. 16, 4:34-36.) This pushes the value of a given tree up to $4,500 for even a modest $150,000 home at the low end, and a whopping $22,500 at the 15% mark.

If a property owner wants a more exact value, and one with legal backing, the Guide for Plant Appraisal is the definitive resource. Authored by the Council of Tree and Landscape Appraisers (CTLA) and published by the International Society of Arboriculture, it outlines different approaches to calculating value - the most basic would put the value of our 25" red oak at over $12,000 (if such figures are to be used in a lawsuit, for example against a contractor who killed or severely damaged a tree, they will need to be calculated by a consulting arborist). All sorts of other factors beyond species and size must be considered to make an accurate appraisal - the tree's condition, defects, and location for example.

Calculating the cost of replacing a mature tree is typically an exercise in speculation - the assumption is that a large caliper tree will be planted and the value of many years of growth is estimated. However, with enough money, an individual can in theory purchase a mature tree. The University of Michigan spent $400,000 to transplant a 65' tall bur oak in 2015, and a homeowner in Sarasota, Florida spent $205,000 to move a 100 year-old live oak just last year. Those trees were being moved relatively short distances though; the largest tree you would likely be able to purchase on the open market would be closer to 10" DBH. Still a sizable tree, with a commensurate price tag.

Beyond these facts and figures, it must be acknowledged that there are factors contributing to tree value that can't be quantified. Say your grandfather planted a tree in your family home's backyard, one he got on Arbor Day in 4th grade - how much is that worth, even if it is now declining? The most cost-effective thing to do might be removal, but is it a waste of money to spend a thousand dollars on a cabling system, some pruning and PHC (plant health care) treatments to keep that tree around so that your own soon-to-be-born grandchild might get a chance to see it? If removal is unavoidable, would sawing some boards out of that tree to make a dining room table be fiscally irresponsible, even if it requires hiring a specialist with a portable saw mill and quadrupling the removal cost? Ultimately, trees and forests attain their highest value when we develop such personal attachments to them. They become parts of our families, and in some cases watch over multiple generations of us as we play in their shade, grow up and raise our own children underneath them. In such cases it is ridiculous to attempt to attach a mere dollar amount to them. They become literally invaluable. Looking at all of these different methods and calculations, however, can be an interesting exercise and reminder of just how important trees are, and all of the things they do for us.

From simply practical to deeply personal, trees make our world a better place in all sorts of ways. Let's be thankful for that.



Featured Species

American Sycamore

Platanus occidentalis

Some trees truly amaze as they flower in the spring, or as their leaves seem to burst into flame in fall. American Sycamore (*Platanus occidentalis*) does none of these. In all seasons it sticks out like a bald eagle in a flock of pigeons. The mottled bark and the massive size of this tree make it a year-round standout. It is a true individual - no other tree native to North America could possibly be mistaken for it.

Sycamore is a tree of the "bottoms" - low, moist areas typically fed by streams or rivers. Here it reaches massive proportions - over 150 feet in height and spread. For trunk girth it is the widest deciduous tree in North America. Early pioneers used smaller hollow specimens to make barrels, boxes and even primitive washing machines.

While once a popular street tree, the Sycamore has fallen out of favor largely due to sycamore anthracnose. This fungal disease is not typically fatal but causes a host of aesthetic and maintenance issues - trees don't fully leaf out in spring, they develop cankers and drop a profusion of dead leaves and twigs. When we give it the space it deserves though, it puts on a truly awesome display. We may temper our use of it these days, but American sycamore will always have a place in our landscape.

Source: Mark Halpin, Forest ReLeaf of Missouri

Q&A

Q: We found this unusual tree growing near our property. It looks like pictures we've seen of "trail trees" - could it be one?

A: Trail Trees are a controversial topic. For those unfamiliar with the phenomenon, a trail tree is intentionally deformed, usually bent at an almost-right angle between 3-5 feet above the ground. They indicate the direction of a trail or body of water. Trail trees were created by many Native American tribes in the past, and their use is well-attested.

Whether the deformed trees we often see today are genuine trail trees is another matter. According to the State Historical Society of Missouri, most Native American tribes had been pushed out of our state by the 1830's. This means that any remaining trail trees will be quite mature, so a 8" diameter tree with an odd shape you stumble upon in the woods was almost certainly deformed by natural forces (usually another tree falling on it). European settlers may have adopted the practice in some areas to mark their lands, but there is no historical evidence of this and so we must remain skeptical of younger trail trees.

The tree in this picture appears to be a white oak (Quercus alba), a species that can easily live for 300 years in ideal forest conditions. This tree was measured at 38" diameter, 18" above ground due to its deformity. If we use Purdue University's "Growth Factor" chart and formula (diameter breast height x growth factor, given as 5.0 for white oak) we get an age of 189 years - a bit outside of the 200 years we need. Of course growth rates vary dramatically depending on site conditions and genetics and such calculations must be taken with a grain of salt.

Considering that serious deformations typically stunt a tree's growth, 200+ years is not out of the question for this tree's age. It just might be the genuine article.

(Source: Mark Halpin, Forest ReLeaf of Missouri)

FOREST BULLETIN

Joe Davis Named 2021 Outstanding Missouri Tree Farmer of the Year

By: Laurie Wilson, Forest and Woodland Association of Missouri

Annually, the Outstanding Tree Farmer of the Year award recognizes private landowners that have done an exceptional job of forest management on their property and are also actively promoting sustainable forestry. Through this award program, these individuals are honored as leaders in good forestry while their land demonstrates the benefits of good forest management.

The recipient of the Outstanding Tree Farmer of the Year for 2021 is Dr. Joe Davis of Fulton, MO. His property, located in Callaway County, has been certified in the Missouri Tree Farm System since May 2020. Mr. Davis' Tree Farm is a little under 70 certified woodland acres.

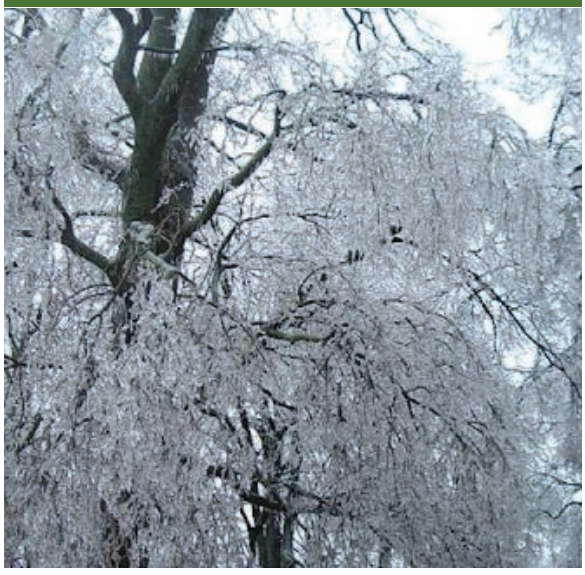
Davis recently completed a harvest of approximately 30 acres that was marked by a consulting forester in alignment with his management plan and harvested by a master logger. Most logs were white oak, black oak, red oak and other hardwoods. He has conducted timber stand improvement, a timber sale and planted a small walnut plantation on the property.

Mr. Davis has been extremely proactive about managing his wood and learning about forest management since obtaining the property. He has eagerly sought out and followed the advice of both state and private foresters. He is an avid promoter of the Tree Farm Program and sustainable forest management on social media. Through his own research he sought out information about the Tree Farm Program to obtain his certification.

The primary objectives on his Tree Farm have been maintaining forest health, wildlife habitat for viewing, sustainable timber production for periodic income, aesthetics for family recreation and worship, and maintaining water quality of the lake.

Take a Hike!

Acreage: 1,028.68
County: Mississippi
Owner: MO Dept. of Conservation
Region: Southeast
Address: 13640 S Highway 102, East Prairie, MO 63845



Big Oak Tree State Park

Short hikes, champion tall trees!

The trails in the Big Oak Park live up to their name with an average canopy height of 120 ft, and many trees exceed 140 ft and height. 90% of the park is dedicated as a Missouri Natural Area because of the outstanding natural value. Winter hikes are a perfect opportunity to get a good glance at the incredible structure of trees, and this park, particularly when covered in light snow offers gorgeous insight into the branching patterns of ash, cypress and oak.

Formed in 1938, Big Oak State Park was made possible through the advocacy and donations of concerned citizens during the great depression. It preserves one of the last untouched hardwood bottomland forests in the state, and holds multiple trails of varying challenge and length which offer insight into the swampland forest. Both the bottom land and board walk trails pass by state champion trees, and on dry winter days, offer a calm and easy stroll.

Find out more about this and other MDC public use areas at mdc.mo.gov/discover-nature/places.

Featured Events

McKitrick Katy Trail Planting

Date: Saturday, April 16, 2022 | 9:00am - 12:00pm
RSVP: mdc.mo.gov/events
Location: McKitrick Trailhead 21356 Gore Road, Marthasville MO

The McKittrick Katy Trail Planting is part of an initiative between Forest ReLeaf, Magnificent Missouri, and Katy Trail State Park to plant 200 trees along the trail over the next two years. Volunteers will help plant and mulch trees that will serve to both benefit the environment and beautify the area. Light snacks and beverages will be available pending COVID restrictions.

Habitat Improvement: Prairie Day with MDC

Date: Thursday, May 12, 2022 10:00am - 4:00pm
RSVP: Registration not required, Call 417-876-5226 for additional information.
Location: Wah'Kon-Tah Prairie, 3860 East 02 Road, El Dorado Springs, MO 64744

Help improve habitat for all at the Wah'Kon-Tah Prairie near El Dorado Springs. The Wah'Kon-Tah Prairie is one of the last remnant pieces of prairie that covered the state of Missouri. This space helps provide habitat to plants and animals that are specially adapted for life on the open prairie. Hands of all ages are welcome to come help.

Featured Photo
Barred owl perched in a River Birch near Glendale Missouri
From: Ellen Sulsur, Forest ReLeaf of Missouri

Have a photo to share? Send it to information@forestkeepers.org

Welcome Members!

Laura Baysinger
Emily Carter
Aaron Dohogne
Norman Forester
Jeffery Giboney
Jack Gonzales
Elizabeth Howe
Samantha Jensen
Bob Knight
Susan Loehr
Camilla Raymo
Rockhurst University
Conservation Biology
Rick Remmler
Kara Sair
Kristen Sibley
John Small
Joseph Staples
Joshua White
Nathan Wittmaier
Aleksis Zairns

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.

EDITORS
Laurie Wilson
Justine Gartner

CONTRIBUTORS
Malk Halpin
Ellen Sulser

DESIGN
Amy Klein

CONTACT
314-533-5323
forestandwoodland.org

c/o Forest ReLeaf
of Missouri
4168 Juniata St. Suite 1
St. Louis, MO 63116

Spread the Word - Stop the Spread!

Each year the invasive Callery pear spreads further and further into Missouri's natural areas, but each year public awareness of this pest grows. What is important is that awareness becomes action.

The Missouri Invasive Plant Task Force (MoIP) will partner with the Missouri Department of Conservation, the Missouri Community Forestry Council, and Forest ReLeaf for a Callery pear Buy-back this April (date to be announced soon), which will take place simultaneously in St. Louis, Springfield, Joplin, Columbia and Kansas City in April. This event has grown each year since its inception and has generated huge levels of awareness AND action in combating this problem.

Participants submit a picture of their pear tree, during or after removal, to receive a free replacement tree. Spread the word to stop the spread of Callery pear! And contact your local representative and tell them you want to see legislation passed to ban the sale of invasive species. Learn more at moinvasives.org.