Missouri Forestkeepers Network
Forest ReLeaf of Missouri
Conservation Department Missouri
Serving nature and you

The Leaflet

Fall 2022

In This Issue

Wonders of White Oak: Barrel 53 and Finger Lakes State Park host Annual Forestkeeper Conference

By: Ellen Sulser, Volunteer Coordinator, Forest ReLeaf of Missouri

In 2001, nearly half a million people voted for the oak as the nation's favorite tree in a National Arbor Day Foundation poll. It was so popular that in 2004, senators from Virginia introduced a bill proposing to designate the oak tree as the national tree of the U.S. stating: "The strong and stately oak tree is of particular importance in America's history and culture. Not only is this majestic tree an aesthetic beauty that characterizes the landscape of much of our Nation, it also provides us with wood products in our homes, our offices and our places of gathering. Present in all 50 States, the oak has played a huge role in America's history as a valuable resource."

Despite their good intentions, choosing "The Oak Tree" to represent our nation is a bit complicated as it is not a singular species – it's a genus as diverse as our nation itself. With more than 60 species of oak growing in the U.S it's our most widespread hardwood tree. Missouri alone has around 26 native species of oak. Of those, one species in particular has shaped the forests of Missouri: the white oak. The 2022 Forestkeepers Conference centered around exploring the many wonders of this native tree. Rooted deeply in our local forestry, industry, and ecology this species has shaped the way our state developed, earning its nickname of "the mighty oak."

Starting the day off in the backdrop of Finger Lakes State Park, Forestkeepers learned oak species identification with Dan Billman, Forest ReLeaf Nursery Specialist. In ad-

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Woods Updates

Eastern Red Bat

While most birds and bats fly south for the winter, Eastern red bats (Lasiurus borealis) continue to tough it out in the woodlands as temperatures drop. A study published last year by Missouri State University's biology department indicated that these bats cope with falling temperatures by roosting in cover provided by dead oak leaves, choosing locations on southern-facing slopes with maximum exposure to the sun and minimum exposure to cold north winds. When temperatures plummet below freezing, they crawl into the accumulated leaf litter and enter torpor, a light state of hibernation, to conserve energy as they wait for spring.

Stunning Sumac

Easily recognizable for the deep red color they bring to disturbed areas along roadsides in autumn, sumac begins its fall color early and to vibrant effect. After the leaves of sumac have fallen, the large, inverted cones of tiny red fruits poke up from the tops of their wide crowns, providing a deep red splash of color to the landscape long after other autumn displays have faded.

Fall Webworm

Forming dense clusters of webs on trees ranging from oaks to persimmons, fall webworms are a generalist caterpillar that creates silk tents for protection and warmth. Once larvae hatch from the eggs deposited on the underside of leaves, the web is created and progressively enlarged as caterpillars consume the branch tips from June through September. They pupate over winter in fallen leaf litter before emerging as moths the following summer. They rarely do serious damage to trees.

Wonders of the White Oak (continued)

dition to looking at the traits that characterize the leaves of members of red oak and white oak groups, participants learned about their tendency for in group hybridization and how their acorn mast varies from year to year. Next, participants traveled to Rudolf Bennet Wildlife area to hear from Forestry Manager Billy Haag about the white oak's role in local ecosystems and restoration efforts. Areas like the Rudolph Bennett Wildlife area are forest regrown on former agricultural land or river bottomland. A mixture of stand plantings and recruits from the seed bank have left a diversity of species types, but similar aged stands. In restoration plantings, oaks' slow growing habitats can put them at a disadvantage to species like maple and beech which are able to out shade them. In terms of ecosystem benefits, however, it's impossible to outcompete the oak.

White oak is essential to the ecological functioning of wildlife in the midwest. While it can take up to 30 years to reach maturity, most oaks do produce acorns. Red oaks grow theirs on a two year cycle, while white oaks reproduce fresh nuts annually. With lower concentrations of tannin than their red oak counterparts, White oaks acorns are highly desirable to wildlife. Their better flavor, highly digestible nutrients, and unusually high fat content make them the preferred winter food for over 100 vertebrate species in North America, ranging from turkeys to grouse to white tailed deer. Acorn flour is even used in cooking by indigenous peoples and as a high protein substitute. The leaves provide nourishment for a multitude of insects. Oak leaves' slow rate of decay means that their litter offers shelter to overwintering species from the smallest caterpillar to bats and frogs in torpor state when the temperature drop. Our communities benefit from oak as well. Oak lumber is used in many industries from flooring to carpentry, but perhaps the most delicious of them all is their use in barrels to age spirits and wine. White oak wood's unique compartmentalization means it can be used to create watertight barrels perfect for storing whiskey. This is a leading reason why Missouri has some of the most sought over cooperages in the nation!

In the afternoon, Barrel 53 Cooperage took the Forestkeepers on a tour of their white oak barrel process. Cooperage owner Robert Berndzen explained how staves made from straight trunks of white oak are processed, soaked, bent, and dehydrated into 53 stave barrels to optimize surface area, then charred with a white oak fire to lend the spirits their distinctive smokey flavor. The popularity of oak barrels has even sparked energy into conservation efforts with stave and cooperage owners throughout the country. Hank Stelzer of the White Oak Initiative offered a presentation focused on the challenges facing the sustainability of white oaks on a local and national scale.

White oak can be found throughout a range of more than 104 million forestland acres on public and private land- and Missouri is a dense hotspot. In our state, it reaches its highest concentrations in the Ozark Highlands. Research by the White Oak Initiative suggests that Older trees represent the majority of these plantings, stating "about 75% of all surveyed white oak acres can be classified as at least "mature." While mature trees offer incredible benefits, this poses challenges to both ecosystems and industry as a gap of young trees in the population threatens the sustainability of their place in our ecosystem. According to Missouri University Extension Professor Hank Seltzer, "Without intervention today, American oak populations will begin to decline significantly within the next 10 to 15 years, with more extreme declines over the next several decades". In order to promote robust intergenerational forests, the white oak initiative encourages land owners to embrace management practices including crop tree release, understory removal, and creating group opening and gap cuts along forest edges. The presentation drew attention to resources recently published by the White Oak Initiative that are available to the public on their website, including the recently released publication: Restoring Sustainability for White Oak and Upland Oak Communities: An Assessment and Conservation Plan. Finally, participants concluded the gathering by celebrating a successful year of tree health surveys, invasive species treatment, and tree plantings with a whiskey tasting and a toast to white oaks and all the wonderful things they have to offer.

Give the Gift of Trees!

Did you know that the Missouri Forestkeepers Network is a program of Forest ReLeaf of Missouri in collaboration with the Missouri Department of Conservation? Forest ReLeaf is a 501(c)3 nonprofit organization that distributes trees at no cost, supports community tree planting, and stewards the next generation of tree enthusiasts. Consider a year-gift that keeps on growing!

Donate at www.moreleaf.org/donate or mail to:
Forest ReLeaf 4168 Juniata St. Suite 1 St. Louis, MO 63116

Featured Species

Chinkapin Oak

Quercus muehlenbergii

Chinkapin oak is a medium-sized, tall tree, often with large, low branches and a narrow, irregular crown. Most oaks were used medicinally by Native Americans because of the astingent properties of the bark. This species is also called chestnut oak and yellow chestnut oak. The name is derived from the Algonquian word "chinkomen," whch translates to "chestnut." Many English words for American plants are essentially Algonquian words. Today, Chinkapin oaks are planted as shade trees and valuable for fuel, cabinetry, and furniture.

Chinkapin oak leaves are alternate, simple, 4–8 inches long, 1–3½ inches wide, broadest near the base or above the middle, ending in a pointed tooth (but no bristles or tiny spines on the edges); distinctively coarsely serrated or wavy (like sawteeth) along entire margin; 8–13 teeth per side. The underside is paler than the top, with gray hairs and conspicuous veins.

Found most commonly in dry, rocky upland woods, on bluffs, and in borders of glades, these oaks produce sweet acorns that are relished by many types of wildlife and crucial winter foods for deer, turkey, grouse, and many more.

Source: Missouri Department of Conservation

Q&A

Q: How do Chinkapin oak trees spread?

A: Chinkapin oak is a masting species meaning it produces bumper crops of seed at irregular intervals, producing too many for local wildlife. The animals cache more acorns that they can consume, essentially planting more trees.

FOREST BULLETIN

We are the Champions!

By: Glore Ruiz

When planting, we often work with young trees, and a three gallon tree has a long, unpredictable life ahead of it. It can be difficult to fathom, but any sapling could be the next state champion tree. Just like any other tree, they will first need plenty of time and resources to grow, but what exactly is expected of these trees to earn their title as champions?

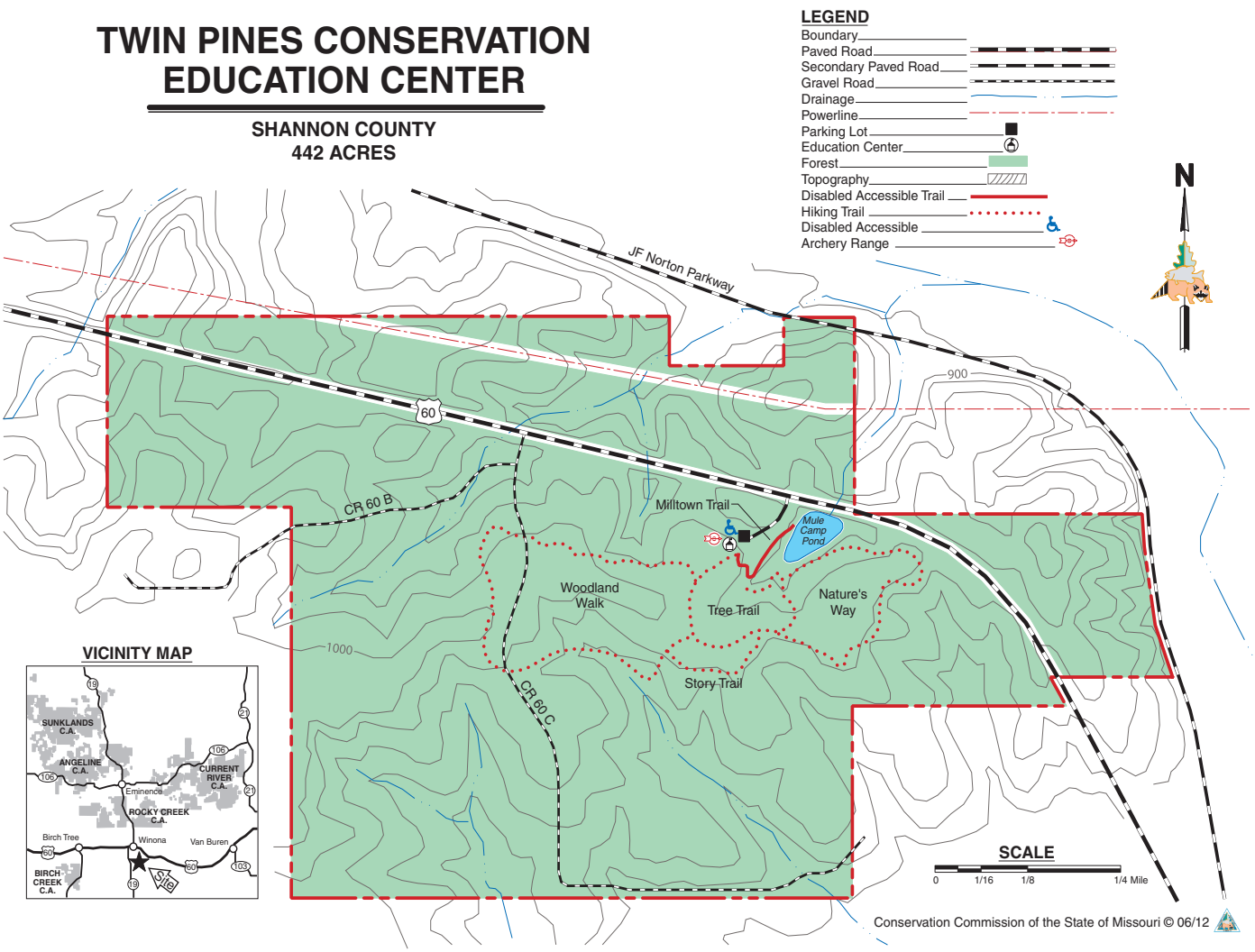
A champion tree must be a native tree that has thrived and grown past the expectations for that species. For a tree to thrive and become a champion tree, it must have little to no competition. This means that champion trees will often reside alone in fields, parks, or campuses. Essentially, champion trees will be found in places that allow the tree to spread, and absorb as many resources as it might need without having to share. This environment and surplus of sunlight, water, and minerals allow the tree to grow rapidly and optimize its production.

Champion trees are assessed by how tall they are, how large their trunk is at 4.5 ft, and how large their crown is. Much of this can be judged intuitively, however the Missouri Department of Conservation uses a formula that includes tree height in feet, trunk circumference in inches, and the average crown spread in feet to create an overall score. This score is used to compare champion trees around Missouri, and for some fun competition among our largest trees.

The largest champion tree may not be the tallest or have the largest crown. However, the metrics in this competition still allow us to find the leader in each category. Due to the data collected, we know that the largest tree trunk in Missouri right now belongs to a bald cypress. That bald cypress is rated as the largest champion tree with a tree score of 456 points. We also know that the tallest reported tree is a 150 feet tall scarlet oak at Lake Wappapello. The largest crown was 138 ft and belonged to a cherrybark oak in Scott County.

Community members are encouraged to partake in this competition, and help continue gathering knowledge about our champion trees. Anyone who spots a tree of tremendous size is welcome to nominate their tree to MDC's Champion Tree Program, and perhaps that tree could be the next champion. Tree nomination forms and tips for measuring and identifying trees can be found on MDC's website. These resources are easy to use, and serve as a great educational tool. Even for those who do not wish to enter a contender, there are plenty of resources to learn about the current list of champion trees or how to plant the next generation of champions.

Take a Hike!



Acreage: 442.2

County: Shannon

Owner: Missouri Department of Conservation

Region: Southeast

Established: 1976

Address: Route 60 East
Winona, MO 65588

Twin Pines Woodland Walk

Year-round stroll through Missouri Forest History

With three miles of trails, the Center at Twin Pines takes the Ozarks logging history and importance of forests and puts it center stage to impress the vital link we all have with forests, past, present and future. The Woodland Walk Trail teaches basic tree identification and taxonomy, and the The Mill Town Trail is scattered with historic artifacts of the bygone timber industry as well as a 19th century cabin and an old shingle mill.

As part of the Great Missouri Birding Trail and a Missouri Department of Conservation center, the Twin Pines area offers ample opportunities for reflection on wildlife, our state's history and forest restoration. Maps are also available for viewing the elk, which are located at the nearby Peck Ranch.

Forestkeepers of the Year

Lawrence Bucheit
Tree Enthusiast
Planted 425 trees and cared for an additional 400 over the course of the year through his efforts in pruning.

Michael Romesburg
Land Manager
Created and cleared high quality habitat for wildlife across 50 acres contributing more than 100 hours of work managing his forests.

Ted Fry
Forest Advocate
Engaged over 50 individuals in volunteer efforts and wrote articles to help share his knowledge and passion for the environment.

Featured Events

Habitats: Discover Dogwood Ridge

Date: Wednesday, November 23, 2022 9:00am - 12:00pm
RSVP: mdc.mo.gov/events
Location: Powder Valley Conservation Nature Center

*Discover a new place to hike in the Saint Louis area with an MDC naturalist. This area was once part of a 10,000 acre cattle ranch, but is now a rugged forest full of plants and animals that are common to Ozark ecology. Prepare to learn about different plants, animals, history, and potentially see some interesting wildlife along the way. *Hike is 2.2 miles and of moderate difficulty.*

Discover Nature: Boughs of Natives

Date: December 10, 2022
RSVP: mdc.mo.gov/events
Location: Anita B. Gorman Conservation Discovery Center

Thinking of making the holidays a little greener this season? Then deck the halls with boughs of native trees and plants. Join us for one of the Discovery Center's favorite holiday traditions. Fashion a festive holiday swag or wreath to hang using native evergreens, prairie grasses, wild nuts, berries, seed pods, game bird feathers and your imagination. Ages 12+

Forest through the Trees Exhibit

Date: through December 11, 2022
Location: Laumeier Sculpture Park

This exhibition pulls together artists whose observations range from representation through landscape to conceptual experimentation where the tree is treated as both subject and object. It also incorporates works from Laumeier's permanent collection that utilize trees, expanding the theme to their outdoor galleries in celebration of form, function, roots, and leaves. Additionally, visit an outdoor installation called Home Base that reflects on the Emerald Ash Borer, elm trees and baseball, exploring the link between a nationally treasured game and our beautiful forests.

Welcome Members!

Mary Anderson
Cole Andrews
Dana Bergman
Tyler Bradford
Ethan Coble
Vanessa Cowart-Oberle
Vicky Elliott
Jack Gonzales
Noah Goold
Joe Jahnsen
Kevin Kenefick
Christopher MacDonald Sr
Brandi Mueller
Sterling Recker
Shannon Rife
Gavin Rizzo
Susan Rowe
Ella Scheiderer
Phillip Schuler
Chloe Thomas
Bradley Walters
A.J. Ward
Tristen Wilson

The Leaflet is produced by Forest ReLeaf of Missouri, 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' 2021 Impact

5,684
trees planted

450
acres of unwanted vegetation treated

70 dbh
largest trees recorded

10,300
hours promoting forest health

900+
trees surveyed for health indicators

10,000
additional trees pruned