Wild Ones®

NATIVE PLANTS, NATURAL LANDSCAPES

OZARK CHAPTER

SPRING 2022 ·Journal· Vol 3. No. 2

Cover Photo: Jasmine Dorn

A voice for the natural landscaping movement. Working toward the next four decades of growing native plants and restoring natural landscapes.

Wild Ones
NATIVE PLANTS. NATURAL LANDSCAPES

OZARK CHAPTER
Est. 2019

Promoting environmentally sound landscaping practices to preserve biodiversity through the preservation, restoration and establishment of native plant communities.

BOARD OF DIRECTORS

Established in 1977, Wild Ones is a national not-for-profit organization of members who teach the benefits of growing native plants and work together to grow and restore natural landscapes.

Wild Ones' definition of a native plant: A native plant is a species that occurs naturally in a particular region, ecosystem, and/or habitat and was present prior to European settlement.

PRESIDENT'S COLUMN

Wild Ones,

Spring is finally here, and I know many of you are diligently working to get your gardens in order. Native plant sales are in full swing, and we are finally starting to see the spring ephemerals peaking out from beneath the leaf litter.

Know that our site visit committee is here to assist you with any questions you might have. We want you to succeed with your native plantings, and to enjoy the rewards that come with seeing your own outdoor living space converted into a habitat for birds or wildlife, or into a waystation for migrating monarchs. Our site committee has been very busy lately and we have been strategizing on how to scale our operations to meet the increasing demand.

Our volunteer opportunities have also increased as we have become more visible in the community. This year will be critical for our work at the rain garden and bioswale at the Lake Springdale Trailhead as we try to maintain these areas while the native plants "creep," so that by next year we will see them "leap." I hope that you can make it to one of our volunteer workdays.

We've also had a presence providing our free consulting services to customers at the native plant sales at Compton Gardens. This has turned out to be a terrific way to interact with the public and provide some outreach to the community.

We now provide Wild Ones t-shirts that are free to anyone who volunteers their time at one of our workdays, or participates in a site visit to provide consulting services to a local resident of Northwest Arkansas.

We have many other opportunities in the works as well, and will be making announcements for how you can get further involved in chapter activities at our monthly meetings (first Thursday of the month!).

Dutifully Yours,

Eric Fuselier

Eric Fuselier, President
Wild Ones, Ozark Chapter

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SITE VISITS

As people transition to using more native plants in their landscapes, they often need support and advice. The Ozark Chapter of Wild Ones is now offering the service of onsite visits in Northwest Arkansas.

The role of the Site Visits Committee is to offer guidance, encouragement, resources, and professional connections to homes and non-profits. Prior to the site visit, a short questionnaire will be sent to establish the priorities of the person asking for help. Our services will be offered in a manner that does not compete with professionals.

If you would like to sign up for a visit, send an email to wildonesozarkchapter@gmail.com. Please use Site Visit in the subject line.

If you are interested in being on the Site Visits Committee and making home visits, please contact stevealarid55@gmail.com.

NATIVE PLANT SOURCES

The Site Visit Committee is gathering a list of sources for native plants. Below are some of sources identified. Please share with us contact information for your favorites at wildonesozarkchapter@gmail.com.

Missouri Wildflowers Nursery
www.mowildflowers.net

Prairie Moon Nursery
www.prairiemoon.com

Pine Ridge Gardens
www.pineridgegardens.com

Ozark Soul
www.ozarksoul.com

North Creek Nursery (wholesale only)
www.northcreeknurseries.com

White River Nursery
www.whiterivernursery.com

Holland Wildflower Farm
www.hollandwildflowerfarm.com

For Wildflower Seeds
email: hwildflowerfarm@cox-internet.com

KEEPING IN TOUCH

Facebook – Our Chapter Facebook page is open to the public.
https://www.facebook.com/OzarkWildOnes

We have resumed in-person programming at our monthly **Chapter Meetings in 2022!** You can find out more details on our website, or by signing up for our email list at wildonesozarkchapter@gmail.com!

National Website – Members of Wild Ones have exclusive access to abundant resources on the national Wild Ones website. Registration gives you access to files, publications, and articles only available to members. On the upper right-hand corner of the main page is a "member login" button that will give you instructions for registering.

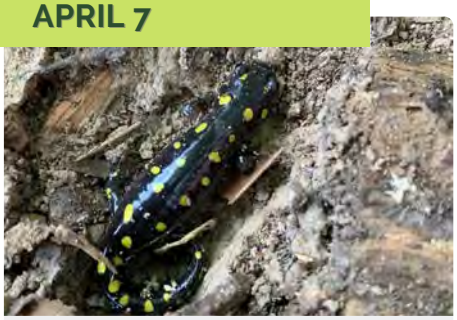
You'll be able to access archived Journal articles, vote on the annual photo contest, sign up for the discussion group, and much more!
https://ozark.wildones.org/

wild ones - ozark chapter

2022 PROGRAM SCHEDULE

Wild Ones - Ozark Chapter is pleased to offer educational programs that support our mission. Please email WildOnesOzarkChapter@gmail.com to sign up.

APRIL 7



Herp-Friendly Land Management Practices
with Dr. JD Willson

MAY 5

Field Trip: Compton Gardens in Bentonville
with Megan Love-Lipscomb

JUNE 2

Butterfly Behavior and Ecology
with Dr. Erica Westerman

JULY 7

Field Trip: Pea Ridge National Military Park
with Nolan Moore

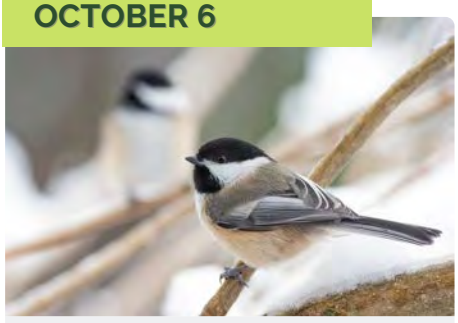
AUGUST 4

Field Trip: Thaden School in Bentonville
with Marina McCoy

SEPTEMBER 1

Garden Tour: Lake Springdale Trailhead in Springdale

OCTOBER 6



How to Attract & Support Wildlife in the Off-Season
with Dr. Susan Rupp

NOVEMBER 3

Native Restoration & Management
with Cody George

DECEMBER 1

Member Potluck and Social

FREE OZARK CHAPTER T-SHIRTS FOR MEMBERS WHO VOLUNTEER!

A wide variety of sizes are available!

Volunteer opportunities include:

- Service on the board of directors or on one of our committees
- Lake Springdale Trailhead Raingarden & Bioswale
- Participation in Wild Ones Site Visits
- Invasive species removal at Lake Wilson in Fayetteville
- Planting natives and removing invasives at Callie's Prairie in Fayetteville
- Planting, maintenance,and invasive species removal at Compton Gardens in Bentonville
- Planting, maintenance, and invasive species removal at Osage Park in Bentonville
- Participation in the Eureka Springs Native Plant Collaborative project

Contact WildOnesOzarkChapter@gmail.com to learn how you can get involved!

GROWING TOGETHER

A WILD ONES – OZARK CHAPTER QUARTERLY COLUMN

Can you believe Spring is here already? The days are getting longer, the frogs are croaking, the birds are chirping, and the bugs are starting to buzz and crawl along.

All this critter activity stirs my mind with this year's possibilities.

This year, I decided to focus on increasing our food production, splitting my time between annual crops and more native plant perennial foods.

Annual crops will always require additional time, labor, and cost.

Perennial foods, however, are a plant-once, harvest year after year value proposition.

Native plant systems are inherently more sustainable, well adapted to the local environment, and resilient to disease and pests without need for chemical interventions.

That makes native plant systems reliable food sources, both for us and for the wildlife they support.

Planting regionally appropriate native foods is an all-around win for us, wildlife, and our ecosystem.

Remember my column featuring Jerusalem artichokes (Spring 2021)? Well, that prolific (and spreading) stand of "Sunflower Trees with Food" continues to thrive and will give us buckets upon buckets of nutritious food for years to come. Good thing we love them because I don't think we'd be able to get rid of them if we tried! This is the beauty of "farming" with native plants.

This month, I am thrilled to introduce you to another native plant with edible landscaping appeal.

Spicebush is not only a stunning accent shrub with multi-season interest, but she is also an incredibly aromatic spice, and a precious food source to local wildlife.

Grow your own Spice Trail.

Grow in Health,

Jasmine "Chef Jazzy D" Dorn
Wild Ones - Ozark Chapter
Member-at-Large and Journal Designer

The New Spice Trail

NATIVE IS THE NEW EXOTIC

by Jasmine Dorn, an Ozark Wild One

"Inevitable. Native flavors as the new exotic is inevitable."

That's what I said to myself the first time I crushed a spicebush leaf and inhaled its enticing aroma.

That was last June, when I attended a foraging and wildcrafting campout offered by Rachael West of Eating the Ozarks in Missouri.

During that weekend, I spent the mornings learning about the plants growing in Rachael's forest, afternoons socializing with like-minded nature-loving folks, and absurdly serene evenings camping in my Subaru Outback, parked under a pawpaw tree.The river serenaded me to my north while small animals scurried on the bluff to my south.

At a morning foraging walk, Rachael led us to a twiggy-looking plant with fragrant leaves. Spicebush, she said as she gave each of us a leaf and told us to crush it between our fingers.

One smell and I was hooked.

Spicebush fruit, leaves, and twigs. ©2021, Jasmine Dorn

I immediately fell in love with its strong and distinctive aromatics. Part woodsy-floral, part citrus-spicy, part allspice, my chef brain crafted dozens of new recipes with every breath.

Spicebush's fragrance and flavors excited me so much, I took leaves, twigs, and branches back home with me to play with in my kitchen lab.

Over the next few months, I played with this delightfully new – local yet exotic – plant. I became so enamored with the leaves and twigs that I went back to visit Rachael in September to get the full spicebush experience and harvest ripe berries.

Rachael and I visited for a bit before she led me down to the river to a spicebush stand in the forest, where thousands of tiny red berries hung in huge abundance, just waiting to be picked. She left me alone on that riverbank.

I got lost in thoughts and in the moment as I harvested hundreds of small spicebush fruits, grateful for the filtered shade in the intense heat and humidity.

I arrived home right after sunset with my spicebush bounty and went straight to work cleaning and sifting the fruits, twigs, and leaves before loading up the freeze dryer.

The research and culinary experiments that ensued locked in my love of this plant. I decided that I must start growing spicebush at home this season.

It is my hope to inspire you to join me to do the same.

In the pages that follow, I offer the fruits of my research as I prepare to plant spicebush at home. I start with brief botanical and ecological overviews before diving into how to grow our very own Spice Trail in our piece of the Ozarks!

Because Native is the new Exotic.

Early Spring Spicebush fruit. ©2021 Jasmine Dorn

A Bit of Botany

HABITAT

Spicebush (botanical name: *Lindera benzoin*) is a deciduous perennial shrub, native to the entire Eastern half of the United States. It is named for its spicy and fragrant leaves and stems.

It grows primarily as an understory species along stream banks or forest edges, deciduous woodlands, low woods, in rich, moderately moist soil.

FLOWERS

Spicebush flowers in early Spring. Getty Images.

Small yellow-gold blossoms emerge before the leaves do, in early-mid Spring.

When you see the flower clusters blooming along the branches, enjoy them while they last. Their brief 2-week bloom may be brief, but its early bloom is valuable to pollinators because little else is available at the time.

Spicebush is dioecious, meaning it is not self-fertile and has male and female flowers on separate shrubs. Male flowers are larger and showier and carry pollen, while female flowers produce nectar.

Both male and female plants are needed within proximity to each other for the female flowers get fertilized and give way to bear bright red fruits.

FRUITS

Though commonly called berries, the fruit of the spicebush is a drupe, which is a berry-like fruit. Generally, a drupe is a fleshy fruit surrounding a single seed that has a hard woody layer, like a peach, olive, or date.

The spicebush drupe is green when immature. It starts ripening in July until it ends up fire engine red when mature in late summer or Fall, when other trees are in good Fall color.

Ripe spicebush berries in late Summer/early Fall
©Rachael West, Eating the Ozarks

Ripe spicebush berries in late Summer/early Fall ©2021, Jasmine Dorn

LEAVES

Spicebush is a deciduous plant whose leaves come in after the flowers bloom in the Spring. The leaves drop in the Fall after a showy burst of golden yellow.

Her alternate oblong/obovate leaves grow 3-6" long. The top of the leaf is darker green than its underside, which is a paler green.

Left: early Spring; Right: late in Summer/early Fall
©2021, Jasmine Dorn

Feeding Wildlife

From its blossoms in early Spring all the way to its berries in late Summer/Fall, spicebush is an important nesting and food source to wildlife, especially during times when alternate food sources are scarce.

Early Spring flowers are one of the earliest nectar and pollen sources for early pollinators.

When her leaves come in, spicebush is the larval host of the Spicebush Swallowtail butterfly (*Papilio troilus*), a specialist whose larvae feed on spicebush leaves. It is also larval host to the Promethea Moth and the Tulip Tree Beauty.

Late Summer/Fall fruits ripen to a bright red in late summer, providing food high in fat and protein to many bird species, raccoons, opossums, and deer.

Year round, spicebush offers twigs and leaves to foraging white-tailed deer, rabbits, and other mammals.

Above: Spicebush swallowtail larvae.
Below: Spicebush swallowtail butterfly.
Getty Images

In the Garden

Bracketing Spring and Fall with yellow flowers and golden leaves, Spicebush will bring colorful interest to your landscape through multiple seasons.

Spicebush is a versatile shrub that you can grow for a variety of landscaping purposes.

Grow it as shrub border. Make a natural hedge or thicket along the borders of forest. Or plant it as dramatic accents alongside your home, fence, or treeline.

Sample landscaping with spicebush and native plants. ©YourGardenSanctuary.com

GROWING SPICEBUSH

Spicebush is adaptable to cultivation in yards and gardens. As with many native plants, it is tolerant of a range of local growing conditions and is forgiving of occasional extreme variances.

SIZE

Spicebush gets as big as a large shrub or a small tree. It's a slow growing plant that can grow up to 9' tall and spread about as wide, so it's not ideal as a small flower bed specimen.

WATER

Spicebush prefers moderately moist soil but can tolerate occasional drought or flooding. It can also adapt to seasonally wet soils and alkaline or acidic pH.

SOIL

Spicebush is adaptable to wide range of soil conditions but prefers fertile loamy soil with decaying organic matter.

LIGHT

How much light it needs depends on what you want.

- Want more berries? Plant spicebush in partial shade (4-6 hours light daily). Though it grows slower in shade, it is extremely shade tolerant, growing best as an understory forest plant.
- Want brighter fall color? Plant in full sun (6+ hours daily). If you plant in full sun, aim for moderate soil moisture.

PURCHASING TIP

Because both plant sexes are needed to set fruit, be sure to get 3 to 5 to boost your chances of getting a mix of male and female shrubs, and plant them near each other.

Harvesting

You can harvest leaves and twigs throughout the year, though young twigs that are flexible and have unopened buds will have the most flavor.

Berries are easy to harvest, but you must exercise patience! It's a matter of time, both of finding them at perfect ripeness (that fire engine red is key), and the time it takes to harvest hundreds of small red fruits.

Conclusion

Spices have been traded for thousands of years.

Our country's Eurocentric colonizing roots kept trade focused on the spices that our distant ancestors valued from the Near and Far East. Their hyperfocus on importation and control of valuable spice trade routes, by accident or design, caused them to overlook or ignore the native spice bounties available locally.

We can change that. Let us grow and support local while adding more spice to our lives and to our gardens.

It's time to make native the new exotic.

Spicebush-Cardamom Almond Cookies

Part of the joy of spicebush is how its comforting aroma fills the air as the cookies bake. Cardamom brings a lovely base note.

Ingredients

- 6 Medjool dates, pitted and soaked at least 6 hours
- 2 ½ cups almond flour
- ¼ cup nut or seed butter
- 2 tsp vanilla extract
- ½ tsp ground spicebush berries
- ¼ tsp ground cardamom
- ¼ tsp baking soda
- big pinch sea salt

- Plant based
- Gluten-free
- No added sugars

Method

1. Preheat open to 325°F.
2. Line a cookie sheet with parchment paper.
3. Drain dates (reserve soaking water for another use).
4. Process dates into a paste in food processor.
5. Add remaining ingredients to food processor and pulse until well mixed.
6. Roll 1 tbsp mix into a ball and lay on cookie sheet. Repeat with rest of mix.
7. Gently flatten each cookie with the back of a fork. Repeat crosswise, if desired.
8. Bake 15-20 minutes, or until bottom of cookie begins to turn golden brown.
9. Cookies will easily release from parchment paper once cool.

THE FUTURE SPICE TRAIL WILL LEAD...

... to my backyard! I'm planting several spicebush stands this year, not just because I'm a naturalist and native plant gardener, but because I'm *also* a chef and entrepreneur who sees potential in demonstrating the commercial value of native plants as a food and nutrition source.

So until you grow your own spicebush pantry, or until native spices catch on and become available in local stores, I invite you to try my spicebush products at JazzysCreativeKitchen.com!

Freeze-dried spicebush berries is the star of this season's Jazzy's Wildcrafted Granola and Ozark Magic Sprinkles Salt Seasoning blend. Order yours while these seasonal supplies last!

Enter WILDWILDONES for 10% off any order through May 31, 2022.

Select References & Further Reading

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About the Author

Jasmine "Chef Jazzy D" Dorn is an entrepeneur and functional health coach dedicated to helping others improve their health outcomes through nutrition and lifestyle modifications. An adventurous plant-based chef, gardener, and herbalist, she is energized by learning and sharing knowledge.

Find her at https://JasmineDorn.com or https://JazzysCreativeKitchen.com

SPRING CLEANUP
with Pollinators in Mind

by Allison Sloan

Cardinals sing, maple buds swell, days brighten. With these first signs of spring comes that itch to clear away the dead leaves and decaying stalks of last year's plants to make room for fresh green shoots. But as I survey the general mess of my garden beds, I remember why I didn't clean it up earlier: the National Wildlife Federation's education mantra, "Leave the Leaves" in fall to sustain wildlife and pollinators, many of which are declining at alarming rates. In addition to the goldfinches and other birds that feast on dried flower heads, "Many moths, fireflies, butterflies and other beneficial insects overwinter in the soil or leaf litter in our gardens," says Leslie Shad, Lead of Natural Habitat Evanston in Evanston, Illinois. "Their eggs and cocoons drop or are laid on the ground, and, with insect populations in steep decline, it is so important for us to help by leaving our leaf litter and not adding chemicals to the soil."

Insects have made the news lately due to downright scary reports from Germany and Puerto Rico that identified insect population plummets of 75-98% from the 1970s and 1980s. The New York Times called it the "Insect Apocalypse." Insects pollinate some 75% of our food crops and 80% of wild plants, and they are the basis of the food web, feeding birds, mammals, fish, reptiles, amphibians and other insects. Already diminishing due to our pesticides and relentless destruction of meadows, forests and weedy patches, erratic temperatures and the drought-flood whiplash from climate change may be dealing the fatal blow. Biologist E. O. Wilson put it bluntly: "If insects were to vanish, the environment would collapse into chaos."

Dozens of insects visited my little wildflower oasis in the summer. By leaving the flower stalks and raking the fallen leaves into the beds as mulch last fall, I invited the bugs to stay for the winter. Though they are hunkered down out of sight, it is possible that the hollow stems are stacked inside with mason bees – highly valued in fruit orchards – and that the leaves shelter butterflies, moths,

bees, fireflies, ladybugs and other beneficial insects at some phase of their lifecycle. With spring on the wing, my homegrown pollinators may help pop my strawberry and serviceberry blossoms into delicious berries– unless I rake them all up and throw them in the waste bin.

"People view their yards as if they are their living rooms and must be kept pristine, with vacuumed lawns and not a speck of 'dirt,' but in fact they are living ecosystems," says Tim Sonder, Co-Leader of Edible Evanston. "All that precious organic matter and the life it contains are needed." Earthworms have multiplied in my garden since I began saving the leaves, and their crumbly rich castings enrich the soil, while the leaves keep plant and tree roots moist and suppress weeds – impressive mulching services from this free and abundant resource from our own yards. No wonder fox sparrows, Swainson's thrushes and brown thrashers all stopped by to forage in the leaf litter last spring. "This kind of mulch will enhance and feed the soil better than anything you can buy," Sonder adds.

Natural Habitat Evanston aims to support beneficial insects by encouraging gardeners to plant native shrubs, trees and wildflowers that sustain bugs throughout their lifecycle. Shad and other Evanston gardeners, schools and public gardens have certified their spaces as National Wildlife Federation habitat to spread the word that natural gardens provide sources of food, water, cover and places for wildlife to raise their young – steps that helped Evanston become the first Illinois city to attain NWF Certified Community Habitat status in 2019.

Other Evanston residents are also taking action. Butterfly enthusiast Ryan Chew launched the Evanston Pearl Crescent Butterfly Project, encouraging gardeners to plant native asters, essential forage for Pearl Crescent caterpillars, which turn into small orange and black butterflies. "Even a small bit of habitat can help, whether you provide nectar from many species for the butterflies, or asters for caterpillars and a bit of winter cover of leaf litter around the asters to protect the caterpillars through the winter," he says.

If you still itch to clean out your garden, horticulturist Jessica Walliser, author of Attracting Beneficial Bugs to Your Garden: A Natural Approach to Pest Control, recommends waiting until temperatures are consistently in the 50s or higher so that overwintering bees and insects can warm up and re-emerge. Any earlier, she recommends these steps:

- Carefully cut down flower stalks. Place them loosely in an out of the way spot or brush pile, or bundle together with jute twine. Hang or lean against fence posts or trees. Insects will emerge when they are ready, and may return in summer to establish brood chambers.
- If you remove leaves, keep an eye out for eggs and cocoons. Eggs, larvae, pupae and adult butterflies such as mourning cloaks, commas and question marks (named after their punctuation-like wing spots) all nestle in the leaf litter. Move leaves to a tree bed or compost pile instead of shredding or discarding.
- Don't add mulch until warm weather to allow soil-burrowing insects, such as hummingbird clearwing moths, soldier beetles, and many native bees, time to emerge.
- Be vigilant for cocoons and chrysalises if pruning back woody perennials or shrubs. Leave them in place. "Some of our most beautiful moths and butterflies spend the winter in a delicate cocoon dangling from a branch, including the swallowtails, the sulfurs, and spring azures," Walliser writes.

If you look for the smallest among us, you may be rewarded with the magic of fireflies, moths that look like hummingbirds and other fantastical and very ordinary bugs. If you plant native, they will come!

To find out how to start your own pollinator garden, see Lissa Morrison's articles on Ozark Native Plants for Gardeners and Landscapers at Wild Ones Ozarks Chapter's website.

To find native plants for the Ozarks region, see the Wild Ones Ozarks Chapter list of native plant suppliers.

About the Author

Allison Sloan is a graduate of Fayetteville High School (class of 1988). She currently resides and gardens in Evanston, Illinois, where she is owner of the Shady Grove Wildflower Farm and steward of the Harbert-Payne Woods native plant restoration.

NOTES FROM ACADEMIA

On Planting Design Education and Future Designers

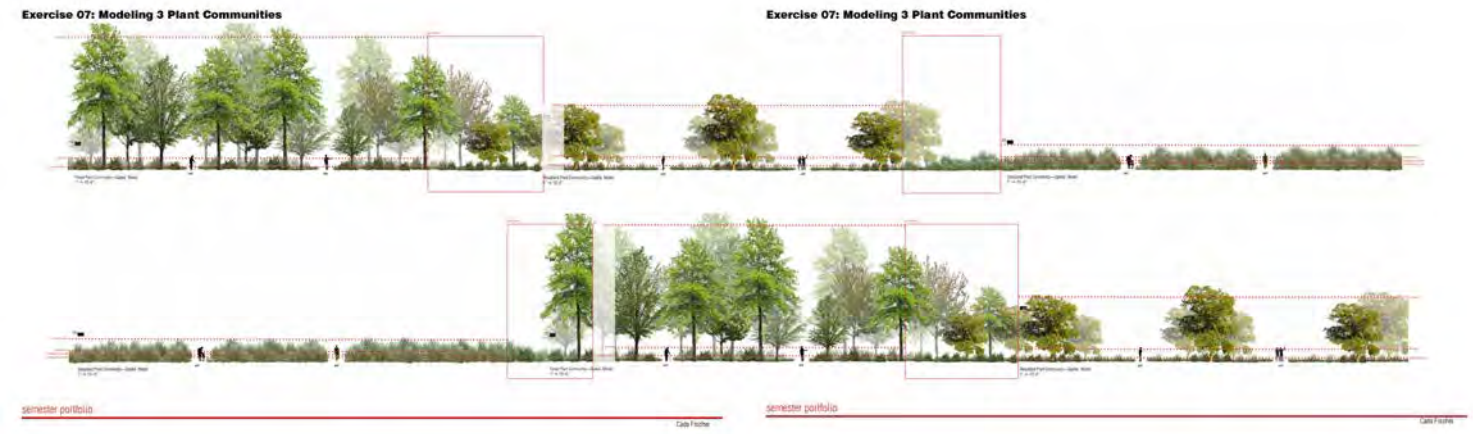
by Scott Biehle

I intended to begin this Notes column quite awhile ago, but the best laid plans….

I am a teaching professor at the University of Arkansas, a member of the landscape architecture faculty within the Fay Jones School of Architecture and Design. We prepare our students to enter a profession that engages in a wide-ranging variety of landscape design, at varying scales, and with numerous goals and intentions. This includes regional or community parks, memorials, restorations, residential and commercial landscapes, community and botanical gardens, and any number of other similar projects. Plants, of course, are a common thread running throughout these projects. It is my great fortune to teach our students about plants, planting design, and the benefits and hesitations, specifically, of using native plants.

I deliver two courses within the landscape architecture curriculum that are plants-driven, with an occasional third elective course and a fourth in development. The core courses the students must take are Ecological Design: Plant Communities and Ecological Design: Plants on Structure. The third course, an elective, is called The Politics of Planting Design. Through these courses, we not only engage the required course content, but frequently work with individuals and organizations across the University campus and the greater community. It is my plan to report, for each newsletter release, the work and activity of the semester concluded before newsletter publication.

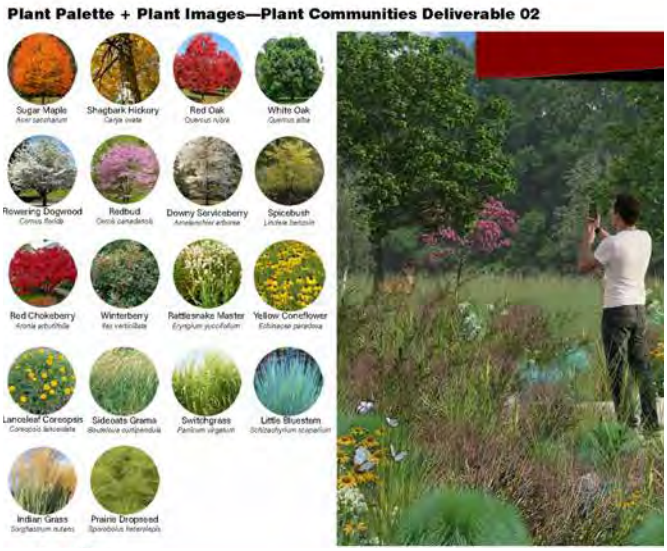
For this first Notes, I'll give a retrospective of the work from 2021.



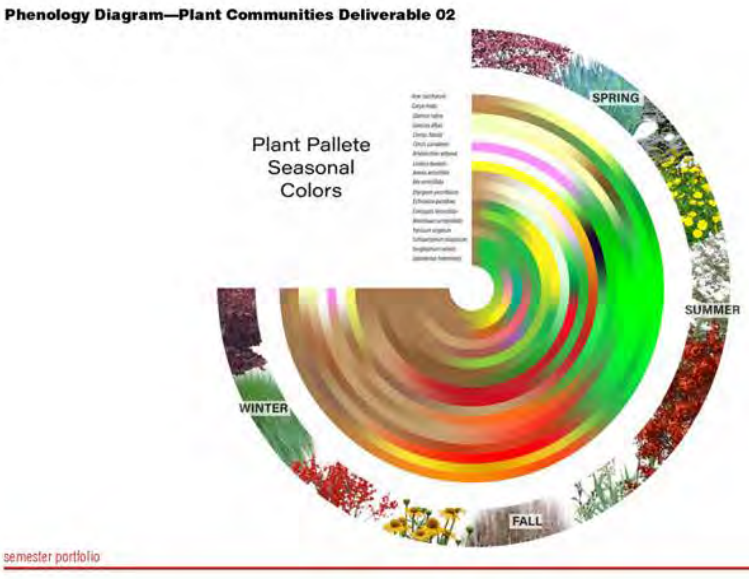
Plant Communities Spring 2021: Modeling Plant Communities
©Cada Fischer

SPRING 2021 PLANT COMMUNITIES

This inaugural plants-related course introduces students to the concept of plant communities, in their various formulations. We look at communities from various aspects: xeric-mesic-hydric communities or forest-woodland-grassland-riparian typologies, each developing based upon numerous physical and environmental conditions that support particular plant life. Time is an important factor, in which not only annual growing seasons are considered, but also growth over a plant's lifetime. Embedded within this are design aspects typically considered such as plant size, shape, color, texture, etc. And then, of course, because we are training students to create landscapes, generally, for the built environment and human interaction, how plants can create space as well as healthy environments for us and our wildlife friends.



Plant Communities Spring 2021: Plant Palette
©Cada Fischer

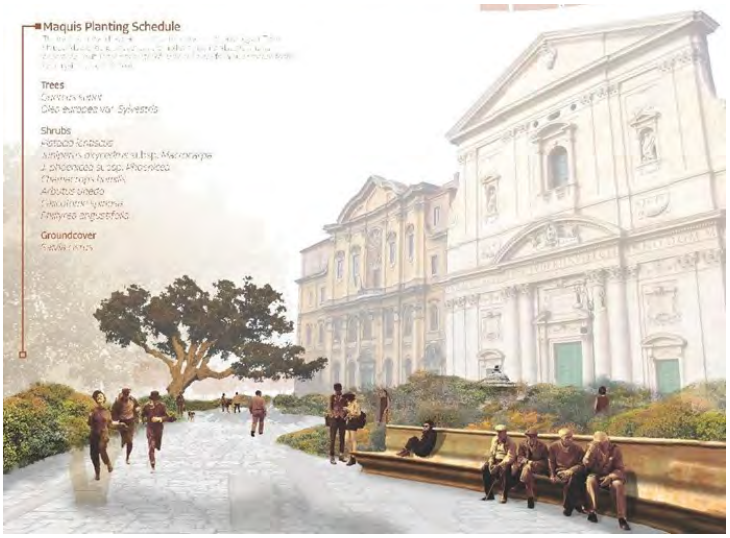


Plant Communities Spring 2021: Plant Phenology Diagram
©Cada Fischer

Typically I ask the students to engage in a small design exercise as we approach the end of the semester. In recent years, we have utilized a site that might be familiar to the reader: Wally's World of Cars (now under new ownership and business type), has served us well. It is a small site, with a roughly mid-century gas station, and is small enough that the students can wrap their minds around it and large enough that meaningful design proposals can be developed. The site is almost entirely paved over with concrete. We engage the Wally's site first in the spring with Plant Communities and continue in the fall with Plants on Structure so that after one year, the work is quite comprehensive and well developed.

SUMMER 2021 ROME STUDY ABROAD

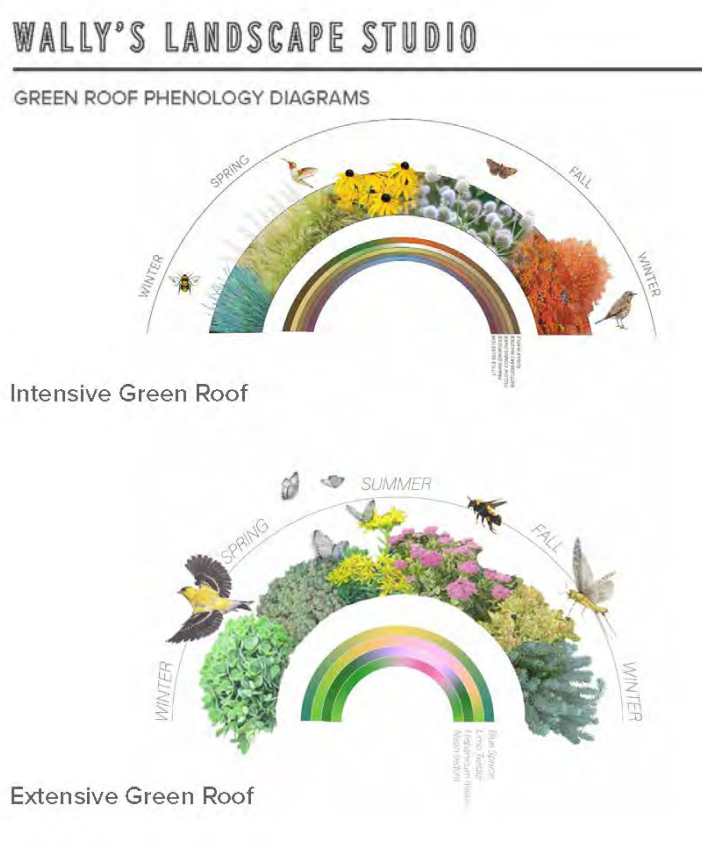
Summer 2021 I had the privilege of spending 10 weeks with our 2nd and 3rd year students in Rome, Italy on their summer study abroad. This 10-week semester is urban-centric and is designed to immerse students in urban form and design. Generally plants and planting design are not strongly considered. But I was quite happy to see in some of the work that emerged from that period that connections were being made and students sought out native plant information to inform their design.



Rome 2021 Study Abroad: Garden Development of Piazza della Chiesa Nuova using native biome inspiration ©Joshua Braden

FALL 2021 PLANTS ON STRUCTURE

Following up on spring 2021's Plant Communities course, students dived into considerations about planting on, in, or near built structures. The course looks at types of green roofs, variations on green walls, planting at grade near structures for stormwater mitigation, planting for remediation of black and gray water, and sub-grade support structures for urban trees. A strong theme in this course is bringing to light the numerous benefits of such plantings including ecosystem services, human health gains through biophilic design elements, water quantities mitigated, and environmental improvements gained from a native planting strategy. The Wally's World of Cars site was again used as the site for design proposals.



2021 Plant on Structure: Phenology Diagrams ©Cada Fischer & Jessica Shearman

FALL 2021 EPA RAINWORKS CAMPUS CHALLENGE

The Environmental Protection Agency sponsors an annual competition for university students called the Campus Rainworks Challenge. Students are invited to form multi-disciplinary teams to work on a selected site on their campus for which they develop design solutions that improve the performance of the campus landscape. For the past five years or so, I have lead student teams comprised of landscape architecture, horticulture, biological engineering, and business students. Designing with native plants is a core tenet we hold to in developing these designs.

This inaugural Notes is a broad overview (and perhaps an overly long one) to 2021 and the training of future landscape architects. Future Notes will be more brief.

About the Author

Scott Biehle is a teaching assistant professor in the Department of Landscape Architecture in the Fay Jones School of Architecture and Design. His teaching load includes courses in landscape construction, plants, and planting design. He continues to practice in the Northwest Arkansas area. Prior to moving to Arkansas, Biehle practiced with Ten Eyck landscape architects and was a solo practitioner in Austin, Texas.

Biehle earned a Bachelor of Arts with double majors in French Literature and Political Science from St. Olaf College. He received his Master of Landscape Architecture from the University of Texas at Austin.

2021 EPA Campus Rainworks Challenge: Proposed Landscape to Existing Fay Jones School ©Cada Fischer

SOME NATIVE GARDEN BASICS I LEARNED

The Hard Way

by Theo Witsell

This mesic forest garden with dozens of spring ephemeral wildflowers is on the same site as the dry woodland bed but required careful site selection (finding spots with maximum shade), soil amendments to increase fertility and water retention, application of shredded leaf mulch, and regular irrigation during the summer and fall. Photo by Theo Witsell.

Other articles in this issue discuss the benefits of native plant gardening to insects and other animal pollinators. In this piece I'll focus on some basic principles of native gardening by summarizing several lessons I've learned over the past 25 years trying to garden with native plants. In both my own experience and the experiences of many other native gardeners I've talked to, I've found that many of the frustrations people encounter in gardening with natives come from an incomplete understanding of these species' biology and ecology in the wild. So here are some lessons I've learned trying to bring our wild ecosystems home:

1 Just because a plant is native to Arkansas doesn't mean it will do well anywhere it gets planted.

When humans first arrived to what is now Arkansas, they found nearly the entire land area covered with native plants. This simple fact underscores one of the many beauties of gardening with natives: there is a perfect species for every conceivable site. From the driest, hottest, most exposed south-facing rock outcrop to the darkest, wettest forested swamp there are native plants that are perfectly at home in even the most difficult spaces you want to fill. The trick is to match the right plants with the right site, and to do this you can look to our wild natural ecosystems for advice.

My personal approach to gardening, which I like to sum up as "maximum biodiversity with minimal effort" centers around this idea of matching species and sites. I recommend studying a prospective garden site for a little while, trying to determine the original natural community that would have been present there historically, and looking to enact examples of that natural community for inspiration. For example, in my yard, which occurs on a dry, rocky shale and sandstone ridge in the Ouachita Mountains with a canopy of post oak, shortleaf pine, and blackjack oak, I know that the native light-loving species of the poor acid soils of dry oak-pine woodlands and glades of the region will be at home on my site. By contrast, in the rich, fertile soil of a shaded forest site on a north slope or along a stream, I know that shade tolerant spring ephemeral forest wildflowers will do well but the natural conditions needed by the dry woodland and glade flora just don't occur.

This open woodland garden around an old post oak tree in Little Rock was planted with dozens of species native to the dry post oak-shortleaf pine woodlands present on the site before a neighborhood was developed there in the 1960s. Once established it has required little care beyond occasional watering during dry periods and an annual clean-up. Photo by Theo Witsell

2 Just because a plant is native to Arkansas doesn't mean it will do well anywhere it gets planted.

Some people have the idea that because a plant is native it will not need any care at all. This may be true in cases of well-established plants that are a perfect match to a site, but a little tending will generally get you better results. Even drought-tolerant plants need some water, and this is especially true of young perennial plants that are getting established. Also, just because a plant will survive on a site doesn't mean it will thrive, flower, or look good. It's also true that when species that are the most at home in semi-shaded woodland conditions get planted in full sun, they will need more water than they do in the woodland. Think of the survival of each plant as a tug-of-war between moisture available at the roots and water loss through the leaves. The more a plant is exposed to the drying effects of the sun, the more moisture it will need to stay hydrated and be able to fully function. And it is the extremes of drought that kill plants, not the average daily or weekly or monthly moisture levels. It just takes one episode of extreme drought stress to lose a plant for good, and the drier your site, the more plants will need to be monitored for signs of drought stress.

This rock garden on a very dry, exposed south-facing driveway cut was designed to mimic sandstone and shale glades found nearby and includes dozens of drought-adapted perennial wildflowers, shrubs, and grasses. Aside from occasional watering to keep the plants looking good it needs only an annual clean-up for maintenance. Photo by Theo Witsell.

3

Some natives are "too happy" in the garden.

Another common frustration I hear from gardeners is that many native species grow too tall (often twice as tall as expected or desired) and flop over in the garden. In general, these are sun-loving species adapted to poor, infertile soils, and they occur in the wild in tight competition with others so that nutrients, water, and space are all scarce. When these same species get planted in fertile garden soil, are well-watered, and have the competition weeded out, they tend to grow bigger than expected. If plants native to these sorts of sites (for example, pale purple coneflower, Echinacea pallida) are being considered, the soil should not be amended. These plants really do like poor rocky/clayey/sandy soil with little organic matter. Resist the urge to coddle these kinds of natives with good soil!

4 Just because a plant is native doesn't mean it will be well-behaved and play nice with others.

Native species can be too aggressive, and especially so in the garden. Not all plants are alike, and even within a genus different species may have evolved different life strategies, with some being naturally aggressive and weedy. A good example is the goldenrods (genus Solidago). We have more than 30 native goldenrods in Arkansas, and these range in habit from the rare and well-behaved clump forming Gattinger's goldenrod (Solidago gattingeri) to the rank and downright invasive tall goldenrod (Solidago altissima), which grows tall and spreads rapidly underground to form huge colonies. I recommend against inviting it into the garden (though it will almost certainly arrive on its own at some point, as it is also a prolific seeder and colonizer).

This rock garden on a very dry, exposed south-facing driveway cut was designed to mimic sandstone and shale glades found nearby and includes dozens of drought-adapted perennial wildflowers, shrubs, and grasses. Aside from occasional watering to keep the plants looking good it needs only an annual clean-up for maintenance. Photo by Theo Witsell.

Many of these "native invasives" share common traits like rapid growth or a rhizomatous growth habit (forming a colony from creeping horizontal underground stems). If you have a small garden, you might avoid these more aggressive rhizomatous species altogether, or at least know that you will probably need to control their spread if you want to have anything else. Another good example of a large genus with both well-behaved and invasive members is the milkweeds (genus Asclepias). On the one hand there is the horsetail milkweed (Asclepias verticillata), which maintains long term as a tidy clump, and on the other there is the common milkweed (Asclepias syriaca) which can make a tall dense colony with thousands of stems and out-compete all other plants nearby.

5 Most natives take a little effort and understanding to grow from seed.

Another common frustration I hear expressed from people is that they spread out some native seed and nothing ever came up. Often there are three things going on: 1) an incomplete understanding of seed ecology, 2) insufficient site preparation and maintenance, and 3) impatience.

Native Seed Ecology

Most native plants, especially wildflowers that people desire in the garden have seeds that require some sort of treatment in order to break dormancy and germinate. There are several different types of seed dormancy, but all of these are natural adaptations that ensure that the seeds will germinate at a time when the resulting seedlings have the best chance of survival. The most common type of dormancy occurs in seed that needs to go through a period of cool, moist conditions to germinate. In replicating this treatment, we are essentially tricking the seeds into thinking they've just been through the winter in the ground. Germination in the early spring ensures that the seedlings will have a period of adequate temperature, moisture, and light to get big enough to survive the coming summer. As a gardener, you can sow these seeds in the fall as nature does or put them in a baggie of moist sand (not too wet!) in the refrigerator for a period of time before sowing them (the exact length of time depends on the species but generally ranges from three months to 10 days). Even after this period of "cold moist stratification," most seeds won't germinate until soil temperatures reach a certain level, signaling to the seed that the danger of a hard freeze has passed.

Seeds of some species have a hard, protective seed coat that needs to be physically broken in order for the seed to soak up water and break dormancy. In the wild this may happen as the seed passes through the digestive tract of a bird or other animal. A gardener can replicate this by gently rubbing these seeds with sandpaper or nicking the seed coat with a knife before sowing. Some seeds, including many of the beans and peas, can be nicked but will also break dormancy after pouring boiling water over them and allowing them to soak for a day or two.

Seeds of some species require exposure to certain chemical compounds to break dormancy. In some species, including many wetland plants, ethylene (given off by ripening fruit or decaying vegetation) is the trigger. Many species native to fire-adapted ecosystems have evolved to germinate after a fire removes competing vegetation, and these seeds germinate in higher percentages after being exposed to chemicals in smoke and ash. Some gardeners, myself included, have had success by making "smoke tea" (by forcing smoke from burning vegetation to bubble up through water) to treat seeds of these types of plants.

Another common misconception among gardeners is that seeds of native species must be buried in order to germinate. This is actually an uncommon requirement and is most often found in larger seeds (like oaks and hickories) that are planted by mammals like squirrels. Seeds of most natives do well on the surface of the soil or only lightly covered. Seeds of many grassland and open wetland species, especially those with very small seeds, need light in order to germinate and must be sown on the surface of the soil.

Seeds of many native forest species, including many spring ephemeral wildflowers, have a double dormancy, requiring a period of warm, moist stratification followed by a period of cold, moist stratification. Some even require a second period of warm, moist stratification or even several years in the ground.

Site Preparation and Maintenance

Another common cause of failure in planting native seed is inadequate site preparation and maintenance. Seeds need good contact with the soil to successfully germinate and become established. Attempts to sow seed in established stands of dense grass or on top of dense leaf litter are not likely to do well. In the wild, many species establish new generations from seed in the year following a fire or flood or some other disturbance that makes the bare surface of the soil available to seed. The same conditions are required when establishing a native planting. Also, if you are establishing a native meadow or prairie from seed, the site may need to be prepared by treating the existing vegetation (with herbicide or some other method) for at least a year before planting. Maintenance in the years following planting is also critical, with periodic mowing recommended several times during the first and sometimes second year (so young seedlings can compete with more rapidly growing, taller weeds) and annual burning or mowing after the growing season in the years after that.

Patience

It will likely take three years for slow-growing native perennials to recruit from tiny seedlings to mature flowering plants (and longer for some species). An experienced practitioner of such prairie restoration once told me "Patience is key with a perennial prairie planting like this. It will take three years to really see the results. The first year it sleeps, the second year it creeps, but the third year it leaps."

About the Author

Theo Witsell is the Ecologist and Chief of Research for the Arkansas Natural Heritage Commission, the state agency charged with identifying and protecting the state's rare plants, animals, and natural communities. In this role he oversees the state's Natural Heritage Program and guides the acquisition and management of the state's System of Natural Areas (77 public nature preserves protecting more than 72,200 acres). Formerly the agency's botanist, he started the Arkansas Natural Heritage Commission Herbarium (ANHC) in 2003 and still serves as curator of that collection. He is co-editor of the Atlas of the Vascular Plants of Arkansas (2013), co-author of Trees , Shrubs, and Woody Vines of Arkansas (2021), and has authored or co-authored more than 30 scientific papers and book chapters. He also serves as a regional reviewer for the Flora of North America Project.

Site Visits Project Update

BY STEVE ALARID, SITE VISITS CHAIR

The Site Visits Projects has already been busy in 2022. Since we began providing this service we have conducted over forty site visits, and twenty of those have been in this year alone. Here's a sample of summaries from this year's visits:

Lincoln

Kathryn Birkhead and Judy Smith visited an 18-acre rural property where the owners want to restore AR natives to their land and make more effective use of their wetland areas and runoff. Kathryn and Judy made many recommendations for appropriate plants and provided a good list of further reference materials.

Fayetteville

Steve Alarid, Amber Alexander, Kathryn Birkhead, and Judy Smith visited an urban residential lot where the owner intends to build a new house soon. Because of a perennial stream on the property and neighborhood storm drainage channeled across the lot, the discussion revolved around stream channel restoration with beneficial riparian species, rain gardening, and replacing non-natives in the upland areas. The visit was followed up with a list of further references.

Rogers

Danny Barron and Pam Morgan visited a non-profit food pantry garden to address the clients' questions about hedgerows, pollinator gardens, and more.

Fayetteville

Amber Alexander and Lissa Morrison visited a 1-acre residential property located on a steep north aspect with an established profusion of non-native invasives. They were able to give good advice on various control and restoration approaches, as well as contractor referrals.

West Fork

Amber Alexander, Patty Severino, Pam Morgan, and Steve Alarid visited Karyn Hall's 2-acre semi-rural tract. Replacement of invasive species, riparian management, plant identification, re-wilding, edible gardening, and more made for a lively conversation. The group of experienced gardeners had plenty of good ideas for Karyn.

These site visits are a core chapter activity in support of Wild Ones' goal of promoting "environmentally friendly, sound landscaping to preserve biodiversity through the preservation, restoration, and establishment of native plant communities". All chapter members are invited to participate in this project! Leaders and learners are all welcome. As much as we try to offer help to our clients, we also gain new and educational experiences on each visit – plus it's fun!

To find out more about this project, contact Site Visits Chair Steve Alarid:
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479-877-5123

About the Author

Steve Alarid served 33 years as a forester and firefighter with the U.S. Forest Service. He and his wife, Sherrie, have five children and seven grandchildren. His conservation affiliations include the Arkansas Master Naturalists and Ozark Chinquapin Foundation.