



Cover photo: L-A-D Foundation's Virgin Pine Area along Highway 19 south of Round Spring, with native shortleaf pine, sumac and other ground flora after a decade of restoration by L-A-D staff. Photo taken by Jennifer Battson Warren in October 2023, shortly after she joined the team as the foundation's new executive director. Jennifer brings considerable experience to the organization, having spent more than 30 years with the Missouri Department of Conservation in nearly all possible roles, most recently at the executive level as the deputy director for business and operations.



## STATEMENT OF VALUES

The L-A-D Foundation is built upon the values of our founder, Leo A. Drey. We affirm and strive to emulate his personal qualities and vision throughout our organization and with our partners: being ethical, humble, respectful, a bridge-builder, generous, and pursuing our mission with an independence of thought and

firmness of purpose. Rooted in the ecology and community of the Missouri Ozarks, we also affirm our dual purpose of exemplary forest management and natural areas protection, pursued in a pragmatic fashion on behalf of the land and people of this special place.

## L-A-D FOUNDATION HISTORY



### **Founder: Leo A. Drey**

Leo Drey began investing in forest land in the Missouri Ozarks in 1951. In 1954 he acquired his largest, most contiguous block of nearly 90,000 acres in Shannon county from Natural Distillers Products Corporation of New York, which had in turn acquired it from Pioneer Cooperage Company of St. Louis, along with the field headquarters in Salem and the forest management staff. He added it to the tracts he already owned and named it all Pioneer Forest.

In 1962, Leo Drey established the L-A-D Foundation primarily to hold and protect areas of outstanding natural or cultural resource value in the Missouri Ozarks, most of which have become designated natural areas or state parks. In 2004, Leo and his wife Kay donated Pioneer Forest to the L-A-D Foundation to be managed in perpetuity as an exemplary demonstration of conservative uneven-aged single-tree selection forestry and ecological stewardship.

# CONTENTS

## 2023 Annual Report of the L-A-D- Foundation

Published June 2024

### Board of Directors

Susan Flader  
President, Columbia

Josh Reeves  
Vice President, West Plains

Edward (Ted) Heisel  
Treasurer, Pacific

Steve Mahfood  
Secretary, Wildwood

Janet Fraley  
Assistant Treasurer, Houston

Peter Goode  
St. Louis

Jim Guldin  
Springfield

Nikki Krawitz  
Columbia

Adam Saunders  
Columbia

David Stokely  
Republic

Rick Thom  
Jefferson City

### President Emeritus

John Karel  
Ste. Genevieve

## 02

### From the President

---

## 03

### Goal 1: Maintain a Healthy Forest

*2022 Continuous Forest Inventory/ Red Oak Mortality/  
Pioneer Forest Obtains Forest Certification Through SFI/ By  
the Numbers/ Fire in the Ozarks–Good and Bad*

## 07

### Goal 2: Demonstrate Exemplary Stewardship

*Ecological Management Plan/ Natural Features Inventory/ By  
the Numbers/ Coordinated Management at Devil's Well/ New  
Real Estate/ Mapping Into the Past*

## 10

### Goal 3: Increase Outreach and Collaboration

*L-A-D Undertakes Communications Planning/ Guest Lectures  
and Distillery Visits in Kentucky/ Native Plant Protector Neal  
Humke/ L-A-D Partners with CFO/ Salem Celebrates New  
Mural*

## 13

### Goal 4: Sustain Organizational and Mission Perpetuity

*Jennifer Battson Warren Follows Roger Still at L-A-D Helm/  
Staff and Advisors/ L-A-D Welcomes New Staff and Bids Sad  
Farewells*

---

## 16

### APPENDICES

*L-A-D Foundation Lands Map/ L-A-D Foundations Lands  
Tables/ Trails/ Backcountry Trails Map*



## FROM THE PRESIDENT

Susan Flader  
President, L-A-D Foundation

This has been a year of continued work on the goals of our strategic plan as well as completion of a number of key projects on which staff had been working for several years. As always, there was lots of planning for the future.

We began 2023 with a new organizational structure at the request of senior staff. When we initially added an executive for the L-A-D Foundation in early 2021, we searched nationally for a foundation manager to work in tandem with our forest manager in a co-executive structure. That had the desired effect of encouraging greater communication and collaboration among our forestry and ecological stewardship staffs. But when it became apparent that certain matters required unitary authority, we moved to a more traditional structure headed by an executive director. As of January 2, Roger Still was promoted to executive director of L-A-D and Jason Green to director of forestry and stewardship, with the intent to foster even closer integration of forestry and ecological stewardship.

On Pioneer Forest, staff completed three major projects in 2023. The first was our 2022 Continuous Forest Inventory, always a two-year effort, for which staff concluded measurements in spring and turned to analysis. Most notably, the data reflected continued

decline in reproduction of white and red oak and shortleaf pine that staff will address by various management efforts to allow more light to reach the forest floor. Timber sales continued through the year as usual, with more timber harvested in 2023 than ever before. Regrettably, much of it was through salvage operations necessitated by heavy red oak mortality and a large wildfire that burned nearly a thousand acres.

The second project was forest certification. After two years of work on a detailed manual required for certification to Sustainable Forestry Initiative standards, the forest was audited by an independent certifying team in October, passed with flying colors, and was officially certified in December.

Third was completion of our first-ever Ecological Management Plan for Pioneer Forest by our ecological staff. Among other things the plan establishes a natural features inventory that will help identify priority resource areas for special treatment. The year also saw completion of a pilot inventory of one of the least known tracts on the forest, the 6,000-acre Egyptian tract, with exciting results. Future inventories will lead to planning for more individual priority areas. Meanwhile, our partners in the caving community have found yet more caves on our

lands and are helping to identify the significant natural features underground.

This was also the year for focus on a long-needed communications plan that will guide our efforts for more effective outreach and collaboration with partners on an array of endeavors in the public interest. This year our new partnership with the Community Foundation of the Ozarks, several years in the building, was launched to help improve the scope and effectiveness of our grants program. Meanwhile, our 2022 engagement with and support for the Ozark Natural and Cultural Resource Center in Salem came to fruition with the spectacular Current River mural wrapping the building's exterior. We were also surprised and delighted that one of our many partners, the Missouri Prairie Foundation, recognized our own Neal Humke as Missouri's Grow Native 2023 Native Plant Protector!

Year 2023 was also a time of sad farewells and exciting welcomes. We bid sad farewell to L-A-D executive director Roger Still, board member Mike Smith, and chief ecologist Rebecca Landewe, and were excited to welcome new executive director Jennifer Battson Warren, Salem office assistant Chandra Sutton, natural resource ecologist Nolan Sipe, and forester Luke Sullivan, each of whom immediately began making important contributions to the team. The future is bright as we look forward to another year of continued outreach and engagement with our many partners and friends.

*Susan Flader*

# 2022 CONTINUOUS FOREST INVENTORY

Pioneer Forest staff wrapped up the 2022 CFI in early 2023. This marked the 15th measurement of Pioneer’s permanent inventory plots, providing 70 years of data for Pioneer Forest managers. Approximately 40,100 trees from seedlings to sawlogs were counted and measured. The data collected during the CFI are analyzed by staff, and the results are used to inform timber management and scientific research.

Sawlog volume per acre increased in the 2022 CFI, as it has in each inventory since 1952. The current standing volume is 6,560 board feet per acre, an increase of 746 board feet per acre from the last measurement in 2017. Species composition by volume changed slightly in 2022. The red oak group remains the dominant species by volume, even while decreasing from 40% in 2017 to 37% in 2022. White oak increased by 3% from 21% to 24%, while shortleaf pine remained the same at 29%. Sawlog growth was 219 board

feet per acre per year, which is down slightly from the 2017 CFI of 228 board feet per acre per year. On the current 143,880 acres of Pioneer Forest, that’s over 31.5 million board feet of growth annually. In a year when we harvested nearly 19.5 million board feet of timber, more than ever before, we are still growing much more than we cut or lose to other causes of mortality.

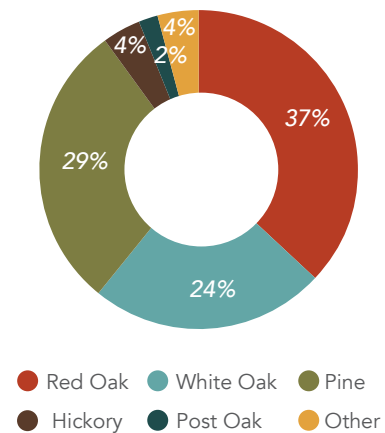
While sawlog volume increased, the regeneration data collected during the 2022 CFI show further declines in the establishment of new oak seedlings and saplings. Regeneration of both white oak and red oak—our most marketable species—has decreased in abundance since 1997, while more shade-tolerant species such as maple, black gum, serviceberry and dogwood have increased in numbers and persist into the midstory, where they continue to reduce the amount of sunlight reaching the ground. Even more concerning is the poor health and vigor of many of the surviving oaks, which are stunted and fail to grow into the next size class even after they are released by a thinning. This highlights the importance of active forest management,



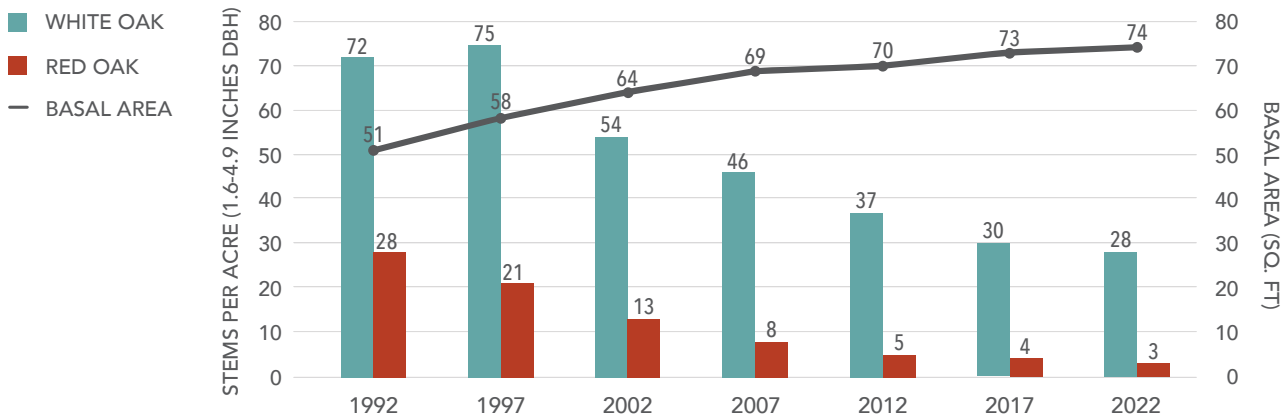
Staff discuss measurements of regeneration.

such as harvesting more trees per acre and selectively thinning midstory trees to create more canopy gaps in order to increase sunlight for oak regeneration. As one of our passionate foresters said after reviewing the CFI data, “We need to do what we say we need to do.”

## SPECIES COMPOSITION BY VOLUME 2022



## BASAL AREA AND STEMS PER ACRE OF ADVANCED REPRODUCTION





## RED OAK MORTALITY

As Pioneer staff completed pre-harvest timber cruises in 2023, they noticed that red oak mortality had increased significantly beyond mortality levels found during the 2022 Continuous Forest Inventory, and they became alarmed by the total acreage and quantity of standing dead timber in certain sections of the forest. The mortality seemed random, found in both areas that had been recently harvested and areas where it had been nearly 20 years since harvest. Staff could not detect a pattern of mortality on the landscape, so we contacted Robbie Doerhoff, forest entomologist with Missouri Department of Conservation (MDC).

Robbie and her team came to the forest to help the Pioneer team evaluate and investigate the mortality across the ownership. While on site, she explained the process of oak decline in the landscape. She also took samples from increment boring of trees and a grasshopper specimen—later identified as post oak locust at the MDC laboratory in Columbia. In areas where the

grasshopper was present, near complete defoliation occurred. Additionally, she trained the staff on *Armillaria* root-rot and *Hypoxylon* canker identification. There are no treatments for trees infected with either disease.

While both *Armillaria* and *Hypoxylon* are native fungal species, they can play a natural role in oak mortality across the landscape. Although the mortality was significant on Pioneer lands, Robbie was not concerned given the age of the dead and dying trees—about 70 years, roughly the number of years since Leo Drey acquired most of the then-cutover lands and began allowing them to regrow—combined with the high incidence of *Armillaria* and *Hypoxylon* canker. The average lifespan for red oaks, when they become vulnerable to various forms of stress, is about 70 years. Staff found Robbie’s insights tremendously helpful and invited her back in August to train the rest of the forestry and ecology staff.

There have also been intense climatic events recently in the region. For example, the Missouri Ozarks has suffered

severe droughts in 2012, 2022, and 2023. Additionally, in the spring of 2017, the Ozarks suffered the most intense flooding on record. These large shifts in climatic patterns have played a significant role in tree stress and mortality. There had been other drought-related mortality events in the 1950s and 1980s. Leo Drey lost more than 12 million board feet of timber to drought in the 1950s, but in the 1980s his red oaks were somewhat less affected by the drought than those on other Ozark forests because many of them were younger and more vigorous.

Of Pioneer’s 13-15 timber sales at any one time, 8 have been harvesting dead or dying trees. For calendar 2023, Pioneer salvaged some 3.6 million board feet of dead timber, primarily red oak. The forest has not seen this level of mortality since the Rapid White Oak Mortality in 2012. Staff continue to monitor for new areas of severe mortality and manage salvage operations. They will also be removing more of the mid-story through timber stand improvement, and monitoring to track patterns of regeneration in such areas.



*Robbie Doerhoff finds entangled strands of Armillaria under the bark.*



# BY THE NUMBERS

## PIONEER FOREST OBTAINS FOREST CERTIFICATION THROUGH SFI®

After two years of preparation, Pioneer Forest received its Forest Management Certificate through the Sustainable Forestry Initiative®. Foresters Clay Jensen and Matt Skaggs led the process for certification. Pioneer now joins MDC in SFI® Certification. Together, they have more than 840,000 acres of certified forest lands in Missouri, and Pioneer will be able to partner with MDC to encourage other private landowners to become certified.

The process of certification is extensive. The Forest Management Standard promotes forestry practices based on 13 principles, 17 objectives, 41 performance measures, and 141 indicators. SFI® requires participants to produce a working manual containing policy and procedures for the forest that meet all these

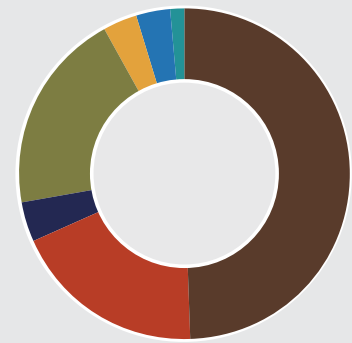
standards. The manual also requires specific training for staff and contractors working in the forest. The forest and the documentation of its practices were then audited over a two-day period by a third-party-accredited certification body.

According to SFI®, certification demonstrates that Pioneer Forest is “committed to supporting sustainable forestry, protecting biodiversity and ecosystems, and other environmental, social, and economic principles of the SFI® Forest Management Standard.” Pioneer will also have access to sustainable markets as they develop. These markets might include wood for barrels for the wine and spirits industry, wood for cabinets and flooring, for railroad ties, and for the pulp and paper industry.

# BY THE NUMBERS

**7,918 AC**  
FOREST ACRES HARVESTED

**19,462,194 BF**  
TOTAL BOARD FEET HARVESTED



- Sawlog Volume:**
- 9,675,101 BF Green Timber
  - 3,648,328 BF Salvage
  - White Oak Staves: 763,485 BF
- Blocking Volume:**
- 3,806,365 BF Green Timber
  - 694,097 BF Salvage
  - Shortleaf Pine: 652,281 BF
  - Pulpwood: 219,845 BF



Auditors in Action

## 284 Feral Hogs

REMOVED FROM  
PIONEER FOREST

by  
Pioneer Forest: 80  
MDC: 93  
US Dept. of Agriculture: 111

## FIRE IN THE OZARKS—GOOD AND BAD

The Ozarks evolved with a frequent, predominantly-dormant-season anthropogenic fire regime as indicated through dendrochronology, archaeology, and early accounts of explorers and settlers. We know from scientific and cultural research that fires set intentionally by Native Americans and early settlers were the primary source of ignition in the Ozarks. Beginning in the 1930s with the creation of national and state forests in the Missouri Ozarks, the US Forest Service (USFS) and the newly-restructured MDC began an intensive effort of fire suppression and prevention, which became largely successful by the 1950s. These efforts helped give Leo Drey the confidence he needed to begin his own large-scale, long-term forestry enterprise in that decade.

Then by the early 1980s the fire story took another turn as ecologists in MDC, Missouri state parks, and USFS began experimenting with carefully planned (“prescribed”) fire in prairies, glades, and then woodlands to restore biodiversity in natural fire-adapted communities. L-A-D began working with partners to explore the use of fire to restore some of our own natural areas in the 1990s, but it was not until we hired an experienced ecologist and burn boss, Neal Humke, that we conducted our first prescribed fire in shortleaf pine stands on Pioneer Forest south of Round Spring in 2009.



Since then, Neal has worked with a seasonal fire crew, our Pioneer staff and various partners on prescribed burns in designated areas on Pioneer Forest, including a number of cross-boundary fires, in order to secure regeneration and restore natural communities.

Meanwhile, most of Pioneer Forest and many other forests in the Ozarks have continued to accumulate ever-greater volumes of timber during many more decades of fire suppression. This has had its benefits, including continued growth of valuable timber and protection of human infrastructure. The resulting high fuel loads in an era of warming climate, severe droughts, and disease resulting from extreme weather events, however, can result in catastrophic wildfire, especially if ignited at the wrong time. These two types of fire can be thought of as “Good Fire” and “Bad Fire.”

Pioneer Forest suffered a damaging wildfire in April 2023 at a time of severe drought and high winds, resulting in nearly a thousand acres burned, considerably larger than the average wildfire in our part of the country. MDC fire-fighting

crews led suppression efforts with Timber Volunteer Fire Department and Pioneer staff assisting. The fire caused extensive tree mortality and scarring that may lead to even more mortality from insects and disease. Pioneer staff followed immediately with a salvage timber harvest, and plan to monitor the impact on regeneration. Given the scale and remoteness of Pioneer Forest, we are especially grateful to community members and agency partners who play a key role in early detection, reporting and quick suppression of wildfires to help reduce “Bad Fire” on the landscape.





## ECOLOGICAL MANAGEMENT PLAN

In 2023, the board approved the first Ecological Management Plan for Pioneer Forest.

Developed under the leadership of Chief Ecologist Rebecca Landewe, it is a comprehensive plan focused on defining ecological goals, objectives, and management procedures to maintain and promote healthy and resilient natural communities on the forest. The plan establishes a

Natural Features Inventory for systematically surveying the forest for natural communities and other features, which in turn will support identification and designation of new Priority Resource Areas. Through the new plan, we are expanding our acreage under ecological management by designation of new Priority Resource Areas and have identified areas to study for future expansion. We have also designated existing old-growth forest areas and will be identifying places to cultivate future old growth natural community types.

The plan also reaffirms our commitment to developing more robust partnerships for research and demonstration. Through these initiatives, we will be taking significant steps towards achieving the goals identified in the strategic plan and supporting Pioneer Forest's Sustainable Forestry Initiative® certification. In addition, the plan will support our future outreach and education initiatives, with Priority Resource Areas providing a variety of opportunities to educate audiences about natural communities in the Ozarks and share the story of Pioneer Forest.

## NATURAL FEATURES INVENTORY



Mike Currier leads inventory survey.

With leadership from Mike Currier, retired ecologist with Missouri (MO) State Parks and former Missouri State Natural Areas Coordinator, the first iteration of the Natural Features Inventory (NFI) was conducted in 2023 on the 6,150-acre Egyptian Tract in Reynolds County. Additional assistance for surveying a significant fen was provided by Alan Brant from the Missouri Botanical Garden and Steve Schell with MDC.

The NFI on the Egyptian Tract was extensive. The inventory identified 437 plant species, of which 71 are considered “conservative species” and have a Coefficient of Conservatism value (C Value) from 7-10 (top of the range). Nine plant species—six vascular and three mosses—were identified and are considered species of conservation concern. The Cerulean Warbler was also identified on the site.

There are a number of geologic features on the tract that are noteworthy. Part of the tract extends to the Black River, which is likely a corridor for several wildlife species. Additionally, there is a notable sinkhole complex; while small sinkholes are scattered throughout the tract, these sinkholes are generally in the same area, form a karst sinkhole complex, and are larger than most of the

others. No known cave systems were found on the property, but that could change. This first NFI provides a model for future inventories.

The next iteration of the NFI will focus on areas within the Roger Pryor Backcountry, which at over 62,000 acres is the largest contiguous acreage in Missouri. The area includes a wide variety of known natural features. An increased knowledge of the natural features there will enhance the ecological resource stewardship of Pioneer Forest.



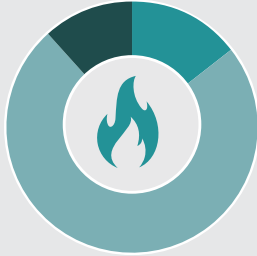
Alan Brant and colleague survey a fen

# BY THE NUMBERS

## LANDS BURNED

**1,296 Acres**

L-A-D Land Burned by L-A-D Fire Program + Partners and Volunteers



**8,316 Acres**

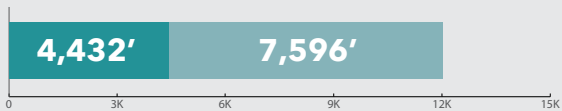
Partner Lands Burned with L-A-D Assistance

**1,014 Acres**

Wildfire on L-A-D/Pioneer Forest Lands

## CAVES MONITORED

27 Caves Monitored on L-A-D Foundation Property in 2023, Adding 113 Faunal Records



- Cave Passages Surveyed since 2020 in Cave Rediscovered in 2015
- Cave Passages in the Longest Cave Owned by the L-A-D Foundation

## TRAILS MAINTAINED

470 Volunteer Hours on Trails in the Roger Pryor Pioneer Backcountry by Sierra Club

30 Miles of Trail Maintained in Partnership with the Sierra Club and MO State Parks

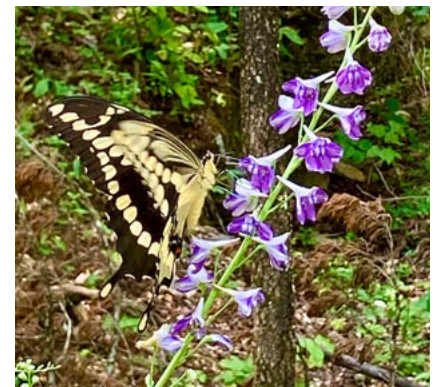


L-A-D board and staff discuss glade restoration in the Devil's Well area.

## COORDINATED MANAGEMENT AT DEVIL'S WELL

L-A-D and Ozark National Scenic Riverways (ONSR) staff coordinated on cross-boundary management of the 909-acre Devil's Well unit, including a prescribed fire in a recent expansion of the unit. Both organizations have a strong interest in monitoring plant community response to their prescribed fire efforts. In 2022, two moist woodland survey plots were installed. When staff returned to monitor the plots after the 2023 burn, they noted impressive increases in the native herbaceous species richness and abundance. These plots showed a 44.1% mean increase in the number of species per sampling quadrant and a 50.7% mean increase

in species abundance. This outpaced other ONSR moist woodland plots by 14.1% and 34.8% respectively. Also notable is the increase in tall larkspur in the unit, presumably resulting from the 2023 burn. Its presence in the monitoring plot has increased 765%, up from just 129 individuals in 2011 to 1,134 in 2023. The sub-population in the burn unit is estimated to contain over 4,200 individuals.



Giant swallowtail on Tall Larkspur in the Devil's Well restoration area.

## NEW REAL ESTATE

In 2022, we were thrilled to acquire a 460-acre top-priority inholding within the Roger Pryor Backcountry, the Colwil Lake Tract. In 2023 we acquired a 40-acre parcel at the northeast corner of the section that is equally vital for consolidation, protection of bat habitat, and landscape-scale stewardship. Tiny but mighty.

## MAPPING INTO THE PAST

*With gratitude for information and photos supplied by MSS President Dan Lamping*

Members of the Cave Research Foundation (CRF) and Missouri Speleological Survey (MSS) continued with their mapping of a cave in the Roger Pryor Pioneer Backcountry that was rediscovered by modern cavers in 2015. After six survey trips, including one in 2023 that added 1,300 feet, the cave is now mapped at 4,432 feet with more passage yet to be explored.

Near the entrance, there are remnants of what appears to be an old still. Continuing back along the cave stream, the small trickle of water provides habitat for cave salamanders, isopods, amphipods and other small cave-dwelling organisms quietly living out their existence in the darkness.

As the cavers work farther into the hillside, they find hints of other past occupants. A room they now dub the Ursatorium



CRF cavers map the Ursatorium. Photos by Dan Lamping.

has a clay wall with deep bear claw marks that may have been placed there more than 10,000 years ago by the now-extinct short-faced bear. Numerous bear beds remain hollowed out in the clay floor. A bone discovered deep inside the cave suggests not all of the bears returned to the light. Another recent discovery of an upper level tells us that the cave has more to reveal.

Two additional geologically unique caves were also

relocated and documented in the Backcountry in 2023. These were cave leads marked on an old topo map by a caver who spent decades exploring the hillsides and hollows in the area in search of new caves. These caves are only a few examples of the rich karst environment under the forest. In 2023, more than 15 trained volunteer cavers, cave surveyors, and cave biologists helped to inventory and monitor 27 different L-A-D caves and added 113 faunal records.

The findings from our long-standing partnership with CRF and MSS are critical for our forest managers to understand so that our surface management continues to protect the karst ecosystems. Our new ecological management plan includes guidelines to ensure appropriate buffers to protect caves from adverse use and, with the help of our CRF/MSS partners, our natural features inventory will benefit from the discovery of even more karst features like these caves and their denizens under our lands.



## L-A-D UNDERTAKES COMMUNICATIONS PLANNING

When the L-A-D board and staff met for a strategic planning retreat in 2019, they knew that L-A-D communications needed an upgrade, but there was little consensus on what to communicate, to whom, and how. They agreed they would need professional counsel but were wary of the usual marketing approach. When they learned about David Jeffrey Ringer, a fifth-generation Ozarkian who had risen quickly to the top of the National Audubon Society's communications team, and then co-founded Green Jay Strategies to help non-profits share their mission and charitable purpose and collaborate with partners, they checked him out.

Ringer came to L-A-D's 2022 fall meeting well-prepared to facilitate a discussion with

board and staff regarding their goals for communications, a process that would require a series of meetings. In 2023, he interviewed various external stakeholders, learning they were hungry for more engagement with L-A-D, and then began a series of individual discussions with directors and key staff. He presented his initial findings and suggestions at an August board meeting, discussed a draft communications and outreach framework with a smaller task force in September, and led a full board/staff discussion in October.

Out of all this came a general consensus regarding outreach and communications built around L-A-D/Pioneer's charitable purpose as a demonstration of sustainable

uneven-aged forestry integrated with ecological stewardship, collaborative research, and compatible public recreation. The focal audiences would be professional partners, public and private conservation organizations, public officials at various levels, and community leaders.

There was agreement that the purpose would not be to market the organization, but rather to upgrade our technology and internal communications systems and to deepen understanding of the foundation's mission, values and purposes among our key partners. Ringer's framework would provide a good starting point, but L-A-D board and staff would decide how to build on it over time.

## GUEST LECTURES AND DISTILLERY VISITS IN KENTUCKY



For the second year in a row, Forestry and Stewardship Director Jason Green had the opportunity at the end of October to educate future foresters at the University of Kentucky about Pioneer Forest's methods of management.

Joining Jason was L-A-D's new Executive Director Jennifer Battson Warren. Jason spoke in the management and silviculture classes and gave a presentation in the forestry seminar about L-A-D and the work done on foundation lands.

While in Kentucky, Jason and Jennifer were hosted by Heaven Hill Distillery and Maker's Mark Distillery for tours of their respective facilities. The tours were very enlightening and helped develop a more thorough understanding of the spirits industry including the distilling process, grain use and mash bills, rickhouse design

(for storing and aging barrels of bourbon), barrel storage and rotation, the spirit aging process, and the overall scale of the bourbon industry.

Pioneer Forest annually sells approximately 750,000 board feet of white oak stave logs, which are used to produce barrels for the wine and spirits industry. Staff continue to engage with the spirits industry to learn about their sustainability practices and how we might engage with them to promote Pioneer Forest's demonstration forestry focused on sustainability and excellence in forest and ecological management.

## NATIVE PLANT PROTECTOR NEAL HUMKE



To appreciate and enjoy the benefits of native plants, their habitats must be restored and protected. To honor exemplary protectors, the Grow Native! program of the Missouri Prairie Foundation (MPF) in 2020 created its Native Plant Protector Award. At MPF's annual dinner in August, Grow Native! announced L-A-D Foundation's Neal Humke as its 2023 honoree before hundreds

of attendees. Humke has supported L-A-D's prescribed fire and stewardship activities since 2009, initially as a partner and contractor, before joining the L-A-D staff full-time in 2014. He led the reintroduction of fire to restore the shortleaf pine-oak woodland at the Virgin Pine/Randolph tract along Highway 19 south of Round Spring and has continued to expand and improve the restoration.

Through his leadership, the woodland structure of this part of Pioneer Forest has improved, shortleaf pine is regenerating again, and the herbaceous understory has returned with increased richness and diversity. During Neal's tenure, L-A-D's prescribed fire operations have grown to include management of igneous and dolomite glades and woodlands on Jerktail

Mountain and in the Devil's Well area along the upper Current River as well as in smaller areas of fens, rare plant populations, and other woodland sites totaling more than 3,000 acres.

Neal also takes his seasonal fire crew to help with burns on lands of partner agencies—ONSR, MDC, MTNF, and MO state parks and they in turn help with burns on Pioneer Forest and L-A-D natural areas. Humke collaborates frequently with ecologists in these agencies on other projects on Pioneer Forest and in our outlying natural areas. He routinely locates species of conservation concern and important natural communities, continues to hone his botanical skills, and assists with the first systematic natural features inventory of Pioneer Forest. A native plant protector indeed!

## L-A-D PARTNERS WITH CFO TO EXPAND GRANTS IMPACT

In its fiscal year 2023-2024, L-A-D Foundation began a new partnership with Community Foundation of the Ozarks (CFO) to call for and award its partner grants. The CFO's mission aims to enhance the quality of life in the Ozark region through resource development, community grantmaking, collaboration and public leadership, which aligns neatly with the goals of L-A-D's grant program. Through partnering with CFO, L-A-D hopes to expand its grants program to partners who are familiar with CFO, but not yet with L-A-D, and could benefit from

grants focused on natural and cultural stewardship, education, outdoor recreation, and policy development that positively influences our region of the Ozarks.

CFO's grant administration services will help streamline our grant solicitation and award processes, while L-A-D's grants committee will continue to review and select proposals and award funds. In the future, L-A-D hopes to partner with CFO and some of its network affiliates on select projects for greater collaborative impact in the region, similar to its

collaboration on the Salem mural project during 2022-23. L-A-D plans to award \$55,000 in grants through CFO in FY2024, ending June 30, and in FY2025 it intends to begin the process at the start of each new fiscal year.

To learn more about CFO, visit [www.cfozarks.org](http://www.cfozarks.org).



COMMUNITY  
FOUNDATION  
of the OZARKS

## SALEM CELEBRATES NEW MURAL

*Adapted from a Salem News Article by Catherine Wynn, Managing Editor*



For months during summer 2023 community members and visitors to Salem watched the Ozark Natural and Cultural Resource Center (ONCRC) transition from a drab building to a scatter of graffiti-like numbers and symbols to the stunning work of art that now wraps the exterior walls with the Current River as its connecting theme.

A committee comprised of ONCRC and SACBA (Salem Area Community Betterment Association) board members and volunteers met in late 2022 for a strategic planning exercise facilitated by L-A-D Foundation Manager Roger Still to craft a vision for the center as a northern gateway to the Ozarks. Out of it came the idea for a mural on the natural and cultural heritage of the Ozarks on the exterior of the building that would compel people driving through town on Main Street/Highway 19 to stop and visit. They invited award-winning muralist David Spear, who works with MDC as exhibit designer and freelances with other clients, to submit a design. Spear led a brainstorming session with the Salem group and representatives of partner organizations

elsewhere in the Ozarks, and in January 2023 submitted an initial design, which raised excitement locally and with prospective partners elsewhere. L-A-D made a lead donation for the project and the local group raised enough funds from other organizations for the painting to commence in July.

As he worked on the project with his artist daughter and Salem volunteers, Spear became better acquainted with members of the community and curious spectators. He used a computer to digitally overlay the mural design over a doodle grid with symbols painted on the wall, allowing him to gauge perspective and layout. But the doodle caused quite a disturbance among some locals when they saw strangers climbing around the building with spray paint cans; several, including law enforcement, thought the building was being tagged by graffiti! "What was nice," Spear said, "is that when you're working on a project like this, you want to make sure that people care about the building. This really taught me that people really, really care about the ONCRC building."

The talent and hard work of many over several months culminated on October 18 at a ribbon cutting to celebrate the mural's completion. The event coincided with an L-A-D Foundation board meeting in Salem, allowing our entire board and staff to attend. An all-day celebration the following Saturday attracted more people from the region to meet David Spear, attend several talks and a concert by Current River Bluegrass, and contribute to a silent auction to benefit the mural project and further revitalization of the building and site. A map is available at ONCRC that identifies each of the elements included in the mural, and a self-guided driving tour of the real-life elements is planned. ONCRC is open weekdays from 9am to 5pm, staffed by knowledgeable local volunteers. Be sure to stop whenever your travels take you to or through the Salem area.



*Roger Still checks in with artist David Spear on progress of the painting.*



*Inman-Anderson Oil Company as it appeared decades ago.*

# JENNIFER BATTSON WARREN FOLLOWS ROGER STILL AT L-A-D HELM



Jennifer Battson Warren  
Executive Director

A longtime stalwart of the Missouri Department of Conservation, Jennifer Battson Warren, was selected in 2023 to lead the L-A-D Foundation. She took over from Roger Still, who retired in April 2023 from more than a quarter century of full-time conservation work, owing to unanticipated family responsibilities. He was particularly delighted that the board selected Warren as his successor, having worked closely with her on many joint efforts, and he helped to orient her to her new role.

Roger first became actively engaged with L-A-D in 2019 when he facilitated a highly productive strategic planning retreat for board and staff, and in October that year he was elected to the board. When Greg Iffrig, staff liaison to the board, announced his retirement as of April 2021, the board created a new role of foundation manager with oversight of business management, ecological stewardship, and outreach, to work in tandem with Pioneer Forest Manager Jason Green. After a national

search for candidates, the board selected Roger, who joined the staff in April.

In his staff leadership role, Still made vital contributions advancing L-A-D's mission and priority initiatives. He hired a new business manager and a chief ecologist and worked closely with them to significantly upgrade budgeting and accounting and expand ecological stewardship efforts and planning on Pioneer Forest and L-A-D natural areas. He developed a new partnership for our grants program with Community Foundation of the Ozarks, linked Pioneer with a multi-state whip-poor-will research project, worked closely with ONCRC in Salem to enhance their role as the northern gateway to the Ozarks, took the lead on several key land transactions, worked with consultant Green Jay Strategies to develop an L-A-D communications planning process, and mentored L-A-D staff to build a more integrated and effective team. Many of his efforts came to fruition after he retired.

Jennifer Battson Warren was raised in rural Osage County, where she developed her passion for natural resource management and the outdoors on grandparents' farms. After starting college in business school, she gravitated to the MU School of Natural Resources, where she earned a degree in forestry and first learned about Pioneer and L-A-D. In her 31-year MDC career she had various field roles and rose quickly to leadership positions in virtually every aspect of MDC's work, including forestry,



Roger with retirement memento.



Jennifer with Rick Thom at L-A-D's Hickory Canyons.

geographic information systems, information technology, private lands conservation, wildlife management, planning and administration. In her last eight years there she served as MDC's Deputy Director for Business and Operations, where she collaboratively guided the "business of conservation" by providing oversight for human resources, infrastructure, IT, budget, financial services, grants, and realty.

Jennifer became excited about the L-A-D executive director opening when she read the position description and realized her experience aligned almost perfectly with the role. "Through every decade of my career," she says, "I have wondered at and deeply respected the determination and vision of Leo and Kay Drey, the L-A-D board, and the Pioneer Forest management staff." On October 2, 2023, she hit the ground running and hasn't stopped since. No wonder L-A-D was thrilled to hire her!

## STAFF AND ADVISORS



### Staff

Jennifer Battson Warren  
*Executive Director*

Jason Green  
*Director of Forestry and Stewardship*

Adrienne Lauf  
*Business Manager*

Chandra Sutton  
*Administrative Assistant*

Brandon Kuhn  
*Chief Forester*

Nolan Sipe  
*Natural Resource Ecologist*

Matthew Skaggs  
*Field Supervisor*

Neal Humke  
*Land Stewardship Coordinator*

Clay Jensen  
*Forester*

Hunter Gordon  
*Forester*

Neal Christensen  
*Forest Technician*

Sam Jewett  
*Forest Technician*

Luke Sullivan  
*Forester*

Scott (JR) Lanham  
*Feral Hog Trapper*

### St. Louis Office

725 Kingsland Ave., Suite 100  
St. Louis MO 63130  
(314)621-0230  
[www.ladfoundation.org](http://www.ladfoundation.org)

### Salem Office

P.O. Box 497  
Salem, MO 65560  
(573)729-4641  
[www.pioneerforest.org](http://www.pioneerforest.org)

### Advisory Council

Terry Cunningham  
*Salem*

Greg Iffrig  
*St. Louis*

David Larsen  
*Columbia*

Mike Leahy  
*Jefferson City*

Rindy O'Brien  
*Washington, DC*

Jon Smith  
*Mountain View*

### Drey Family Advisory Council

Kay Drey  
*University City*

Lauri Drey  
*Durham, NC*

Leonard Drey  
*New York, NY, and St. Louis*

Eleanor Drey  
*San Francisco, CA*



## L-A-D WELCOMES NEW STAFF AND BIDS SAD FAREWELLS



Chandra Sutton  
*Administrative Assistant*

Chandra Sutton joined the team in May as our first administrative assistant in the Salem office. A native of Salem, she spent the past eight years serving as office assistant for a local business, and all told she brings more than twenty years of administrative experience to our organization. She enters financial data and maintains records for our large and complex forestry operations, manages our grants programs, prepares for and drafts minutes of board and committee meetings, makes arrangements for special events, and undertakes numerous other tasks as assigned



Nolan Sipe  
*Natural Resource Ecologist*

Noland Sipe was hired in fall 2023 to a new L-A-D position as Natural Resource Ecologist, to begin January 2, 2024. He earned a Bachelor of Science in Biology and Environmental Studies from Manchester University in Indiana before working as a private forestry technician in Indiana. He then earned a master's in Natural Resources focused on applied ecology at the University of Nebraska-Lincoln, where he studied the effects that patch-burn grazing had on the wildlife diversity and health of a mixed-grass prairie. In his initial months on the job, Sipe will be learning the forest and its ecosystems while assisting with the Natural Features Inventory and with restoration efforts on priority resource areas.



Luke Sullivan  
*Forester*

Luke Sullivan joined the forestry team in October. He is a native of Salem and a recent graduate of the University of Missouri's forestry program, where he studied and researched oak diseases and declines and problems with regeneration. Prior to joining Pioneer Forest Luke worked for MDC as a technician. He assists the forestry team with timber marking and sale administration, timber cruises, and boundary line maintenance while he prepares to take leadership of one of Pioneer's districts.



Mike Smith  
*Board Member*

Mike Smith of Washington MO, a retired high school science and industrial arts teacher and an L-A-D director since 2020, declined re-election to another term on the board in 2023. An avid reader of natural history literature, volunteer leader of Washington-area restoration efforts, and himself an Ozark property owner who had long known and taught about Pioneer Forest, he was a stalwart of the board's stewardship committee and on occasion volunteered to work directly with the staff on restoration efforts. He retired from the board in order to devote more time to leading volunteer groups on restoration projects at Shaw Nature Reserve and elsewhere closer to home. We enjoyed getting to know Mike, appreciated his service, and wish him well.

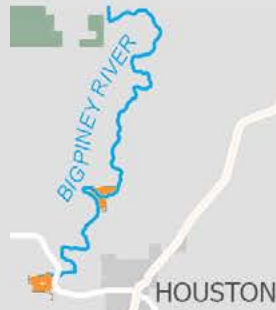


Rebecca Landewe  
*Chief Ecologist*

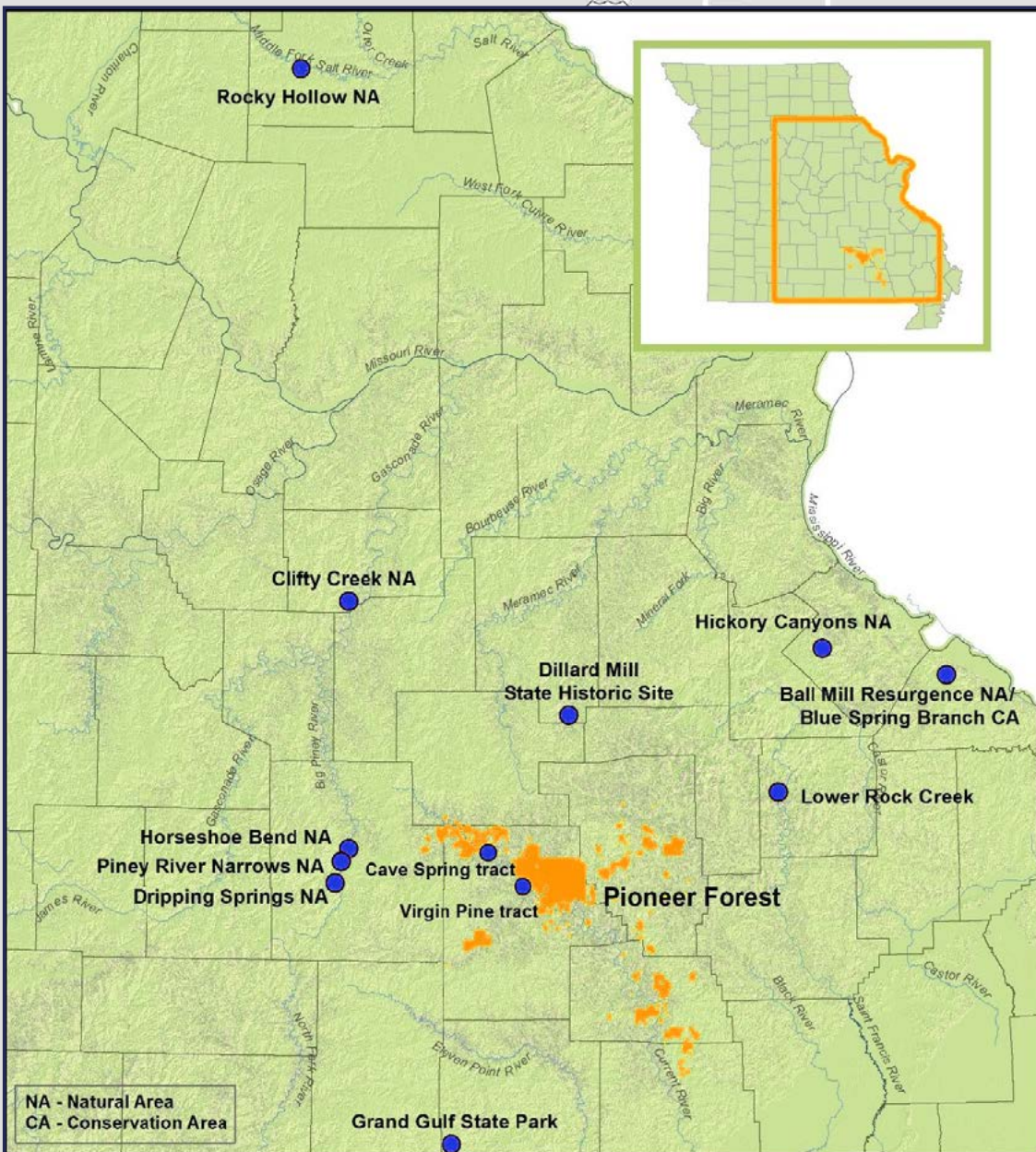
Rebecca Landewe returned in late summer 2021 from Montana to Missouri, where she had earlier served as Current River project manager for the Nature Conservancy, in order to accept a newly created position with L-A-D as chief ecologist, parallel to Pioneer's chief forester. She was expected to lead the ecological stewardship staff (initially a land stewardship coordinator and seasonal fire crew, learn the 144,000-acre forest well enough to develop its first comprehensive ecological management plan, oversee implementation of a pilot natural features inventory, collaborate with agency and organizational partners on issues and management efforts on some 4,000 acres of natural and other special areas beyond the bounds of the forest, and deal with public recreation matters. She did all that and more, including preparing superb comments on policy issues, writing successful grant proposals and reports, supervising contractors, and leading tours. Rebecca moved on to other opportunities. We in L-A-D and many of our partners with whom she worked appreciated her efficient and effective productivity. We wish her well in her future endeavors.

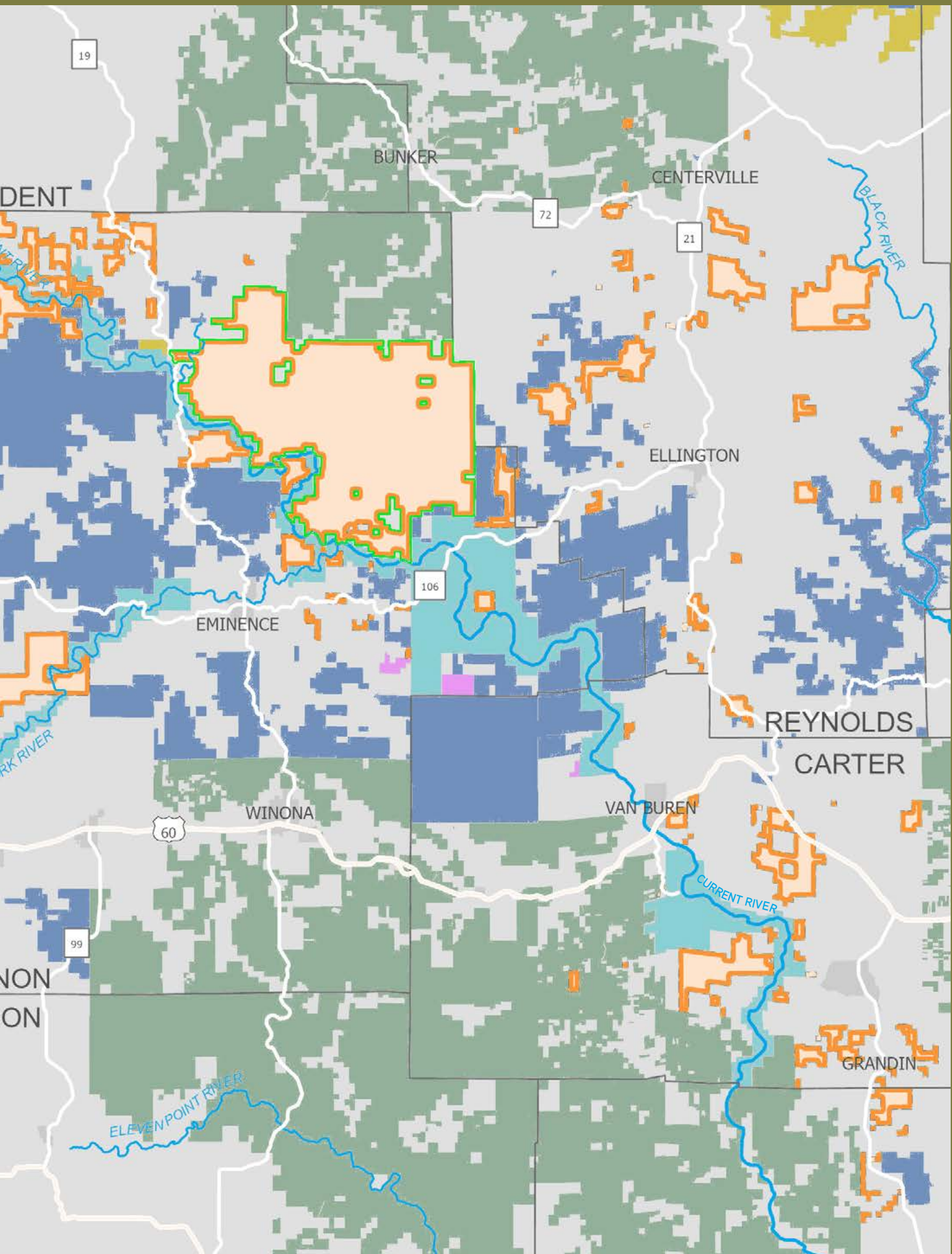
## MAP LEGEND

- Pioneer Forest
- Roger Pryor Pioneer Backcountry
- Mark Twain National Forest
- Ozark National Scenic Riverways
- Missouri Dept. of Conservation
- Missouri State Parks
- The Nature Conservancy



## OTHER L-A-D LANDS





**Pioneer Forest and its Special Areas: 143,880 Acres**

SPECIAL AREA	COUNTY	SPECIAL DESIGNATION	TOTAL SIZE
Blair Creek Hanging Fen	Shannon	Forest Reserve, <sup>1</sup> 2011	25 acres
Bluff School, Medlock Cave	Shannon	Forest Reserve, 1995	51 acres
Capps Hollow Glades & Fens	Shannon	Ecological Management Area, 2019	297 acres
Chalk Bluff	Shannon	Forest Reserve, 2019	65 acres
Cookstove/Squaredance Cave	Shannon	Forest Reserve, 2015	12 acres
Cunningham Sink	Shannon	Forest Reserve, 2011	24 acres
Current River NA	Shannon	SAF Natural Area <sup>2</sup> 1955, and State Natural Area, <sup>3</sup> 1977, 10 acres; Addition, Natural Area, 2005, 255 acres	265 acres
Fishtrap Hollow & Marshy Spring Hollow Fens	Shannon	Forest Reserve, 1995	45 acres
Jerktail Mountain	Shannon	Ecological Management Area, 2015	1,160 acres
Laxton Hollow	Shannon	Forest Reserve, 1995	145 acres
Leatherwood Creek	Shannon	Forest Reserve, 1995	1,003 acres
Lily Pond NA	Reynolds	State Natural Area, 1975	8 acres
Old Schoolhouse Hollow	Shannon	Forest Reserve, 1995	140 acres
Pine-Oak Woodland	Shannon	Ecological Management Area, 2015	500 acres
Pineknot Shortleaf Pine	Carter	Ecological Management Area, 2015	330 acres
Pioneer NA	Shannon	SAF Natural Area, 1964, and State Natural Area, 1977	20 acres
Satterfield Hollow	Shannon	Forest Reserve, 2019	522 acres
Sinkhole Ponds Complex	Reynolds	Forest Reserve, 1995	45 acres
Sutton School Hollow Fens	Shannon	Forest Reserve, 1995	75 acres
Tall Larkspur	Shannon	Ecological Management Area, 2015, 85 acres; Addition, 2019, 56 acres	141 acres
Thompson Creek Glade & Fens	Shannon	Ecological Management Area, 2019	125 acres
Triple Sink/ Sunklands NA <sup>4</sup>	Shannon	State Natural Area, 1980, 23 acres; Sunklands NA4 Addition of 19 acres included as part of Sunklands Natural Area in 1999	42 acres
Tufa Creek	Shannon	Forest Reserve, 2011	116 acres
Woods Hole	Shannon	Forest Reserve, 2019	58 acres

**Riverways Corridor Lands: 1,123 Acres**

Scenic Easements	Shannon, Carter	National Park Service, Ozark National Scenic Riverways, 1970	951 acres
Cave Spring	Shannon	Adjacent to the Current River	172 acres

## Lands Leased to the Missouri Department of Conservation (MDC): 2,419 Acres

SPECIAL AREA	COUNTY	SPECIAL DESIGNATION	ACRES UNDER LEASE
Ball Mill Resurgence/ Blue Spring Branch CA	Perry	State Natural Area, 1979 , 19 acres; addition of 183 acres in 2007; addition of 71 acres in 2012; addition of 89 acres in 2018; addition of 1 acre in 2020	363 acres
Clifty Creek	Maries	State Natural Area, 1971	230 acres
Dripping Springs	Texas	State Natural Area, 1974	9 acres
Hickory Canyons	Ste. Genevieve	State Natural Area, 1973 , 420 acres; addition of 561 acres in 1979; addition of 18.68 acres in 2013; addition of 95 acres in 2014; addition of 40 acres in 2016	1,135 acres
Horseshoe Bend	Texas	State Natural Area, 1973, 69 acres	233 acres <sup>5</sup>
Piney River Narrows	Texas	State Natural Area, 1971, 50 acres	258 acres <sup>5</sup>
Rocky Hollow	Monroe	State Natural Area, 1973, 188 acres; National Register of Historic Places, 1974	191 acres <sup>5</sup>

## Lands Leased to Missouri Department of Natural Resources: 289 Acres<sup>6</sup>

SPECIAL AREA	COUNTY	SPECIAL DESIGNATION	ACRES UNDER LEASE
Dillard Mill	Crawford	State Historic Site, 1977	130 acres
Grand Gulf State Park	Oregon	National Natural Landmark, <sup>7</sup> 1971 and State Park, 1984, 159 acres; State Natural Area, 1986, 60-acre portion	159 acres
Trails and Trailhead of the Roger Pryor Pioneer Backcountry	Shannon	Lease to Missouri State Parks, 2014; More than 65 miles of trails existing or under construction	

## Other Lands: 267 Acres

SPECIAL AREA	COUNTY	SPECIAL DESIGNATION	TOTAL SIZE
Lower Rock Creek	Madison	Wild land	226 acres
Virgin Pine	Shannon	Scenic remnant corridor	41 acres

## Total L-A-D Foundation Land Ownership: 147,790 Acres

<sup>1</sup> The concept of Forest Reserves was initially discussed by Pioneer Forest staff in 1994. In 1995 the management plan for each of these areas was described along with its boundaries. Following Leo Drey's agreement and the endorsement of the Foundation Board, the program was adopted. Additions were made in 2011 and 2019.

<sup>2</sup> The Society of American Foresters' Committee on Natural Areas was organized in 1947.

<sup>3</sup> The Missouri Natural Areas System began in 1971 with the first areas owned or leased by the Missouri Department of Conservation. Beginning in 1977, the Missouri Natural Areas Committee was established by agreement of the Missouri Department of Conservation and the Missouri Department of Natural Resources to review and approve natural areas throughout the state under a variety of public and private ownerships.

<sup>4</sup> Originally designated as a Missouri Natural Area in 1980 under the ownership of the Frank B. Powell Lumber Company; acquired by the L-A-D Foundation in 2006. This area is now included as part of the 6,295-acre Sunlands Natural Area.

<sup>5</sup> The foundation's Ball Mill Resurgence/Blue Spring Branch, Horseshoe Bend, Piney River Narrows, and Rocky Hollow each include designated Missouri Natural Areas within a large L-A-D purchase that is now leased.

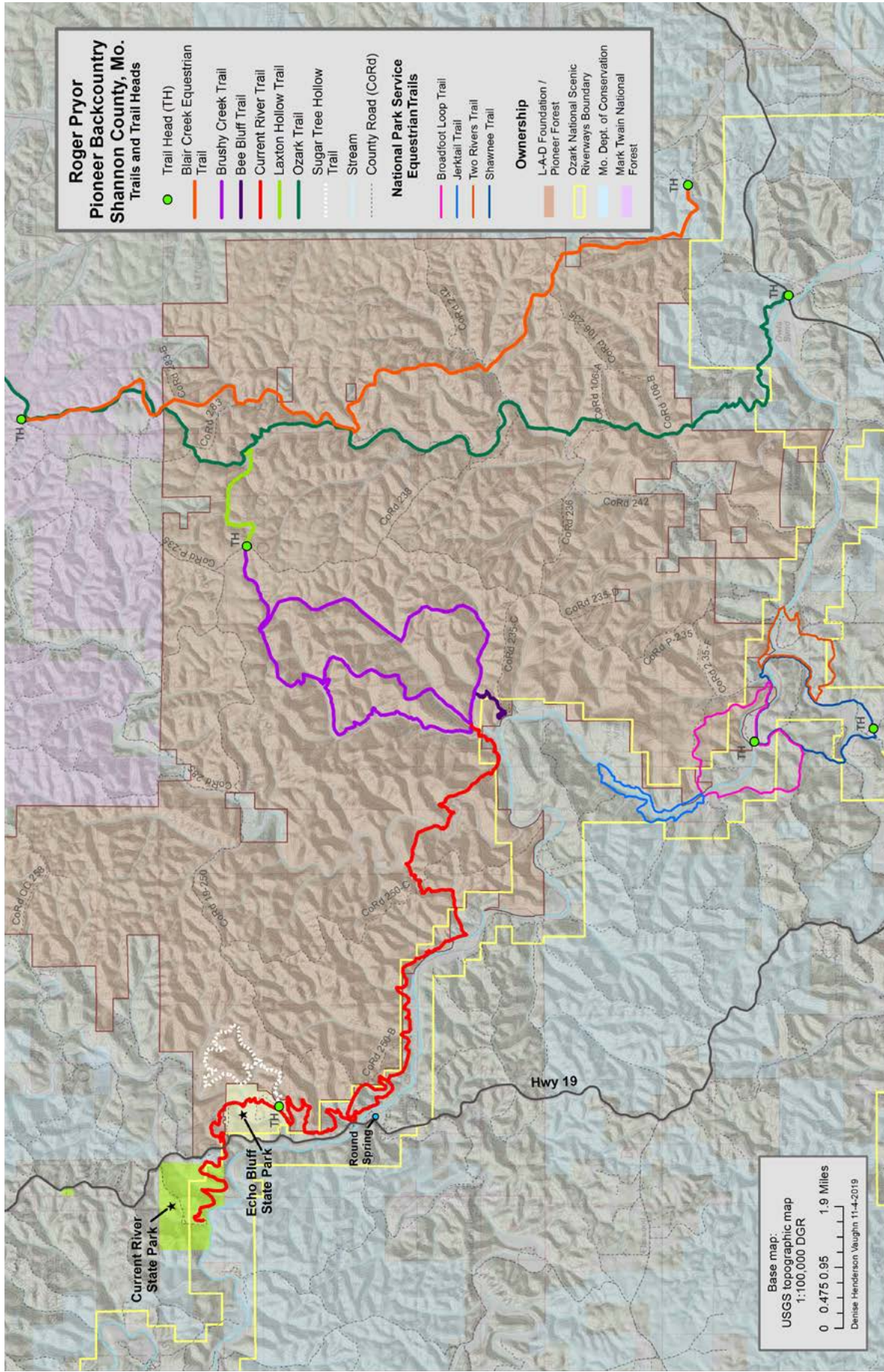
<sup>6</sup> State Historic Sites and State Parks are managed by the Missouri Department of Natural Resources, Division of State Parks. The Trails of the Roger Pryor Pioneer Backcountry are leased to the MoDNR and are part of Pioneer Forest.

<sup>7</sup> The National Natural Landmarks program is administered by the National Park Service. Grand Gulf is among fewer than 600 sites designated in the United States.

## L-A-D Foundation Trails

TRAIL NAME	COUNTY	DESCRIPTION
Ball Mill Resurgence Trail	Perry	A one-mile trail loops from a small parking lot into the Blue Spring Branch valley and the resurgence.
Blair Creek Section, Ozark Trail	Shannon	The 12.5-mile route through Pioneer Forest was the very first section of the well-known Ozark Trail to be completed in the late 1970s.
Blair Creek Equestrian Trail	Shannon	This 11.7-mile trail provides equestrians a route through the Backcountry, connecting Mark Twain National Forest and Missouri Department of Conservation lands.
Brushy Creek Trail	Shannon	A 21.4-mile nested loop trail, including a 1.9 mile spur leading to Bee Bluff, provides access to the interior of our Roger Pryor Pioneer Backcountry. Access to this trail is from the Himont Trailhead on County Road P-235 in Shannon County.
Cave Spring Trail	Shannon	A 4.6-mile moderately difficult round-trip hike connects Devils Well and Cave Spring, crossing Pioneer and National Park Service lands with access at Devils Well.
Clifty Creek Natural Area Trail	Maries	A 2.5-mile walk with scenic overlooks across the Clifty Creek valley, near the creek junction with the Gasconade River.
Current River Trail	Shannon	This 12-mile hiking route connects Echo Bluff State Park via Round Spring on the west side of Roger Pryor Pioneer Backcountry with the Brushy Creek Trail farther east.
Current River Trail Extension	Shannon	A one-mile segment of this trail crosses through the Backcountry connecting Current River and Echo Bluff state parks.
Dillard Mill State Historic Site Trail	Crawford	A 1.5-mile trail winds through a hillside of oak, hickory, and pine, with benches for visitors to stop and enjoy the sights and sounds of the Huzzah Creek valley.
Grand Gulf State Park Trails	Oregon	From the parking lot, several short paths top the gulf and overlook the collapsed cave system. A short boardwalk/stairway (0.25 mile) leads to a viewing platform at the bottom of the gulf. A loop trail (0.80 mile) takes visitors across the natural bridge, alongside the gulf, and then through a very interesting mature oak woodland on the plateau.
Hickory Canyons Natural Area Trails	Ste. Genevieve	There are two trails through this beautiful area. One is an easy quarter-mile walk to a waterfall, and a second is a one-mile loop through the La Motte sandstone canyon.
Horseshoe Bend Natural Area Trail	Texas	A one-mile route leads from a small parking area across a scenic ridge that overlooks the Big Piney River and proceeds to the river bottom.
Laxton Hollow Trail	Shannon	A 2.3-mile route begins at the Himont Trailhead and leads to Laxton Spring before connecting with the Ozark Trail at Blair Creek.
Pioneer Forest Interpretive Drive	Shannon	A two-mile interpretive drive through Pioneer Forest shows visitors the half-century tradition of Pioneer's careful and conservative method of selectively harvesting trees. The drive starts along the east side of Highway 19 near the Virgin Pine Walk.
Sugar Tree Hollow Trail (to be constructed)	Shannon	A 5.3-mile route exploring a small side hollow to Sinking Creek. Access is from Echo Bluff State Park.
Virgin Pine Walk	Shannon	This quarter-mile interpretive walk south of Round Spring leads through an old shortleaf pine stand where some trees are more than 200 years old.

NOTE: The NPS Ozark National Scenic Riverways equestrian trails are shown on the south side of the Backcountry map (see next page). The Broadfoot Equestrian Loop Trail shown in purple connects riders between Griggs Ford and the Broadfoot Ford. A small piece of Two Rivers Equestrian Trail crosses Pioneer on a route parallel to the Current River.



The Laxton Hollow Trail, middle segment of the Brushy Creek Trail, and the Current River Trail have been named as the Upper Current Section of the much longer Ozark Trail. Access a digital map or review a larger image here: <https://ladfoundation.org/pioneer-forest/roger-pryor-pioneer-backcountry/>

# APPENDICES | TRAILS OF THE ROGER PRYOR BACKCOUNTRY



725 Kingsland Ave., Suite 100  
University City, MO 63130  
[www.ladfoundation.org](http://www.ladfoundation.org)

PRSR STD  
U.S. POSTAGE  
PAID  
ST LOUIS MO  
PERMIT # 495

## FOUNDATION MISSION

The L-A-D Foundation is a Missouri private operating foundation dedicated to exemplary stewardship of Pioneer Forest and other natural and cultural areas and to scientific research, education, public recreation, and encouragement for projects and policies that have a positive influence on the Missouri Ozarks region and beyond.