L-A-D FOUNDATION

Since 1962

2021 Annual Report



FRONT COVER AND LEFT

L-A-D Foundation's chief forester Brandon Kuhn cups a brown-headed nuthatch for release onto Mark Twain National Forest land adjacent to Pioneer Forest. Not seen in Missouri since the early 1900s era of massive clear-cutting of native shortleaf pine, the bird was reintroduced after extensive habitat restoration of pine woodlands on Forest Service land in partnership with the Missouri Department of Conservation, the University of Missouri, and the Arkansas Game and Fish Commission. Our cooperative agreement with the National Forest in the project area allows them to apply landscapescale prescribed fire across our ownership, which is a critical disturbance important for maintaining the pine woodlands. We are also actively managing areas to restore shortleaf pine-oak woodland communities, which could become habitat for this reintroduced bird in the future. Consistent with our dual purpose of sustainable forestry and ecological stewardship, restoration practices include both commercial harvest and prescribed fire, which both play important roles for improving the structure and function of natural communities. Roger Still

ANNUAL REPORT

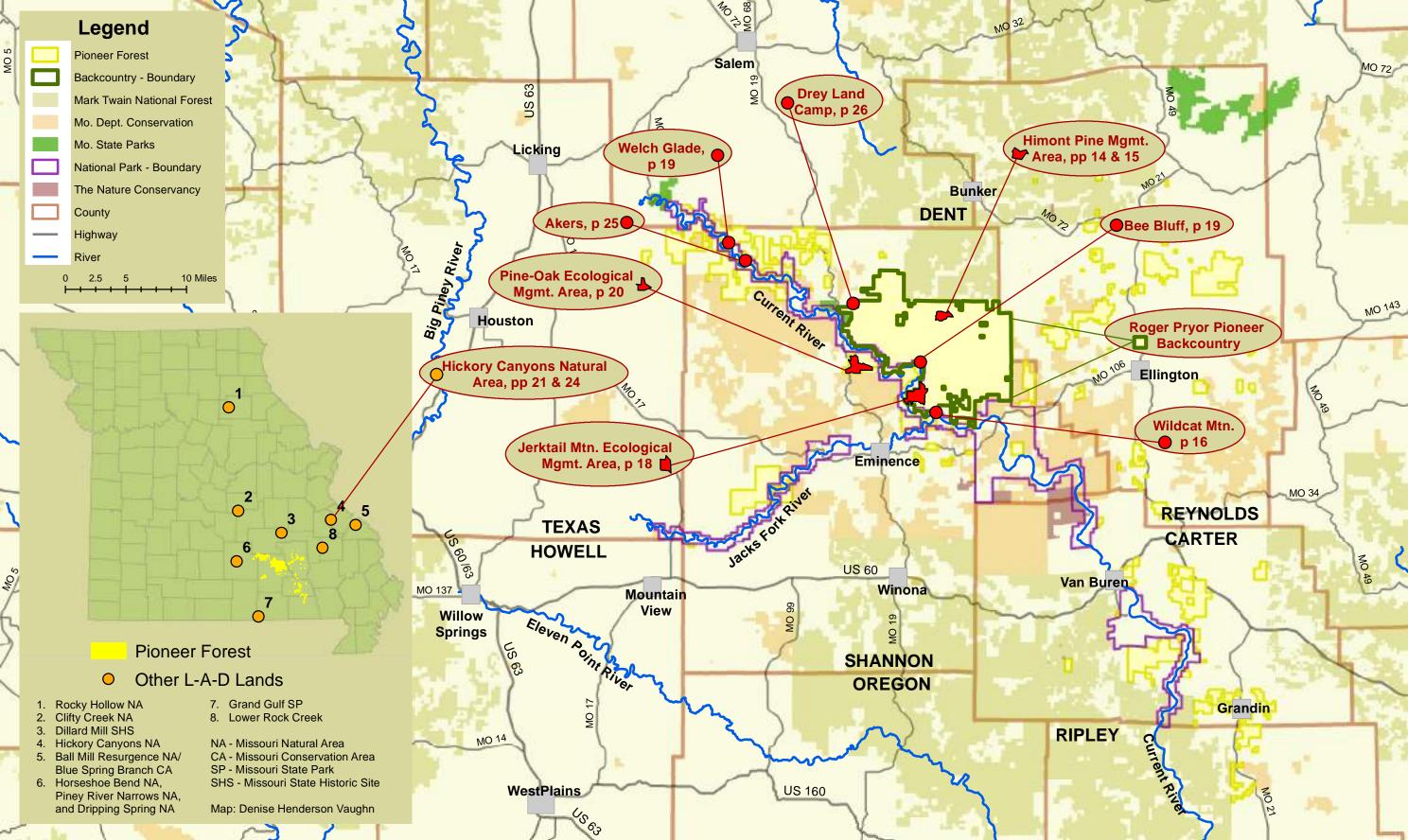
of the L-A-D Foundation

2021

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Published February 2022



Founder: Leo A. Drey

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.

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.

HISTORY

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 National 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.

Background photo: Bird's-eye view of Pioneer Forest's Pine-Oak Ecological Management Area in the Current River hills. Neil Rosenbaum

BOARD AND STAFF

St. Louis Office

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Board of Directors

Susan Flader, President, Columbia Josh Reeves, Vice President, West Plains Edward (Ted) Heisel, Secretary-Treasurer, Pacific Janet Fraley, Assistant Treasurer, Houston Jim Guldin, Springfield John Karel, Ste. Genevieve

Staff

Roger Still, Foundation Manager Jason Green, Forest Manager Brandon Kuhn, Chief Forester Rebecca Landewe, Chief Ecologist Adrienne Lauf, Business Manager Matthew Skaggs, Field Supervisor Neal Humke, Land Stewardship Coordinator Levi Bachmann, Forester Dustin Collier, Forester Clay Jensen, Forester Mike Adams, Forest Technician Neal Christensen, Forest Technician Nancy Thompson, Office and Outreach Assistant* Scott Lanham, Feral Hog Trapper* *Part time

Salem Office

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Steve Mahfood, Wildwood Adam Saunders, Columbia Mike Smith, Washington David Stokely, Republic Rick Thom, Jefferson City

Advisory Council

Terry Cunningham, Salem Roger Hershey, Independence Greg Iffrig, St. Louis David Larsen, Columbia Mike Leahy, Jefferson City Rindy O'Brien, Washington, DC Jon Smith, Mountain View Bill Terry, Jadwin

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

FROM THE PRESIDENT

For the L-A-D Foundation, 2021 was a year of restructuring in order better to realize the potential of our contributions in the public interest. For readers of our annual reports, this effort will be evident in the reorganization of this report according to the major goals of our strategic plan adopted in 2020.

Several key staff hires will help greatly in implementing the plan and realizing more of the foundation's potential. In April, veteran Missouri conservationist Roger Still reported for work as our first foundation manager, replacing our retiring longtime liaison to the board Greg Iffrig in a new coexecutive structure alongside our forest manager, Jason Green; this structure is designed to encourage seamless integration of our operations across all programs of the foundation. In October, we added significant strength to our stewardship team when our new chief ecologist Rebecca Landewe, well known to our many partners, reported for work alongside chief forester Brandon Kuhn. And in November we added the special skills and experience as both a CPA and an attorney to our team through our new business manager, Adrienne Lauf.

Although we were short-staffed during much of the year owing to recruitment efforts and the unfortunate passing of devoted longtime forester Mike Adams, our existing team and board members redoubled their efforts to advance in many ways on our strategic goals. On Pioneer Forest, our forestry and stewardship teams joined forces on our shortleaf pine regeneration efforts at Himont, and worked with MU researcher Trystan Harpold on his forest-wide study of harvest levels and regeneration. We also began examining the ramifications of our 16 million board feet of timber harvest per year through our supply chain of loggers, sawmills, and related enterprises in the region; began conceptualizing ways to create higher value markets for Missouri pine; and produced a video on the Pioneer Forest approach to forest management—all as related to Pioneer's role as a demonstration forest.

Our stewardship team in concert with forestry staff began laying the groundwork with partners for a forest-wide inventory of special natural features, and rehabilitated trails at Hickory Canyons, where degradation had occurred owing to overuse during Covid. We also hosted a number of ecologists to brainstorm management efforts on Pioneer for whip-poor-wills and other species in conjunction with larger hemispheric efforts. And we laid the groundwork for new partnerships and added a highly experienced MDC natural areas specialist, Mike Leahy, to our advisory council, as well as two new directors to our board, longtime USFS research scientist and friend of Pioneer Jim Guldin, and David Stokely, a lifelong Ozarkian with multi-generation conservation roots.

These personnel, programmatic, and structural changes have positioned the foundation for more effective realization of its mission and of Leo Drey's values and vision. It is heartening to see foresters and ecologists working together on the same acres and becoming excited and challenged through what they are learning from each other. The next step is to find more ways proactively to engage a broader range of partner organizations and the general public in our enterprise and approaches. Let's also hope that we once again have a chance to engage more directly in person with all of you in the coming year.

Ansan Flader

Susan Flader President, L-A-D Foundation

FROM THE FOUNDATION & FOREST MANAGERS

The L-A-D Foundation pursues its dual mission of sustainable forest management and natural resource stewardship as a cohesive team. As co-executives, under direction of our board of directors, we work together to manage our enterprise and achieve tangible outcomes for our mission.

Jason, based in our Pioneer Forest office in Salem, joined the staff in 2007 as chief forester and assumed leadership of the forest in 2013. He leads a staff of seven professional foresters, who collectively ensure that we adhere to our long-standing single-tree selection method and maintain a healthy forest that regenerates for the long-term. Although he loves being outdoors and enjoying wildlife, and is knowledgeable about the ecological side of our work, he is often found in the office leading the business aspects of a forest that generates some 16 million board feet of timber annually.

Roger, based in Columbia, frequently works out of our St. Louis and Salem offices. He was selected to lead the foundation in April 2021 after serving in senior-level executive positions at The Nature Conservancy, the National Audubon Society, and as a consultant. He leads a staff that includes two full-time ecological and outdoor recreation stewardship personnel, a seasonal stewardship crew, a business manager, and an office and outreach assistant who collectively assure that we implement our strategic plan in a manner that provides exemplary stewardship, builds partnerships around our expansive lands, and is fiscally responsible.

Over the past months of working seamlessly together on behalf of our mission, we have forged an even stronger team, adding critical and excellent new staff, integrating forest and foundation as we execute the strategic plan that provides the framework for this annual report, and fostering a healthy organizational culture that feels like family.

An award plaque in our St. Louis office aptly honors our founder, Leo Drey, for "his vision in the union between the people and the natural worlds where they live, work, and learn." We embrace that vision together, are honored to play a part in perpetuating it, and hope to see you where we live, work, and learn over the course of the next year.



Roger Still, left, and Jason Green at the Missouri Capitol.

Roger Still

Roger Still L-A-D Foundation Manager

Jason Green Pioneer Forest Manager

STRATEGIC PLAN FRAMEWORK

Leo Drey began acquisition of forest land in the Missouri Ozarks in 1951 to demonstrate the potential for ecologically and economically responsible land stewardship in the interests of the people who inhabit the Current, Jacks Fork, and nearby watersheds. The 144,000-acre Pioneer Forest became a pioneering model for uneven-aged forest management that achieved those potentials over the past seventy years, amply demonstrating that positive ecological, economic, and social outcomes could be achieved in tandem.

The L-A-D Foundation was established by Leo in 1962 to preserve lands of natural and cultural significance and undertake related scientific, educational, conservation, and charitable activities. Its holdings grew to more than 4,000 acres in twelve separate tracts, mostly in southeastern Missouri.

Then in 2004, in one of the most generous philanthropic donations in the nation that year, Leo and Kay Drey further entrusted the L-A-D Foundation with Pioneer Forest as a limited liability company under its charitable direction. As a result, the foundation expanded its previous activities to operate Pioneer Forest as a demonstration forest, providing a high-profile example of the manner in which other owners of woodlands can use uneven-aged management by selective harvest to generate financial return while preserving their woods for future harvests, conservation, and recreation.

As the L-A-D Foundation, with its Pioneer Forest, looks to achieve and demonstrate tangible results in perpetuity, we are guided by a strategic plan, adopted in 2020, that centers around four goals:

GOAL 1 *Maintain a Healthy Forest*

Maintain a diverse, healthy, vigorous, and resilient forest through uneven-aged, single-tree selection and adaptive management.

GOAL 2

Demonstrate Exemplary Stewardship

Demonstrate exemplary stewardship of L-A-D Foundation lands while providing public access to appropriate recreation.

GOAL 3

Increase L-A-D Foundation's Influence

Increase the scope of L-A-D Foundation's influence by optimizing private-public partnerships and leveraging resources for public benefit in the Missouri Ozarks and beyond.

GOAL 4

Sustain Organizational and Mission Perpetuity

Develop and sustain an organizational structure and culture that enables the foundation to accomplish its charitable mission and purpose in perpetuity.



Goal 1: Forestry—Field supervisor Matt Skaggs marking timber for logger Ron Tuttle. BRANDON KUHN

Looking ahead, the L-A-D Foundation will continue to improve the health of our lands in the same sustainable manner we have for the past seventy years, pursue increased ecological stewardship on all our lands to the benefit of a wide range of habitats and species, expand our collaborations, particularly in the Ozarks, with a wide range of public and private sector partners, and ensure that our unique organization is positioned to provide public benefit for Missourians into the next generation.



Goal 2: Stewardship—Fire crew in December after assisting MDC with the first burn of the season at Spurgeon Hollow Natural Area near Eminence. Left to right: Land stewardship coordinator Neal Humke, Bree Schabert, Mel Crutchfield, Junco Woolsey, Robert Langellier.



2021 Annual Report of the L-A-D Foundation

Rebecca Landewe, and community volunteers. Roger Still

STRATEGIC GOAL 1: Maintain a Healthy Forest

Maintain a diverse, healthy, vigorous, and resilient forest through uneven-aged, single-tree selection and adaptive management.

As a demonstration forest, every year Pioneer Forest generates outcomes that serve as a model of a diverse, healthy forest and sustainable timber management for other private and public timber managers and contribute substantially to the economy, ecology, and culture of the Ozarks. In 2021, consistent with the Pioneer Forest Management Plan adopted in 2019, our work included:

- Harvesting 5,091 acres in 2021, a little behind our management goal of 5,500 to 7,000 acres. Staff have increased the number of logging crews on the forest to increase our harvest in 2022 to be near the 6,500-7,000 acre mark.
- Conducting research on forest regeneration through a master's level research project by graduate student Trystan Harpold under the supervision of Dr. Ben Knapp of the University of Missouri School of Natural Resources.
- Participating in a partnership with the Mark Twain National Forest, Missouri Department of Conservation, and Missouri Forest Products Association to explore opportunities to expand markets for short-leaf pine throughout the region.
- Helping ensure the existing recreational trail system is in good condition. Twenty-five seniors at John Burroughs School worked on trail maintenance in the Roger Pryor Pioneer Backcountry and at the Cave Spring Trail; the Sierra Club Eastern Missouri Group and L-A-D stewardship crew performed trail maintenance in the Backcountry; and the stewardship crew also did trail maintenance at Hickory Canyons Natural Area.
- Continuing stewardship, in close coordination with the foundation's ecological stewardship staff, especially for our ecological management areas, and assisting in review of our lands to identify priority natural features and potential natural area and forest reserve possibilities.



As we look ahead, we will conduct our Continuous Forest Inventory (CFI) in 2022, continue to collaborate with researchers to understand how our forest is regenerating and what management actions at what scale we need to undertake to ensure adequate regeneration, explore opportunities for expanded markets aligned with our ecological desired outcomes, and honor and foster a strong team to implement our forestry plan.

Chief forester Brandon Kuhn talks with the L-A-D board about the end products made from logs originating in Pioneer Forest. ROGER STILL

VIDEO ON PIONEER FOREST MANAGEMENT METHOD AND TIMBER SALES

Board member Jim Guldin, a nationally recognized researcher in sustainable uneven-aged management such as practiced on Pioneer Forest, masterminded the production of a new video about forest management and timber sales methods used on the forest, together with a bit of our history. Directed by Denise Vaughn, it features forest manager Jason Green and chief forester Brandon Kuhn interacting with Jim on site in our forest, as they explain our management efforts in depth for thirty minutes. It was put together on very short notice for the Society of American Foresters virtual national conference in November for an intended audience of silviculture instructors. The event was well attended. The video was



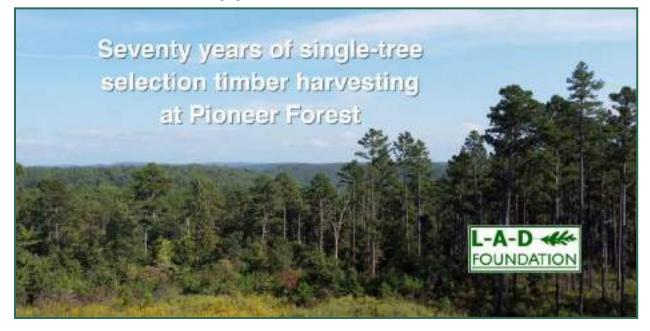
Jason Green tells how white oak seedlings need sunlight.

enthusiastically received, and has already been distributed widely to interested researchers, teachers, and practitioners.

In early 2022 we will be releasing a five-minute primer version for more general audiences such as high school or college environmental studies classes, civic associations, conservation organizations, tour groups, and visitors to our website. To view the video, go to <u>https://</u> <u>ladfoundation.org/pioneer-forest-primer/</u>.



Above: Brandon Kuhn, Jason Green, and Jim Guldin discuss timber at one of the harvest sites featured in the video. Below: Title shot from the video. Photos this page: NEIL ROSENBAUM



2021 Annual Report of the L-A-D Foundation

TIMBER PRODUCTION DEMONSTRATION

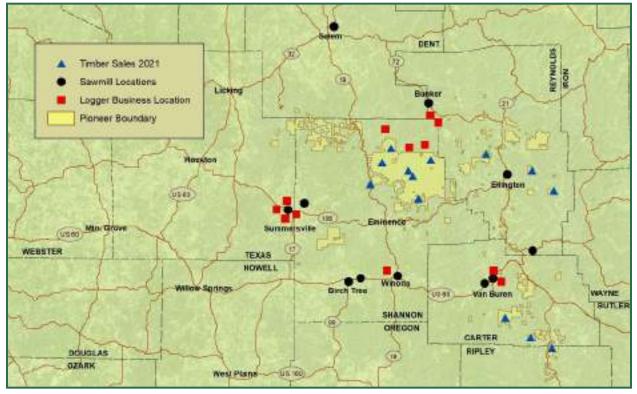
Our uneven-aged single tree selection method of timber management is critical to maintaining Pioneer Forest's healthy and sustainable forest management system. The operation of the forest strives to preserve an appropriate forest structure by harvesting between 5,500 and 7,000 acres annually. Volume removals attempt to create forest conditions that are a patchwork of openings allowing light to reach the forest floor and creating a new generation of trees with each harvest entry.

Pioneer currently has 14 timber sales occurring on the forest. These sales include 11 marked sales and 3 salvage sales. In total, the forest in 2021 harvested 9.3 million board feet of sawtimber, 5.1 million board feet of blocking, and 580,000 board feet of white oak staves from 5,091 acres. These harvests were slightly below our desired target owing to lower production from a couple of contracting crews. Harvests help maintain a healthy, vigorous, and highly productive forest that supports the local economy and local workforce. Harvests also provide the greater public with a demonstration model, producing periodic income while maintaining a sustainable multiple-aged forest.

ECONOMIC OUTPUT AND SUPPLY CHAINS

In September, the board of directors, staff, and invited partners of the foundation took part in a field trip tracing the supply chain of our sustainable timber operation that emanates from our work on Pioneer Forest.

In real time we were witness to the entire journey of our sustainable harvests from the forest. We began at a timber sale and logging operation on the forest where we learned how our foresters mark trees and administer a timber sale. We watched Kirk Martin of Circle K Logging fell recently marked trees and his skidders pull them uphill to waiting trucks, all aligned with our best management practices.



Pioneer Forest is a demonstration of the economic feasibility of sustainable silvicultural methods that simultaneously enhance the ecology and economy of the region to the public benefit. Our supply chain begins with our foresters marking timber with our single-tree selection method, administering timber sales, and then transport of logs to regional sawmills for processing. MAP: DUSTIN COLLIER AND DENISE HENDERSON VAUGHN

After lunch in the woods we drove to the Powell Sawmill in Bunker where we watched the Circle K logging truck arrive, get weighed, and offload the logs from the morning's harvest at our site. Then we took a tour inside the mill to see how our logs were sorted and processed from raw timber into finished lumber and by-products, and we learned about how these products then are shipped regionally, nationally, and even globally.



The Circle K truck with Pioneer logs arrives at the Powell Sawmill. The truck is loaded with blocking material and the pup is loaded with sawlogs. **Rick Thom**

End products made from our forest run the gamut of white oak staves for barrels for fine spirits and wines, to building lumber, wood flooring and millwork, to pallets and railroad ties for transport, and by-products for a variety of purposes.

When their total value is calculated, the economic impact of these products far exceeds the \$13 million generated in local economic impact. Aligning such products that people use in their daily lives with sustainable forestry practices and the ecology of our region is at the heart of what we do.





Above: Barrel made from white oak staves. ROGER STILL

Left: Crossties at the sawmill. Brandon Kuhn

HIMONT MANAGEMENT PLAN AND OUTCOMES

Himont, known to hikers as the main trailhead in the northern portion of the Roger Pryor Pioneer Backcountry in northeast Shannon County, is now also the site of our new 470-acre Himont Pine Management Area. The acreage lies immediately west of the site of the old Himont stave mill, which was established by National Distillers Products Corporation around 1947. The management area is dominated by shortleaf pine, representing nearly 60 percent of the total standing sawlog volume. Logistically, the area also lends itself well to prescribed fire management—essential for securing reproduction of shortleaf pine—utilizing county roads as fire breaks on the north and east, a hiking trail to the south, and an old logging road to the west.

According to the multi-state Shortleaf Pine Initiative, shortleaf pine has faced significant declines across North America, likely now occupying less than 10 percent of its historic range. In Missouri, shortleaf pine was virtually wiped out in areas accessible to logging trains and larger rivers during 1890-1910 and has significantly declined elsewhere across the landscape owing to competition with other species, lack of fire, and inadequate reproduction. Today on Pioneer Forest as a whole, shortleaf pine represents 30 percent of standing sawtimber volume, often in stands mixed with hardwoods, while the amount of advanced reproduction of pine is less than 1 percent. Clearly, traditional uneven-aged single tree selection harvests are not conducive to establishment and recruitment of new cohorts of pine. Shortleaf requires specific management for recruitment of new cohorts. Accordingly, forest management on the site will be practiced to meet the following objectives:

- 1. Establish pine regeneration and new cohorts of pine over time
- 2. Utilize prescribed fire to encourage pine regeneration and control hardwood competition
- 3. Maintain a 20-year harvest interval
- 4. Create canopy openings to promote pine regeneration
- 5. Promote vegetative richness through canopy cover reductions and prescribed fire
- 6. Maintain shortleaf pine as the major tree species on the site
- 7. Leave trees that have additional wildlife benefits such as soft-mast-producing trees and den trees
- 8. Manage exotic invasive species to minimize their negative impacts

The first prescribed fire was conducted in the Himont unit on March 7, 2021, after considerable advance preparation. Ozark National Scenic Riverways staff, DNR State Park staff, and volunteers assisted in the burn. Post-burn scouting revealed approximately 95 percent fire coverage across the unit. There was very little hardwood scarring within the unit, especially where topography was relatively flat. Logging operations moved into the area during the summer of 2021 focusing on thinning pine and white oak stands and removing fire-sensitive and lower quality red oaks. This management should increase the



probability of establishing pine regeneration, increase vegetative response and richness, and promote the growth, vigor, and health of residual crop trees. We will monitor the site carefully as we proceed and practice adaptive management as needed. What we learn at Himont may help us secure pine regeneration elsewhere on the forest.

Fire at Himont. Jim Guldin

BURN DAY AT HIMONT, SUNDAY 7 MARCH 2021 Excerpts from Board Member Jim Guldin's Journal

I got there at 1100, and found the western part of the burn crew on the Himont road, and there was Jason Green in the middle of it! And I was happy to see that half the burn crew were NPS staffers, including fire ecologist Dan Drees who I've met before at the PF barbeques, and Eric Daniels, Chief of Resource Management for NPS. I think there were at least six NPS folks on the burn, with two pickup trucks and a fire engine with crew as backup if needed. Soon I said hello to Matt Skaggs and Clay Jensen in a PF Gator, lighting an interior line, and caught up with L-A-D burn boss Neal Humke. Later I said hello to Dustin Collier and Levi Bachmann as they strapped on Stihl leaf blowers (yep, with ear protection) to help clear the western bulldozer line.

I could not have been more impressed with the safety gear and equipment that both our PF staff and NPS partners had. Everyone (except me) had full Nomex gear, hard hats, radios tuned to a common frequency across PF. I heard several fire weather updates (every 30 minutes? Every hour?) as I stood nearby listening to it all. Signage on the Zoe Road and at the trailhead about the weekend burn showed sincere effort to communicate the effort to the



Fire trucks stand ready in case they're needed during the Himont prescribed burn. JIM GULDIN

public. It's also important to note that the crew on the fire was fully briefed on the plan of attack for the burn. Neal showed me the field map for the execution of the burn, with staging points and progress points noted on the map. And, I saw the temporary signs that had been posted on a prominent tree at each point. In addition to that, any snag that might have fallen into the road or across the trails had been cut and dissected before the fire. The ecological effect looked pretty good in the areas where fire consumed that oakdominated litter; a look next spring will help confirm these initial impressions. This was a very professional job.

SEEKING SHORTLEAF PINE MARKETS

Pioneer Forest continues to seek high-value shortleaf pine markets. Shortleaf pine represents a major species component in the Missouri Ozarks across both public and private lands. Currently, most shortleaf is sold for manufacture into lowvalue products such as pallet material and shavings for animal bedding. Our discussions with various partners about the need for better markets for Missouri pine have led to a grant from the US Forest Service to the Missouri Department of Conservation to examine the following:

1. Resource assessment of shortleaf pine in Missouri



Shortleaf pine at Himont on Pioneer Forest. ROGER STILL

- 2. Market analysis of current and prospective markets for shortleaf in Missouri
- 3. Analysis of production options for prospective markets

This study should provide a thorough examination of pine market potential, challenges, and opportunities. Shortleaf is an important timber species in the Missouri Ozarks and has been historically significant. It also provides habitat for many wildlife species. For example, the brown-headed nuthatch has recently been reintroduced into pine management areas in Missouri and has been a conservation success story. Better markets for pine will give managers more options for management decisions in the field. This could have direct implications for both ecological management and pine management.

FERAL HOG SITUATION IMPROVING

Staff have recognized significant positive impacts from the trapping efforts on Pioneer Forest lands. The forest no longer has entire hillsides rooted by sounders of hogs across the forest. Catches have become less frequent, with fewer pigs in each catch. However, feral hog operations cannot cease as long as the hogs exist in the landscape. Pioneer Forest is committed to continue to remove feral swine from its lands and support its partners in their efforts to eradicate feral hogs from Missouri's landscape. In 2021, 337 total pigs were killed on Pioneer Forest, down by more than half from 2020; of the 337, 272 were taken by parttime feral hog trapper J.R. Lanham, 10 by other forestry staff, and 55 by USDA.



Sign of feral hog rooting, which can destroy the delicate, rare, native vegetation, at Thompson Hollow Glade in Pioneer Forest. **Roger Still**

In the state as a whole, 9,857 hogs were eliminated in 2021, for a total of more than 54,000 hogs removed since 2016, when the feral hog partnership began to become more effective. By 2021 it was cooperating across boundaries with more than 1,300 private landowners, including Pioneer Forest, and had eliminated hogs from nearly 50 percent of the watersheds that had been occupied in 2016. The effort continues, but there is now considerably less hog damage and genuine cause for hope.

LAND CONSOLIDATION

The L-A-D Foundation continues to consolidate its landholdings. Pioneer Forest staff completed a complicated exchange in 2021, which concluded with our trading a landlocked 155-acre parcel in Reynolds County for 160 acres on Wildcat Mountain in Shannon County within the Roger Pryor Pioneer Backcountry, one of our highest priority areas for consolidation. Pioneer surrounds the Shannon County tract to the north, east, and west, while the Ozark National Scenic Riverways borders it to the south. This acquisition allows us to evaluate Wildcat Mountain for restoration to an igneous woodland/glade complex, likely in partnership with the National Park Service. It is a key acquisition for conservation in the Current River watershed, and it also reduces our boundary-line maintenance by a mile. At the same time, in Reynolds County, the other party to the exchange gets a much-sought tract with good timber bordering his own, and for Pioneer it eliminates both an isolated, landlocked tract difficult to access and another two miles of boundary-line maintenance. Everybody wins.

In a different transaction in Reynolds County, Pioneer was able to sell to an adjacent landowner an isolated 40-acre holding that was landlocked, difficult to access, and required a mile of boundary-line maintenance.

Research on Pioneer Forest

Pioneer Forest continues to support research on the forest. Currently, a master's student in forestry at the MU School of Natural Resources, Trystan Harpold, is describing forest regeneration over time and seeking to determine whether current regeneration levels are sustainable. This project should give better insight to forest managers to determine future harvest levels and cutting cycles in order to promote regeneration over time. The study attempts to answer the following three questions:

- 1. How has tree regeneration and recruitment changed through time across the forest?
- 2. Do site factors such as slope position, aspect, and ecological land-type affect regeneration?
- 3. Does timber harvest to differing levels of stand density affect regeneration?



Trystan Harpold

The study has used multiple data sources including Pioneer's Continuous Forest Inventory (CFI), soil data from the Natural Resource Conservation Service, data on light availability, and harvest records. Already, the study has revealed the significance of periodic harvests and difficulty in measuring light regimes. The study should help staff establish stand requirements to recruit and maintain regeneration across the forest over time.

MIKE ADAMS: IN MEMORIAM

On Sunday, October 3, 2021, forest technician Mike Adams passed away at the age of 54, as the result of a vehicle accident that also took the life of his wife Kim. He had worked for nearly 28 years with Pioneer Forest.

It was clear that Mike loved his job working for Pioneer. At the time of his passing, he was the longest tenured employee currently working on the forest. He knew as much or more about the forest, especially



Mike Adams conversing with friends at our community barbecue in Salem. Denise VAUGHN

the Heaton Ridge and Leatherwood tracts, than anyone. The excellent work he did on the forest will leave a legacy for many years to come.

Mike always had a passion for being outside. He felt blessed being able to live in an area where he could enjoy many outdoor activities, including his work. Mike enjoyed watching Cardinals baseball, camping and boat riding on the Current River, SXS riding, hunting, fishing, woodworking, and drinking bushwhackers at the Flora-Bama with his wife Kim. He loved spending time with the grandkids and was extremely excited about the two new ones due in spring 2022.

Mike was a dear friend and colleague, and his passing deeply saddened the L-A-D and Pioneer Forest family. He had a way of making everyone feel involved in conversations, and when he was with friends or family he was always smiling and laughing. Mike was known as a laidback guy who would do anything he could to help someone in their time of need. He always had an open ear to listen, and if you asked for his input it was usually the best advice you could get. We will all miss him.

STRATEGIC GOAL 2: Demonstrate Exemplary Stewardship

Demonstrate exemplary stewardship of L-A-D Foundation lands while providing public access to appropriate recreation.

As the largest private landowner in Missouri, whose property harbors some of our state's most unique and precious habitats, the L-A-D Foundation is committed to stewarding these resources for the health of the land and the enjoyment and edification of future generations. Our 144,000-acre Pioneer Forest is set within an Ozarks landscape encompassing over two million acres in the Current and Jacks Fork watersheds, which harbor more than 35 globally significant species. Our land adjoins public lands owned by the Ozark National Scenic Riverways, Mark Twain National Forest, Missouri Department of Conservation, and Missouri State Parks. Lands owned beyond Pioneer Forest and leased to state agencies include some of Missouri's most iconic places-Dillard Mill State Historic Site, Grand Gulf State Park, Hickory Canyons and Clifty Creek Conservation Areas, among others-and we remain actively focused on preserving these cultural and natural resources as well.

Over the past year, across all our lands, we have increased our focus on ecological and recreational stewardship, highlights of which include:

- Working alongside agency partners to implement controlled burns on over 2,200 acres of Pioneer Forest and neighboring federal and state lands, enhancing the ecological character of places such as Welch Glade and Pine-Oak Woodlands EMA.
- Clearing over 30 acres of glade at the Welch unit to restore critical glade habitat, treating nonnative invasive species across all our properties and collaborating closely with the interagency Scenic Rivers Invasive Species Partnership to help scale efforts to address this ecological problem, particularly in the Current and Jacks Fork watersheds.
- Monitoring rare plants at Welch Glade, Pine-Oak Woodland Ecological Management Area, and Himont Pine Management Area.
- Partnering with US Fish and Wildlife Service and MDC to monitor endangered bat species, and with the Cave Research Foundation, which monitors and maps caves on an ongoing basis and helps maintain their gates.
- Addressing adverse trail issues at Hickory Canyons Natural Area through new trail signage and repair, and planning for a much more ambitious solution in the future.
- Hiring chief ecologist Rebecca Landewe to increase our commitment to stewardship of our ecological resources and enhance recreational opportunities for the public.
- Completing our second Missouri Bird Conservation Initiative grant to clear a 30-acre glade/ woodland area.



Looking forward to 2022, under Rebecca's leadership we will create comprehensive ecological stewardship and outdoor recreation plans, involving local community and agency partners, to chart a course for ambitious implementation. This will include a natural and special features inventory to ensure we are fully aware of the extent of the biodiversity and cultural resources on our land.

Igneous glade on Jerktail Mountain where use of prescribed fire has stimulated growth of wildflowers and other herbaceous glade-adapted plants. NEAL HUMKE

Adding a New Core Capacity to L-A-D Foundation: Chief Ecologist Rebecca Landewe

In October, underscoring our commitment to ecological stewardship on all our lands, we were delighted to welcome Rebecca Landewe as our new chief ecologist. In this new position that pairs and integrates with our chief forester position held by Brandon Kuhn, Rebecca will focus on increasing our conservation outcomes on our properties and partner comprehensively across boundaries with other state, federal, and private conservation organizations and citizens.

Rebecca received a master of public administration degree in environmental science and policy from Columbia U. and a bachelor of science degree in fisheries and wildlife from the U. of Missouri-Columbia. She started her career with the Environmental Protection Agency as the Missouri water quality standards coordinator. She then spent several years doing applied forestry work in New Mexico and Minnesota before joining The Nature Conservancy as the Current River project manager, based in Van Buren, Missouri. Prior to joining the L-A-D Foundation, she worked as a field



Rebecca Landewe at Bee Bluff. Roger Still

inspector for the Montana Department of Environmental Quality. She has experience in conservation planning, coordinating multi-agency partnerships, and recreational trail development.

Upon joining our organization, Rebecca shared: "The Missouri Ozarks are truly special, both ecologically and to me personally. I'm grateful to have the opportunity to work in this unique landscape and with the team at Pioneer Forest to enhance the ongoing stewardship of the land entrusted to us. I plan to look broadly across our ownership for opportunities to enhance our ecological management work in ways that complement the successful, long-standing timber management program. Developing a methodology for documenting and mapping our natural features will be important for informing ecological management activities and enabling us to track the impacts of that management over time. For the L-A-D lands managed by partners, I want to continue to work closely with them to ensure we maintain the integrity of the resources protected on those lands and are appropriately supporting their efforts."

STEWARDSHIP SPOTLIGHT: WELCH GLADE AND TALL LARKSPUR



Tall larkspur and spicebush butterfly. Angela Sokolowski

Our ecological stewardship of Pioneer Forest and its rare glade and woodland natural communities has expanded in recent years, and a recent partnership has brought about significant results on this habitat for plant species of conservation concern. Ozark natural communities evolved in response to fire and, in collaboration with partners, the scope of our fire management has appropriately increased. Currently, approximately two percent of Pioneer Forest is treated with fire.

Working in concert with the National Park Service's Ozark National Scenic Riverways (ONSR) stewardship staff, we successfully implemented management that has led to a

spectacular conservation result. In 2018, a wildfire in the park that burned down a large building, the Welch Lodge, also burned nearby glade habitat. After the wildfire, an ONSR botany crew found new populations of a nationally rare wildflower, tall larkspur (*Delphinium exaltatum*), and eastern blazing star (*Liatris scariosa*). Since both rare wildflowers benefit from dormant season prescribed fire, we worked together with ONSR staff to include more of our land into the expanded 829-acre Welch Lodge prescribed burn unit, deploying our four-person stewardship crew, led by land stewardship coordinator Neal Humke, to implement management at the larger scale.

Following the burn in March 2021, monitoring data suggests this area now contains the world's largest population of tall larkspur in a single management unit. Botanical surveys also showed a 560 percent increase in blooming eastern blazing stars with now the third largest population in the state. In addition to a huge increase in these rare wildflowers, other glade and woodland wildflowers bloomed in profusion, attracting flocks of colorful butterflies. In August, our staff toured the burn unit and were delighted with the biodiversity flourishing in the area, including prairie warblers, a declining species, attracted to open glade and woodland habitat created through fire management.

This article is a modification of an article written by ONSR Fire Ecologist Dan Drees, a key expert partner in our land conservation work. Used by permission.

Species Spotlight: The Diminishing Sound of Ozark Summers, Eastern Whip-poor-will

A once common voice of summer is telling us something is wrong. Generations of Ozark residents, campers, and visitors are noticing that the seemingly unending call of the whip-poor-will sounding out its name at night has grown increasingly silent in recent years. Sadly, they would be right: since 1970 surveys indicate that this bird, such a signature element of Ozark forests and culture, has declined by nearly 70 percent.

Pioneer Forest and surrounding state and federal public lands are among the last best strongholds for conservation of the species given the vast extent of unfragmented forest on which the whip-poor-will relies: large numbers can still be heard calling out their name on our land. Our silvicultural and conservation commitment to the perpetual sustainability of Ozark forests is a key reason why birds like the whip-poor-will have intact breeding grounds, a demonstration of what is possible with enough habitat and proper management even for a species in precipitous decline.

Recognizing this, in June we hosted Andy Forbes, Deputy Chief, US Fish and Wildlife Service, Migratory Birds, Midwest Region, to explore the potential for partnership on behalf of the bird. Visiting our Pine-Oak Woodland Ecological Management Area, an area where we focus on integrating our silvicultural and habitat management efforts, we saw a profusion of other birds during the day in habitat that research shows favors the whip-poor-will as well: blue grosbeak, yellow-breasted chat, pine warbler, and many other migratory warblers.

Opportunities abound to help conserve the whip-poor-will, which will also help so many of these other species, and in 2022 we plan on laying the groundwork



The Eastern Whip-poor-will still sings its signature song on summer nights on Pioneer Forest but has declined across its range by almost 70 percent since 1970, giving us a special responsibility for stewardship of the species. IAN SOUSA-COLE

for our joint efforts. This will likely include helping facilitate research on Pioneer Forest as to how our silvicultural and habitat treatments can best conserve the species, the feeding habits and needs of the bird in proper habitat, and global positioning system (GPS) tags on individuals breeding on our land to better identify where the species overwinters, currently thought to be clustered in the Chiapas region of southern Mexico. Ultimately, we hope to contribute to a full life cycle conservation effort that successfully conserves this signature sound of the Ozarks for future generations to appreciate and enjoy.

Outdoor Recreation and Trails Spotlight: Hickory Canyons Natural Area

Hickory Canyons, designated a natural area in 1974, has been captivating visitors for decades.

Known by hikers for its scenic box canyons and waterfalls, it is also home to a mesic sandstone natural community that is quite unusual in the state of Missouri. Growing in this environment are plants that were once more widespread in the state when the climate was cooler thousands of years ago, but now these "glacial relicts" are limited to scattered moist hollows across the Ozarks. The variety of ferns and club mosses in Hickory Canyons is unique and picturesque.



The mesic sandstone forest includes northern red oak, white oak, spicebush, pawpaw, deciduous holly, and numerous sedges. Further up the drier slopes are shortleaf pine, white oak, black oak, and blackjack oak with flowering dogwood, farkleberry, ironwood, and the occasional azalea underneath. In 1987, Dr. Robert Mohlenbrock (Southern Illinois U., Carbondale) reported 612 taxa of ferns and flowering plants tucked along the cliff faces, overhangs, streambanks, and adjacent woodlands.

Overuse by hikers and deferred maintenance has resulted in a degraded trail system with a network of unsustainable social trails. The minimally constructed trail system was overburdened by new users when the Covid lockdown restricted indoor activities and outdoor recreation surged. Visitors have created a network of new social trails trying to get better vantage points overlooking the canyons, accessing places that were previously not connected by the existing trails. As a result, the natural communities have been damaged, extensive trail erosion has exposed rocks and roots that are hazards for visitors, and hikers are frustrated by the difficulty in following the designated trail.



Photos this page: Roger Still

Work has already begun to help remedy the myriad problems at the site. Our stewardship crew, under Neal Humke's leadership, rerouted a problematic section of trail, installed water diversion structures to improve drainage, hung directional signs to guide visitors, and obscured social trails by cutting and moving cedar trees onto them.

Just as this report neared publication, we learned that a grant proposal we had submitted to MDC, our long-time partner at the site, had been funded for a trail redesign plan for the area. Work will continue to reroute problematic segments of the trail, fully close social trails, and ensure the trail is well-marked and maintained. We will also design and install interpretive signs to help visitors gain a greater appreciation for the unique geology and biota protected by the natural area.

STRATEGIC GOAL 3: INCREASE L-A-D FOUNDATION'S INFLUENCE

Increase the scope of L-A-D Foundation's influence by optimizing private-public partnerships and leveraging resources for public benefit in the Missouri Ozarks and beyond.

Given the size of our landholdings and scope of our economic activity across six counties in the southeastern Ozarks through timbering on Pioneer Forest, the L-A-D Foundation is uniquely positioned to collaboratively influence the region, acting as a good neighbor and public citizen. We voluntarily pay property taxes, provide grants to conservation and cultural resource non-profits to implement a variety of projects aligned with our mission and values, award college scholarships to local high school students of excellence, and generate more than \$13 million annually in local economic activity through our supply chain.

In 2021, our collaborative influence extended across all the communities in which we operate and beyond, including:

- Awarding small grants to nonprofit organizations that work on conservation or cultural heritage projects in the Missouri Ozarks and college scholarships to students in Ozark schools.
- Continuing to work with a wide range of conservation and community partners, including the Great Rivers Environmental Law Center, Cave Research Foundation, Backcountry Horsemen of Missouri, Ozark Trails Association, Mt. Zion Church at Akers, Ozark Riverways Foundation, Missouri Land Trust Alliance, Society of American Foresters–Missouri Chapter, and many others.
- Providing input into the National Park Service's Ozark National Scenic Riverways Roads and Trails Plan both as a singular organization and with numerous partners who educated citizens and encouraged their responses under the umbrella of Friends of Ozark Riverways.
- Staying informed and providing input about the timber industry in Missouri through forest manager Jason Green's service on Missouri Forest Products Association Board of Directors.
- Benefiting from L-A-D Foundation board member service on other related boards, including Missouri Parks Association, Missouri Forest Resources Advisory Council, Missouri Coalition for the Environment, the National Audubon Society, University of Missouri School of Natural Resources, Missouri Prairie Foundation, Great Rivers Environmental Law Center, and many others, helping keep staff apprised of issues and activities in the state that bear upon our work.
- Meeting with the leadership of state and federal agency partners, academic institutions, and elected officials to share about our work and expand our influence, including Missouri Department of Conservation, Mark Twain National Forest, Missouri Department of Natural Resources, MU School of Natural Resources, Congressman Jason Smith, Lieutenant Governor Mike Kehoe, and various county commissioners and other officials.
- Exploring new partnerships with community groups such as Ozark Natural and Cultural Resource Center in Salem, Black People Who Hike in St. Louis, and Community Foundation of the Ozarks in Springfield, which has regional affiliate foundations across the Ozarks.

Building from a strong base of existing partnerships, in 2022 we will expand our engagement with particular focus on enhancing the ecological integrity and natural resource-based economy of the Ozarks and encouraging more sustainable uneven-aged forest management in Missouri. We will also conduct comprehensive communications planning and implementation to increase interest in and knowledge of the foundation's mission and work, seek to leverage our standing as a major landowner and economic force in the Current River watershed to bring more federal and state resources to benefit the region, and seek new collaborations through our grantmaking and other outreach activities to local Ozarks non-profits.

GRANTMAKING AND COMMUNITY SCHOLARSHIPS

Each year Pioneer Forest awards \$1500 college scholarships to high school seniors from five schools in the region. This year's recipients were Hailea Martin, Bunker; Brycen King, Ellington; Darrel Crider, Eminence; Tabitha Wuertley, Summersville; and Emma Bloodworth, Van Buren.



Missouri Archaeological Society volunteers in a workshop screening for artifacts on L-A-D property. Missouri Archaeological Society



Missouri Prairie Foundation Vice President of Science & Management Bruce Schuette instructing 14 students, professionals, and conservation volunteers who participated in prairie and woodland restoration training held at MPF's Stark Family Prairie in Hickory County. Training was offered to the general public, with an emphasis on young people entering the field of natural resource management. Schuette explained the importance of removing invasive woody species from prairie and woodland, while also taking care to sustain shrubs and trees appropriate to the 34-acre property that includes original, unplowed prairie and an original woodland. CAROL DAVIT

Pioneer Forest also makes donations to local organizations. This year we contributed a total of \$2,925 to Reynolds County Historical Society, Ozark Natural and Cultural Resource Center, Bunker Fire Department, a local Stream Team, Bunker Jazz Band, Bunker Timber Museum, a young widowed mother, and an injured logger.

In 2021 the L-A-D Foundation awarded ten grants totaling \$35,134. Recipients included AmeriCorps St. Louis, Black People Who Hike, Greater Ozarks Audubon Society, Missouri Archaeological Society, Missouri Caves and Karst Conservancy, Missouri Chapter of the Sierra Club, Missouri Parks Association, Missouri Prairie Foundation, Ozark Trail Association, and University of Missouri School of Natural Resources. Organizations will teach children about nature and develop young conservation leaders as well as train landowners, volunteer archaeologists, and new backpackers.

Photos on this page are from some of the 2019 and 2020 grant recipients who finished their projects this year.



The Greater Ozarks Audubon Society presented its GLADE (Green Leadership Academy) program for 15 high school students from 10 different schools. Dr. Janice Greene of Missouri State U. took the students bird banding. She showed them how the birds are captured, the tiny leg bands attached to each bird, and the data collected. Some students were even able to hold a bird. One girl, while looking in the eyes of a Kentucky Warbler (above), said quietly that she could not believe this tiny, beautiful thing was so alive. GREATER OZARKS AUDUBON SOCIETY

GRANTS SPOTLIGHT: NEW MU WOODLAND STEWARDSHIP POSITION

The L-A-D Foundation board in 2021 approved a special grant of \$25,000 over five years to the University of Missouri for a new forest harvesting and utilization specialist position devoted 25 percent to teaching in the School of Natural Resources and 75 percent to leading University Extension's Woodland Steward Program. At a November event to announce full funding of the new position, the lead funder of the effort, Missouri's Independent Stave Company, represented by its President Brad Boswell, was lauded for its critical leadership role, and L-A-D, represented by President Susan Flader, was recognized for its contribution, which helped to spur additional donations to reach the goal. Independent Stave is the leading supplier of white oak barrels for fine wines and spirits globally, and L-A-D's Pioneer Forest is its leading supplier of high quality white oak for barrel staves, virtually all of which is trucked to ISC's Salem mill.

The new SNR faculty position will teach courses in forest measurement, sampling, and inventory, sustainable harvesting operations, and forest utilization, all of which may be informed by Pioneer's demonstration forest. The goal of the MU Extension element of the position is to double the number of

private landowners in the Missouri Ozarks educated and engaged in active forest management and the number of acres under management in the Missouri Tree Farm program, recognized by the national Sustainable Forestry Initiative, through which both MDC and ISC are certified. The L-A-D Foundation looks forward to cooperating in these efforts. The new faculty/extension position is expected be hired and begin work in 2022, and the university is expected to continue the position after the first five years.



Brad Boswell, President of Independent Stave Company, speaking at event announcing full funding of a new sustainable forestry and woodland steward position at MU. MU EXTENSION



Debbie Njai. D. Lyons Photography

New Community Partner Spotlight: Black People Who Hike

Debbie Njai, founder of Black People Who Hike, has been leading nature adventures for Black people, expanding their awareness of the outdoors. With a 2021 grant, L-A-D Foundation is proud to assist the organization in training leaders so that this audience can continue to grow. On a recent excursion, the group experienced hiking in Hickory Canyons Natural Area and learned about the area's natural attributes from land stewardship coordinator Neal Humke.

OZARK NATIONAL SCENIC RIVERWAYS ROADS AND TRAILS PLAN

With thirty-five miles of frontage on the Current and Jacks Fork Rivers under scenic easement to the National Park Service (NPS) as well as much of the acreage of Pioneer Forest protecting its watershed, the L-A-D Foundation has long worked with NPS to secure strengthened management of the Ozark National Scenic Riverways (ONSR). Leo Drey was a leader of the citizen effort in the late 1950s and early 1960s to secure designation of the Current and Jacks Fork as the first federally protected rivers in the nation (1964), and he donated scenic easements to his frontage to NPS in 1970.

Unauthorized incursions by off-road vehicles, equestrians, and at times county road crews through the corridor to the



Current River as seen from the Martin Bluff Glade. NEAL HUMKE

banks of the river proliferated over the years, including across L-A-D lands, so L-A-D staff and board members met many times over the decades with NPS officials and leaders of partner organizations in efforts to find solutions to the problems. These efforts redoubled in 2009 when NPS finally began preparing for a new General Management Plan (GMP). With strong conservationist advocacy from the grassroots and support from officials higher up, NPS produced a good draft plan, and L-A-D worked closely with partner organizations on a citizen guide for commenting that encouraged widespread public support for the NPS preferred alternative, resulting in 2015 in a solid final plan.

But that was just the first step. Next came a Roads & Trails Plan to work out specific details. Again L-A-D worked with NPS officials and partner organizations, including the Backcountry Horsemen of Missouri, to encourage support for equestrian loop trails in the Upper Current area extending beyond the narrow Riverways corridor in order to provide more miles of trail with fewer river crossings and fewer miles of trail in sensitive riparian areas (there are as yet no designated horse trails in the upper Current, but a maze of "social" trails with frequent river crossings). Again NPS came up with good plan alternatives, including equestrian loop trails, strictly limited vehicular access to gravel bars, additional hiking trails, and plans to close and restore all unauthorized roads and trails. L-A-D worked closely with partner organizations on citizen guides for commenting on both the preliminary alternatives in 2018 and the completed plan in summer 2021, in order to encourage strong citizen support for NPS to counter often pointed opposition.

In our own L-A-D comments, we support the NPS preferred alternative, then go into detail about certain roads and trails of particular concern to us because they are on our land under easement to NPS or provide opportunities for unauthorized access to ONSR through our adjoining lands. Our aim is to strengthen the resolve and capacity of NPS to manage the Riverways according to National Park standards (which has often not been the case) and to offer our cooperation and seek close collaboration in dealing with the problems going forward. On the Jerktail equestrian loop trail upstream from Two Rivers, for example, we would like to collaborate with ONSR and equestrian groups on ways to discourage equestrians from going off trail up onto Jerktail Mountain's sensitive glades that L-A-D and ONSR stewardship crews have devoted great effort to restore in recent years.

At year's end, NPS had not yet released its final, approved plan. We continue to look for opportunities to cooperate wherever we can, not only with ONSR but also with other partners who may not agree with us on particular roads or trails.

JOHN BURROUGHS SCHOOL DREY LAND CAMP: RENOVATION FOR THE NEXT GENERATION

As an alumnus of John Burroughs School in St. Louis, L-A-D's founder Leo Drey first offered to lease forty acres of Pioneer Forest to the school in 1969; the tract borders Sinking Creek, a tributary to the Current River. Constructed in 1971, Drey Land Camp has been integral to educating Burroughs students in grades 7 - 12 ever since, serving as a valuable resource for biology field research, outdoor education, and service outings. Throughout the years, the Burroughs community has built and maintained most of the facilities, including a main lodge, pavilion, and cabins. They have graciously allowed the L-A-D Foundation to use the facilities in off seasons, including for occasional board meetings.

The camp infrastructure has facilitated nature education for thousands of Burroughs students for a half century. Due to increased enrollment, capital improvements are now in order to accommodate and enhance the educational experience at Drey Land and the surrounding Pioneer Forest land. This will



Rendering of proposed new lodge at Drey Land Camp. Courtesy of Jake Banton and Will McCallum

include replacing the old lodge building with a new two-story lodge on the same footprint, a new, more ecologically friendly latrine and sewage lagoon, and site improvements that enhance the educational experience.

L-A-D Foundation and Burroughs School are working on a new lease that will also enable third-party use of the camp as a resource to support the diversification of the conservation movement by working with underserved communities.

STRATEGIC GOAL 4: Sustain Organizational and Mission Perpetuity

Develop and sustain an organizational structure and culture that enables the foundation to accomplish its charitable mission and purpose in perpetuity.

Seventy years after the formation of Pioneer Forest, 2021 was a critical juncture organizationally for the L-A-D Foundation overall. We recruited new board and advisory council members, hired key new staff leadership, and disciplined ourselves to execution of the strategic plan adopted in 2020 in anticipation of these changes. A key element of that plan was a new organizational structure with parallel co-executive positions for a foundation manager and a forest manager and a similar parallel chief forester and chief ecologist in order seamlessly to integrate and expand the operations of the foundation.

Given that the foundation owns roughly the same amount of land as Missouri's State Parks combined and three times as much land as the neighboring Ozark National Scenic Riverways in some of our state's most ecologically important areas, and our centrality to the economy and culture of the Ozarks through our sustainable timbering operation on Pioneer Forest, perpetuating the mission of the organization in the public interest is nothing short of a sacred trust. Our board of directors meets that challenge with high purpose and a commitment to careful governance of our finances, programs, and partnerships.

With key staff and board positions now filled consistent with our strategic plan, looking forward we will rigorously ensure compliance with our legal requirements as a tax-exempt non-profit private operating foundation, increase our financial endowment to buffer against future downturns in the timber economy or threats to our land, and continue to model our organizational culture on the collaborative, humble, yet visionary qualities of our founder, Leo A. Drey.

Throughout 2021 a number of transitions occurred.

GREG IFFRIG RETIREMENT

In April, Greg Iffrig retired from his position as liaison to the board of the L-A-D Foundation. Our founder, Leo Drey, personally selected Greg in 1992 to fill a new position on Pioneer Forest. His assignment was to review the forest inventory of special places and features, integrate their protection with the ongoing missions of sustainable forestry and primitive recreation, and provide oversight for L-A-D's park and natural area properties outside of Pioneer and leased to state agencies.

With Greg's guidance, Pioneer Forest and L-A-D Foundation staff and board became much more knowledgeable and appreciative of the forest's many natural and cultural resources, and took affirmative actions to recognize, restore, and safeguard them. Besides the enhancement of



existing natural areas on the forest, two new land classification systems were developed, Pioneer Forest Reserves and Ecological Management Areas.



In recreation, Greg helped develop the potential of the Roger Pryor Pioneer Backcountry by coordinating several management plans for that special area and stimulating outside agencies, organizations, and volunteer projects to build and maintain many miles of hiking trails and an equestrian trail.

Past and current L-A-D foundation presidents John Karel and Susan Flader with Greg at a retirement party in his honor held in the atrium of the Security Building where the L-A-D St. Louis office is located. Denise Henderson VAUGHN

On L-A-D's system of natural areas and parks,

Greg's leadership led to better and more thoughtful management through a special talent for working constructively with our lease partners at the Missouri Departments of Conservation and Natural Resources as well as volunteer organizations.

In 2004, with the Dreys' donation of Pioneer Forest to the L-A-D Foundation, Greg was assigned a whole range of new duties as liaison to the board of directors, to be carried out largely from our St. Louis office. His insight and support were critical to the success of this major transition. But Greg never lost connection with our lands. As only one example, patient nurturing of cordial relationships with many neighboring landowners has been the key in acquiring numerous parcels of property essential to the security of vital resources.

Greg brought to his work consistent respect for coworkers, board, and all partners, combined with the very highest standards of integrity, loyalty, and professional ethics. The L-A-D Foundation will continue to reap the benefits of Greg's experience as he has transitioned to a new role as a member of the L-A-D advisory council.

ROGER STILL HIRED AS FOUNDATION MANAGER

Veteran conservation leader Roger Still of Columbia took the helm as foundation manager when Greg Iffrig retired in late April.

Prior to his selection, Roger was a member of the foundation's board of directors. He was already wellacquainted with L-A-D's mission and goals, having facilitated an extensive strategic planning process for L-A-D in 2019. In filling the newly created position of foundation manager, Roger has been pursuing the implementation of that plan aggressively. He supervises the business staff in the St. Louis office and the ecological stewardship program on all L-A-D lands. Working in tandem with Pioneer forest manager Jason Green, he has spent his first several months building a collegial and collaborative culture among



Foundation manager Roger Still and Don Stokes, a volunteer with Ozark Natural and Cultural Resource Center in Salem, pose at the center. L-A-D Foundation is working with the organization to further facilitate its success as a gateway to the natural and cultural heritage of the region. Ozark NATURAL AND CULTURAL RESOURCE CENTER

forestry and stewardship staff, exploring new partnerships for the foundation, and solidifying the foundation's ecological stewardship on its land holdings.

Between 1996 and 2010, Roger served successively with the Missouri Nature Conservancy and then the National Audubon Society as executive director of the respective state offices, then in a promoted position as Audubon's Vice President Mississippi River Region spanning fourteen states. In 2011, he became an independent consultant, with clients including the Missouri Department of Conservation, Boone County Nature School, National Audubon Society, The Nature Conservancy, Roy and Patricia Disney Family Foundation, Patagonia, Bobolink Foundation, and Greenbelt Land Trust of Mid-Missouri.

An Ozark native born in Lebanon, Missouri, Roger earned degrees in political science and history from the U. of Missouri-Columbia.

"I learned to love nature and Ozark people as a youth on my grandparents' farms," he

said. "I could not be more excited to devote this final phase of my career in service to our L-A-D mission and what Leo set in motion so well decades ago."

ADRIENNE LAUF BECOMES L-A-D FOUNDATION BUSINESS MANAGER

Adrienne Lauf assumed the duties of L-A-D Foundation business manager in November, after the departure of Jennifer Potratz. Adrienne's educational and professional background, as well as her passion for conservation, make her a superb fit for L-A-D. She is excited to bring her experience as a certified public accountant and attorney in support of the foundation's mission and strategic plan.

Adrienne received her bachelors and masters degrees in accountancy from the U. of Missouri-Columbia. She worked as an auditor with a Big Four accounting firm before attending law school. After earning her Juris Doctorate from Saint Louis U. in 2013, she spent several years practicing family law, with a focus on financially complex matters. Adrienne then returned to an accounting role, spending several years with a St. Louis area school district before joining L-A-D's St. Louis office.

When not working, Adrienne enjoys hiking and floating in the Ozarks with her husband and two dogs. We know the Ozarks hold a special

place in Adrienne's heart because she married her husband, Ed Smith, at Alley Spring, followed by a float with friends and family the next day. Born and raised in mid-Missouri, Adrienne enjoys rooting for the Tigers, Chiefs, and Cardinals.

Adrienne Lauf

JIM GULDIN AND DAVID STOKELY NAMED TO L-A-D BOARD

Jim Guldin joined the L-A-D Foundation board in January, after having served on the advisory council since 2014. Jim is one of the nation's leading experts in the ecology, restoration, and management of southern pines.

Guldin has been a friend of the managers and staff of Pioneer Forest for three decades. He gave the opening presentation at the celebration of the 50th anniversary of Pioneer Forest at the Missouri Botanical Garden in 2001; he also served as co-editor of the proceedings from that event entitled *Pioneer Forest*, published as a General Technical Report by the Southern Research Station (SRS-108). Guldin also keynoted a meeting that Clint Trammel organized for the Forest Stewards Guild in Salem in October 2004 and helped lead the field tour. More recently, he has coordinated field tours on Pioneer for three groups of international scientists in 2016, 2017, and 2019, and he helped organize the recently-completed Pioneer Forest virtual tour video that was presented as part of the national meeting of the Society of American Foresters (SAF) in November.

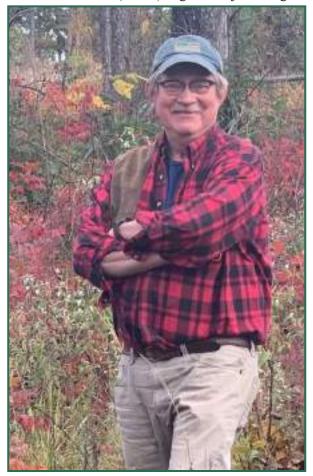
Jim was honored as an SAF Fellow in 2020, and in 2021 he was inducted into the Arkansas Foresters Hall of Fame.

Guldin has a BS in forest science from Penn State, MFS from Yale, and PhD from U. of Wisconsin-Madison. He taught ten years in the U. of Arkansas at Monticello School of Forest Resources, where his interests in silviculture research centered on comparisons of even-aged and uneven-aged management alternatives for family forest landowners. In 1992, the US Forest Service (USFS) began a major change

in management philosophy, and Guldin was hired by SRS to help guide that effort on the Ouachita National Forest, then served for two decades as project leader for the agency's research program in ecology and management of southern pines; from 2017 until his retirement at the end of 2020, he directed the SRS Center for Forest Restoration and Management, responsible for pine and hardwood silviculture research across the South.

Jim's research has studied how to create and maintain open pine-dominated forests and woodlands, especially in shortleaf pine forests of the Ouachitas and Ozarks, using thinning and prescribed fire. These fire-adapted ecosystems are underrepresented on the landscape, and restoring these open conditions in pine and pine-oak stands provides important habitats for the many diverse species of flora and fauna that depend upon them. Jim is also interested in how the practice of silviculture can be modified in the face of changing ecological, climatic, and market conditions in the 21st century.

Jim and his wife Melissa moved to Springfield a year ago, to be closer to the farm in Wright County where their son, his wife, and granddaughter live. That also puts him closer to Pioneer Forest, to some really good woodworking shops, and to miles and miles of Ozark smallmouth creeks.



Jim Guldin on Pioneer Forest. Roger Still

David Stokely grew up in Poplar Bluff spending many of the best hours of his youth in and on the clean, gravel bottom streams in southern Missouri. Much of this time was spent with his grandfather "Doc," who was widely known as a ferocious conservationist instrumental in defeating bureaucratic

plans for massive dams in the 1950s and 1960s that would have ruined our free-flowing Current, Jacks Fork, and Eleven Point Rivers. He took these early lessons to heart, realizing that a battle is never won against those who would despoil irreplaceable resources for minor short-term gain.

David has a BS in agriculture and masters in vo-tech education from the U. of Missouri-Columbia and has taught high school and college-level classes in agronomy, horticulture, forestry, and mechanics. He has operated a commercial equestrian facility and farm for over thirty years as well as been a consultant for wildlife habitat evaluation and improvement and surface-mined coal reclamation. Serving as the assessor in one of the fastestgrowing counties in Missouri taught him valuable skills in GIS mapping and land valuation as well as the critical importance of fair valuation for the tax-paying public and public entities such as schools that depend on the revenue. He recently served as the southwest and south central Missouri district director for US Senator Claire McCaskill in a nonpartisan role listening to constituent issues with a broad



David Stokely volunteering for the Ozark Trail Association.

range of federal agencies and striving to ensure that citizen concerns were addressed in an appropriate and efficient manner. He recently initiated the Ozark Riverways Foundation as the official friends group to support the Ozark National Scenic Riverways.

David enjoys floating, fishing, hunting, hiking and all aspects of outdoor recreation in our beloved and precious Ozarks region. He knows a lot of people in the Ozarks and looks forward to contributing to the mission of the L-A-D Foundation for the betterment of our greater community.

MIKE LEAHY JOINS ADVISORY COUNCIL

Mike Leahy, natural areas coordinator for MDC, joined the advisory council in September. Mike has worked for nearly thirty years with state conservation agencies in the Midwest and Mid-Atlantic regions on the conservation and restoration of ecological communities ranging from tallgrass prairie to pine woodlands and oak savannas. Much of his work has occurred in Missouri where he has served as a natural history biologist and community ecologist with MDC. Mike has worked on the inventory, restoration, and designation of many Missouri natural areas, including the expansion of Hickory Canyons NA.

Mike's publications range from technical journal articles to more popular items such as the recently revised and reissued *Discover Missouri Natural Areas – A guide* to 50 great places, published by MDC. Mike served for eight years on the national Natural Areas Association's board of directors and is currently the chair of the association's state programs committee. He was part of the core project team that worked with Paul Nelson on the landmark book *Terrestrial Natural Communities of Missouri.*

An Illinois native, Mike is married to Carol Davit, a Missourian with a passion for prairie conservation. He has a BS in forestry from the U. of Wisconsin-Stevens Point and an MS in forest ecology from Michigan State. He enjoys botanizing, birding, hiking, biking, fishing, camping, and exploring streams with his family.



Mike Leahy

APPENDIX

L-A-D FOUNDATION LANDS

PIONEER FOREST AND ITS SPECIAL AREAS			144,029 Acres
Blair Creek Hanging Fen	Shannon	Forest Reserve, ¹ 2011	25 acres
Bluff School, Medlock Cave	Shannon	Forest Reserve, 1995	51 acres
Capps Hollow Glades & Fens Chalk Bluff	Shannon Shannon	Ecological Management Area, 2019	297 acres 65 acres
Cookstove/Squaredance Cave	Shannon	Forest Reserve, 2019 Forest Reserve, 2015	12 acres
Cunningham Sink	Shannon	Forest Reserve, 2013	24 acres
Current River NA	Shannon		24 acres
Current River NA	Shannon	SAF Natural Area, ² 1955, and State Natural Area, ³ 1977, 10 acres; Addition, Natural Area, 2005, 255 acres;	265
Fishtrap Hollow & Marshy		Total area	265 acres
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; Total area	141 acres
Thompson Creek Glade & Fens	Shannon	Ecological Management Area, 2019	125 acres
Triple Sink/ Sunklands NA ⁴	Shannon	State Natural Area, 1980, 23 acres; Addition of 19 acres included as part of Sunklands Natural Area in 1999; Total area	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	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 MISSO	2,419 Acres		
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 Total acres under lease	363 acres ⁵

Continued from previous page

Special Area	COUNTY	SPECIAL DESIGNATION		
Clifty Creek	Maries	State Natural Area, 1971 Total acres under lease	230 acres	
Dripping Springs	Texas	State Natural Area, 1974 Total acres under lease	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; Total acres under lease	1,135 acres	
Horseshoe Bend	Texas	State Natural Area, 1973, 69 acres Total acres under lease	233 acres^5	
Piney River Narrows	Texas	State Natural Area, 1971, 50 acres Total acres under lease	258 acres ⁵	
Rocky Hollow	Monroe	State Natural Area, 1973, 188 acres; National Register of Historic Places, 1974 Total acres under lease	4; 191 acres ⁵	
Lands Leased to Missouri Department of Natural Resources				
Dillard Mill	Crawford	State Historic Site, 1977	130 acres	
Grand Gulf State Park	Oregon	National Natural Landmark, ⁷ 1971 and State Park, 1984, 159 acres State Natural Area, 1986, 60-acre portion Total acres	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	
Lower Rock Creek	Madison	Wild land	226 acres	
Virgin Pine	Shannon	Scenic remnant corridor	41 acres	
TOTAL L-A-D FOUNDA	148,127 Acres			

TOTAL L-A-D FOUNDATION LAND OWNERSHIP

¹The 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 Drev's agreement and the endorsement of the Foundation Board, the program was adopted. Additions were made in 2011 and 2019.

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

³The 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.

⁴Originally 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 Sunklands Natural Area.

⁵The 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.

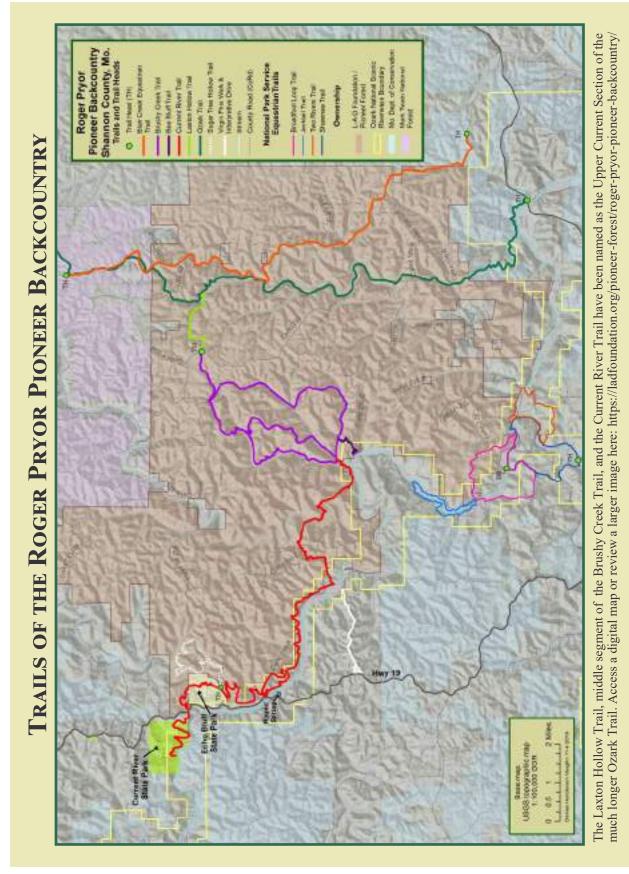
⁶State Historic Sites and State Parks are managed by the Missouri Department of Natural Resources, Division of State Parks. The Trails of the Roger Pryor Pioneer Backcountry are leased to the MoDNR and are part of Pioneer Forest.

⁷The 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

- **Ball Mill Resurgence Trail**, Perry County: 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 County: 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 County: 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 County: 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 County: 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 County: 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 County: 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 County: 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 County: 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 County: 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 County: 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 County: 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 County: 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 County: 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 County: A 5.3-mile route exploring a small side hollow to Sinking Creek. Access is from Echo Bluff State Park.
- Virgin Pine Walk, Shannon County: 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.



2021 Annual Report of the L-A-D Foundation



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The L-A-D Foundation has been based on the generous gifts of our founder, Leo Drey (1917 - 2015). Other individuals have given gifts of land, their time, and grants to assist us in our work with Ozark forests, protecting natural and cultural areas, and encouraging research, education, and programs that provide a positive influence in Missouri, especially the Ozark region. If you are interested in supporting our work, please contact us.

February 2022

Between 1996 and 2006, the staff of Pioneer Forest prepared an Annual Report for the Board of Directors of the L-A-D Foundation. Beginning in 2007, this report was expanded to become the Annual Report of the L-A-D Foundation.

> This report has been printed on paper certified by the Forest Stewardship Council. Please share, recycle - or keep!