

L-A-D FOUNDATION

Since 1962



Annual Report

October 2014



COVER PHOTO: Pioneer Forest's Randolph Tract along with the L-A-D Foundation's Virgin Pine are being managed to benefit our native shortleaf pine woodland. The combined efforts of Pioneer's careful selection of individual trees for commercial harvest, timber stand improvement, and prescribed fire management are restoring natural conditions to these sites, including the increased penetration of sunlight through the tree canopy. Black-eyed Susans (*Rudbeckia hirta*) are once again able to thrive. They are growing here, in Pioneer's pine woodland along with less commonly found species, including the starry rosinweed (*Silphium asteriscus*), goldenrod (*Solidago buckleyi* and *Solidago arguta*), and bristly sunflower (*Helianthus hirsutus*).

PHOTO BY: Neal Humke.

ANNUAL REPORT

of the L-A-D Foundation October 2014

TABLE OF CONTENTS

<i>From the President</i>	5
<i>Pioneer Forest Management</i>	6
<i>Land Consolidation</i>	11
<i>Research</i>	12
<i>Education and Outreach</i>	14
<i>Recreation and Natural Areas</i>	19
<i>Grantmaking and Community Support</i>	24
<i>Public Policy Issues</i>	27
<i>Administrative Issues</i>	29
<i>Appendices</i>	33
<i>Location and Listing of L-A-D Foundation Lands</i>	35
<i>Glossary of Terms</i>	37

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L-A-D Foundation

Incorporated in 1962, the L-A-D Foundation is a Missouri private operating foundation dedicated to sustainable forest management, protection of exemplary natural and cultural areas in Missouri, and providing support and advocacy for projects and policies that have a positive influence in the Missouri Ozark region.—L-A-D Foundation Mission Statement

Leo Drey began acquisition of forest land in the Missouri Ozarks in 1951. The name Pioneer Forest was inspired by Pioneer Cooperage Company of St. Louis, the company that originally owned much of the land that was purchased in 1946 by National Distillers Products Corporation of New York, and was renamed the Seton Porter Forest. Then in 1954, Leo Drey purchased the National Distillers land and added it to the forest land he already owned, and renamed it all Pioneer Forest. In 1962, Leo Drey founded the L-A-D Foundation primarily to hold and protect areas of outstanding natural or cultural resource value in the Missouri Ozarks. In 2004, Leo Drey donated Pioneer Forest, as a limited liability corporation, to the L-A-D Foundation to be managed, as it had been for 50 years, as an exemplary model of conservative single-tree selection forestry.

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Mike Adams - Technician
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From the President

This has been the first full year for our new Pioneer Forest leadership team. Jason Green, Forest Manager and Brandon Kuhn, Chief Forester have faced challenges head on and proven themselves quite capable as they work together to fulfill their new responsibilities.

During 2013 Jason and Brandon brought Dusty Smith to Pioneer under an internship from Three Rivers Community College. Then in December they named Dusty as Pioneer's newest Forest Technician. For the past two years Neal Humke has worked on Pioneer and LAD lands as a contractor for land stewardship services. After demonstrating his skill supervising a field crew, and planning and implementing specialized management for shortleaf pine woodlands, he has been hired as a full time employee as our Land Stewardship Coordinator.

As a director Rindy O'Brien has led many important administrative changes that have substantially strengthened our operation as a non-profit organization, and we now welcome her to our Advisory Council. We also welcome Josh Reeves of Willow Springs as the newest member of our Board of Directors.

The L-A-D Foundation was chosen by the Wildlife Conservation Society to receive more than \$97,000 as one of ten national Climate Adaptation Fund projects for 2013. With this financial assist the Foundation has been able to purchase tools and equipment and hire our first seasonal land stewardship crew to manage Pioneer's natural pine woodlands. These monies also will be used in 2015 for work on adjacent properties of Pioneer Forest and Ozark National Scenic Riverways at Jerktail Mountain. Our special thanks to the partners with whom we work: US Forest Service, National Park Service-Ozark National Scenic Riverways, and Missouri Department of Conservation.

Late last year a neighbor to Hickory Canyons in Ste. Genevieve County asked the Foundation if it wished to purchase some of their adjoining canyon land, which had already been identified as one of our highest priorities. With skilled work by Greg Iffrig, two separate purchases have added more than 100 crucial acres that will better protect the watersheds of two remarkable sandstone valleys at this Missouri Natural Area, owned by the Foundation and leased to the Missouri Department of Conservation.

We continue to explore ways in which we can reach out to others in the outdoor resource community. One example occurs each spring when we host partners, neighbors, and friends at Pioneer's annual barbeque in Salem. Another is our website which was re-designed and launched in January. It now offers more information for those seeking to learn about our work. Also this year, Pioneer's shortleaf pine management was recognized as a Climate Change Demonstration Project by the US Forest Service Northern Research Station; ours was the first to be documented in Missouri.

In February of this year our Board member and Vice President Susan Flader was honored by the Conservation Federation of Missouri as Conservationist of the Year. Susan is well known around the country as a forest historian and an advocate for parks, especially Missouri State Parks. We are proud of her service as Vice President of the L-A-D Foundation and congratulate Susan on a very well-deserved award!



L-A-D Foundation

PIONEER FOREST MANAGEMENT
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RESEARCH
EDUCATION AND OUTREACH
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GRANTMAKING AND COMMUNITY SUPPORT
PUBLIC POLICY ISSUES
ADMINISTRATIVE ISSUES

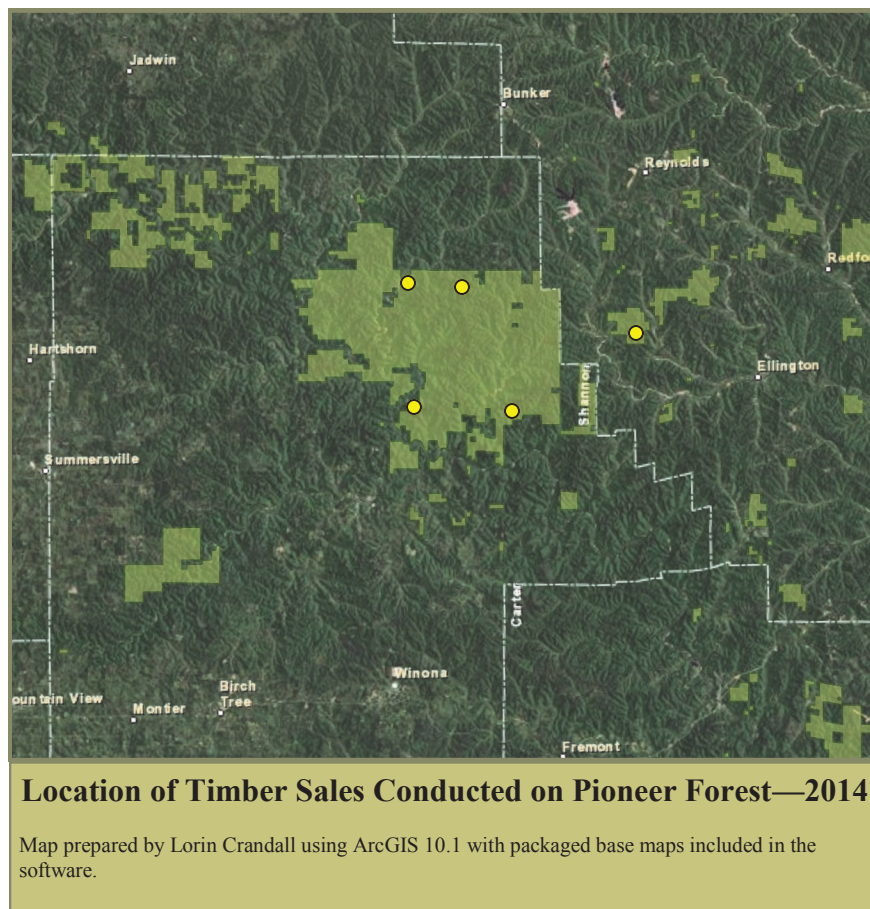
Pioneer Forest Management



PHOTO BY: Neal Humke

TIMBER SALES

Over the past year we have been marking and administering five timber sales. We are projected to cut nearly 4 million board feet of sawlogs in addition to 4.4 million board feet of blocking and pulpwood. Markets for all forest products are currently strong. Pioneer has had two price increases already this calendar year. We continue to salvage and monitor dead and dying timber, especially our valuable white oak. We have salvaged over 2.5 million board feet of dead white oak since January 2013.



RECENT WHITE OAK MORTALITY IN MISSOURI AND ON PIONEER



PHOTOS BY: Greg Iffrig

Reports from the University of Missouri Extension indicate that rapid white oak mortality began to occur in August of 2011, mostly in east central and southeast Missouri. That mortality continues to occur on Pioneer Forest, especially on the lower slopes of hillsides. Aside from white oak, our foresters have not noticed other species of oak being affected. The trees that are now dying had been healthy and were left on-site following previous harvests as being best suited to the site. Pioneer lands are dominated by white oak; this mortality is especially troubling.

FERAL HOGS

Feral hogs have been increasing their presence on our lands with evidence now seen in the Leatherwood Creek, Big Creek, Brushy Creek, Jerktail Mountain, Blair Creek, and Eminence areas within the past year. Due to their mobility, reproductive potential, and their cunning nature, hogs can be extremely difficult to control over a large area. Eradication efforts have resulted in more than 60 hogs removed from Pioneer lands since the winter of 2013. Pioneer's work to control hogs includes winter track-and-kill along with summer season trap-and-shoot to reduce, or at least control, their numbers. With control efforts underway region-wide, remaining hogs are likely moving great distances. If left unchecked, feral hogs threaten native plant communities by uprooting vegetation, directly competing with native wildlife, and transmitting diseases to humans.



Hog damage to glade - Jerktail Mountain
PHOTO BY: Neal Humke

BACKCOUNTRY ISSUES

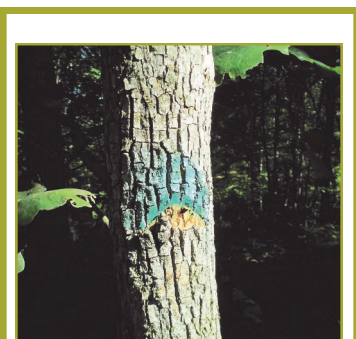
Near Pioneer's Jerktail Mountain area there are National Park Service designated equestrian trails and some riders are leaving these to create their own trails on Pioneer Forest. Such use, especially in

sensitive glade and wetland habitats (like streams, fens, and seeps) results in environmental degradation and increases the likelihood that invasive species will become established. Efforts to inform riders of designated areas, by increasing signage and closing illegal trails, are helping to minimize negative effects.

The L-A-D Foundation and the Missouri Department of Natural Resources (MoDNR) signed a new lease of the trails and trail head at the Roger Pryor Pioneer Backcountry. This new lease returns full responsibility for management of the Backcountry's more than 62,000 acres of land to Pioneer Forest. Staff of Pioneer and members of the Foundation Stewardship Committee have been requested to review and update the area management plan originally developed by staff in 2001.

BOUNDARY LINE MAINTENANCE

Pioneer staff painted over 100 miles of boundary line this past winter. This was a very successful year considering the terrible weather conditions and one fewer employee in the field. A better record-keeping system has been implemented to insure that all property lines are refreshed every six years.



Timber stand improvement of small-diameter hardwoods involves hacking the bark and applying a color-dyed herbicide.
PHOTO BY: Neal Humke

SHORTLEAF PINE WOODLAND MANAGEMENT AT PIONEER'S RANDOLPH TRACT

In the fall of 2013 Pioneer Forest hired a contractor to do timber stand improvement on 291 acres of the Randolph Tract in Shannon County, using a match-grant from the USDA Forest Service, Northern Research Station. Herbicide was used to thin understory hardwoods allowing us to effectively use cooler-burning prescribed fires to reach our woodland structural goal. This helps to minimize fire scarring on the timber stand.

In early 2014, Pioneer's first seasonal stewardship crew installed permanent firebreaks enabling us to meet our prescribed fire goal this spring. Removal of the surface litter and cycling of nutrients from burning have stimulated the existing native ground flora, dramatically increasing nectar sources for helpful insect communities.

A breeding pair of red-headed woodpeckers was seen this summer for the first time in the pine management area, a species that requires an open woodland structure. Pioneer Forest staff salvaged hardwoods from the management area this past summer. Pine seedlings have been found where the canopy permits them enough light. Exotic invasive species including Korean lespedeza, crown vetch, and mimosa were treated this summer. If left unchecked these plants could threaten the restoration which has been underway. Our efforts are starting to show changes that will ensure the health and prosperity of this unique ecosystem.

INTERNSHIP

Justin Warren of Van Buren recently graduated with a B.S. in Forestry from the University of Missouri-Columbia. Justin worked summers for the Missouri Department of Conservation and began working as an intern for Pioneer in late May. He has learned to mark timber, administer timber sales, and also has checked on Pioneer Forest lands in the Van Buren district.



PHOTO BY: Pioneer Forest Staff

WILDLIFE CONSERVATION SOCIETY GRANT BRINGS THE FIRST SEASONAL LAND STEWARD CREW TO PIONEER

With funding from the first year of our Wildlife Conservation Society grant, we were able to recruit, hire, train, and outfit a five-person crew to work on Pioneer and Foundation lands for eight weeks during January through March. Job descriptions were developed in the fall and then circulated nationally with chosen crew members coming from New Jersey, New York, Washington, and two from Wisconsin.

Everyone came with experience and, working along with our staff and partner agencies, contributed to successfully completing treatments on every acre we had planned for prescribed fire treatment. Along with their training and orientation to our lands, they conducted a number of tasks including testing and maintaining our equipment, maintaining old firelines, constructing new firelines, and staffing each prescribed burn.

We passed along the particular land management approach used on Pioneer Forest lands and hope these crew members in turn may influence others interested in future work on Foundation lands. Having these additional experienced staff on call was critical to our success this year, and we look forward to having our 2015 crew on board soon.



Seasonal crew on Pioneer includes, from left to right, Vernel Nichols, Nicole Rinehart, Ian McLaughlin, Melanie Matchett, and Andrew Sexton. PHOTOS BY: Neal Humke



L-A-D FOUNDATION RECEIVES GRANT FROM WILDLIFE CONSERVATION SOCIETY



With funding provided by the Doris Duke Charitable Foundation and managed by The Wildlife Conservation Society (WCS), the WCS Climate Adaptation Fund provides competitive grants for non-profit conservation organizations for “applied, on-the-ground projects focused on implementing priority conservation actions for climate adaptation at a landscape scale.”

In 2013 the L-A-D Foundation received a two-year \$97,135 grant entitled ‘Enhancing the Adaptive Capacity of Ozark Woodland,’ which has enabled Pioneer Forest to acquire tools, hire a seasonal stewardship crew, train staff, and implement prescribed fire to improve the quality and adaptability of a historically significant shortleaf pine woodland near Round Spring.

The grant will assist collaborative efforts for management of igneous and dolomite glades and woodlands which are part of an approximately 1,800-acre Jerktail Mountain Management Area near Two Rivers. (See pages 22-23 of this report.) The Ozark National Scenic Riverways and Pioneer Forest own adjacent lands there. Pioneer Forest has been conducting a timber sale, and its woods roads will then be used for administrative and crew access. Igneous and dolomite glades and woodlands here have high natural integrity. Adding prescriptive fire, a once-natural disturbance, will begin in 2015 to enhance area quality, and improve the capacity of the natural communities to respond to a changing climate.

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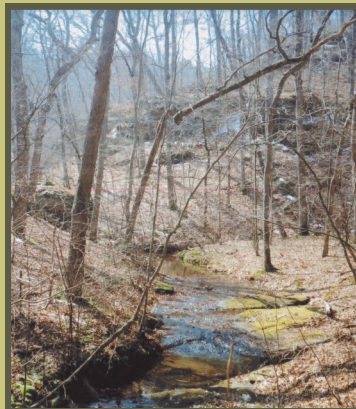
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LAND CONSOLIDATION
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EDUCATION AND OUTREACH
RECREATION AND NATURAL AREAS
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Land Consolidation



Landscape view of Inner Ozark Border land type surrounding Hickory Canyons and reprinted from the *Atlas of Missouri Ecoregions* (2002). PHOTOS BELOW BY: John Karel



Two recent transactions have improved watershed protection at the Foundation's Hickory Canyons Natural Area. The first 18.68 acres, acquired in December of last year, adds the watershed above the waterfall at Fern Valley, a tributary to Establishment Creek. This waterfall is reached by a short hiking trail from the Sprott Road parking lot. The second 94.75 acres, acquired in August of this year, adds an important piece of the uppermost reach of the south branch of Hickory Creek Canyons, known by many natural history buffs as Lady Slipper Valley. The Foundation's property at Hickory Canyons now totals 1,094.34 acres.

L-A-D Foundation

PIONEER FOREST MANAGEMENT
LAND CONSOLIDATION
RESEARCH
EDUCATION AND OUTREACH
RECREATION AND NATURAL AREAS
GRANTMAKING AND COMMUNITY SUPPORT
PUBLIC POLICY ISSUES
ADMINISTRATIVE ISSUES

Research



PHOTO BY: Neal Humke

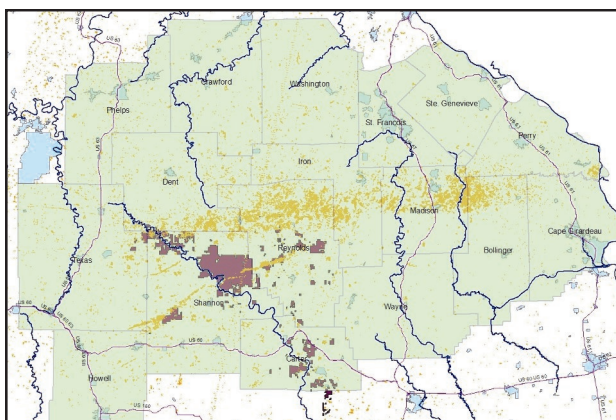
WINDSTORM RESEARCH PUBLISHED IN *FOREST HISTORY TODAY*



Following the destructive windstorm of May 8, 2009, Pioneer Forest began immediately to hire loggers for salvage cutting of the damaged timber. The damage was quite extensive. Cutting on Pioneer continued for four years after the storm. Pioneer staff wanted to document the storm impact and sought assistance of Denise Henderson Vaughn, a long-time writer for the West Plains Daily Quill, and at the time a graduate student at the School of Journalism at the University of Missouri-Columbia.

With funding from Pioneer, Denise conducted interviews with loggers, foresters, with agency officials from the Missouri Department of Conservation and Mark Twain National Forest, and with staff of Pioneer Forest.

Before submitting her final report to Pioneer, she completed an article that was published in *Forest History Today* (Spring/Fall 2013). Then, to mark the fifth anniversary of the storm, she presented her data in a slide show and lecture in Salem on May 8 of this year at the Ozark Natural and Cultural Resources Center.



Map to the left shows the impact of the windstorm (gold) across the Ozarks and Pioneer lands (purple). The photo to the right shows one area of damage on the ground. MAP BY: Denise Vaughn; PHOTO BY: Jim Vokac

BOTANICAL RESEARCH ON PIONEER'S PINE WOODLANDS AND JERKTAIL MOUNTAIN

Pioneer Forest began working to improve conditions for its pine woodlands to prosper, regenerate, and be better adapted to the changing climate. Some of Pioneer's shortleaf pine had been dated at more than two hundred years old. They were once part of a much larger area of productive and thriving pine woodlands that stretched across at least five million acres of southern Missouri. Pioneer's Continuous Forest Inventory, established in 1952, clearly shows that pine will not survive in the forest without intervention and that prescriptions for fire management were necessary. Before beginning, we contracted with the Institute of Botanical Training to establish monitoring plots similar to those used on the Mark Twain National Forest. In 2008 we collected data on groundcover, understory, and overstory. These plots had not been resampled until this past spring when Pioneer again contracted with the Institute of Botanical Training to resample these permanent vegetation plots on the Randolph Tract to track changes in our pine-oak woodlands.

In preparation for management on Jerktail Mountain, and as part of the Foundation's Wildlife Conservation Society Climate Adaptation Fund grant, the National Park Service (NPS) and L-A-D Foundation agreed to establish monitoring stations atop Jerktail Mountain to collect preliminary baseline data prior to anticipated management activities.

This summer, the NPS and Justin Thomas, Director of the Institute of Botanical Training, established permanent standard protocol monitoring stations encompassing glade and woodland vegetation areas. Justin was joined by the Foundation's Neal Humke, Dan Drees of the NPS staff, and others.



Monitoring stations being established this summer.
PHOTO BY: Neal Humke

AVIAN RESEARCH

Discussion has been underway with Frank Thompson, and other US Forest Service researchers at the Northern Research Station in Columbia to incorporate their region-wide forest/woodland avifauna monitoring on Pioneer's pine woodland restoration and glade areas as part of the Foundation's recent Wildlife Conservation Society grant. The National Forest breeding bird surveys will begin on these Pioneer lands in spring of 2015.

OTHER RESEARCH ON PIONEER

The National Park Service has performed annual monitoring of tall larkspur (*Delphinium exaltatum*) plots on Pioneer Forest's lands near Devil's Well and Welch Lodge. Dan Drees, NPS Fire Ecologist, said that the tall larkspur plant populations on Pioneer Forest are globally significant and are benefiting from prescribed burning.

This summer Missouri Department of Conservation attempted to capture and collar female black bears in the Roger Pryor Pioneer Backcountry. Unfortunately no bears were trapped, but there is evidence that they are living in the area.

L-A-D Foundation

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RESEARCH
EDUCATION AND OUTREACH
RECREATION AND NATURAL AREAS
GRANTMAKING & COMMUNITY SUPPORT
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ADMINISTRATIVE ISSUES

Education and Outreach



Pioneer's Annual Spring Dinner
PHOTO BY: Hank Dorst

COMMUNITY DINNER

This spring Pioneer Forest hosted its eighth community dinner on its campus in Salem. This was the first year our new Pioneer Forest leadership team of Forest Manager Jason Green and Chief Forester Brandon Kuhn welcomed everyone. We estimated the attendance to be nearly 150 this year. We were happy to have Arlen and Tammy Walker's Smokin' Q return with their excellent smoked barbecue meats and sides. Once again the beer was provided courtesy of Joleen and Brian Durham, owners of the Piney River Brewing Company in Bucyrus.



PHOTOS BY: Cher Lowther

VISITS TO L-A-D FOUNDATION LANDS

Throughout the past year, various groups and individuals have toured and volunteered on Pioneer Forest and other Foundation lands. These included:

- October 19-27, 2013, Missouri Chapter, Sierra Club, 10 day-long outings for trails maintenance on the Blair Creek Section of the Ozark Trail.
- December 7, 2013, Ozark Trail Association, volunteers spent a workday on the Brushy Creek Trail.
- March 8, 2014, Ozark Trail Association, volunteers conducted maintenance on the Brushy Creek Trail.
- April 2, 2014, Denise Vaughn presented a summary of her *Forest History Today* article to the L-A-D Board of Directors and staff.
- April 5, 2014, Ozark Trail Association workday on the Current River Trail.
- April 12, 2014, Missouri Chapter, Sierra Club, volunteers visited Pioneer for trail maintenance on the Ozark Trail.
- May 1, 2014, Leslie Brandt, Ph. D., from the U.S. Forest Service Northern Research Station visited Pioneer as part of an assessment process related to climate change, the driving factor behind the Foundation's Wildlife Conservation Society grant.
- May 2, 2014, Leslie Brandt visited L-A-D Foundation office to conduct a Climate Adaptation teleconference/workshop with Pioneer Forest and National Park Service staff.
- May 30, 2014, Southern Illinois University-Carbondale Forestry Summer Camp, two professors and 34 students toured Pioneer Forest.
- June 14, 2014, University of Missouri-Columbia Forestry Summer Camp, Forest Manager Jason Green led 24 students and their professor, Dr. Ben Knapp, on a tour of Pioneer Forest.
- June 24, 2014, Maplewood-Richmond Heights Middle School Summer Biology Program discussed Pioneer Forest's history as well as forest ecology with Forest Manager Jason Green and Chief Forester Brandon Kuhn. The students and two teachers then hiked the Brushy Creek trail over a two-day period.
- July 30, 2014, Susan Farrington, Natural History Biologist, Missouri Department of Conservation, Ozark Region, acquainted newly hired Natural History Biologists Bruce Henry, Southeast Region, and Andrea Schuhmann, St. Louis Region, with Hickory Canyons Natural Area and its unique plant communities.

Three of the photos below are of various trail maintenance projects on Pioneer Forest and sponsored by the Ozark Trail Association. The fourth is of US Forest Service staff Leslie Brandt's visit.

PHOTOS: Second photo, Leslie Brandt by Neal Humke; other photos by Adam Rothermich.



NEWLY DESIGNED WEBSITE LAUNCHED IN DECEMBER

The L-A-D Foundation website has been recently updated and expanded. It includes much more information about the work of the Foundation, its interests in natural lands, forest stewardship, and the public outdoor recreation benefits such lands provide. The website is more colorful, easier to navigate, and serves as a good source for information about our work, as well as the work we do with others.

Included is information about Foundation lands that are leased to the Missouri Department of Natural Resources and other lands leased to the Missouri Department of Conservation. There are photos, site information, directions for reaching each area, and links for obtaining additional information. For the Roger Pryor Pioneer Backcountry there are two maps of different scale showing routes for more than 50 miles of its trails. More detailed information is included about the special management of the L-A-D Foundation-owned Pioneer Forest, including its use of single-tree selection harvest and the resulting financial comparisons and biological benefits.



The Grant Making section of the site now includes access to our program's submission guidelines and the forms needed to apply. Grant seekers may view a recent history of past grant recipients and their funded projects.

Each of the L-A-D Foundation's Annual Reports from 2008 forward is available, either to read or download. A number of publications, including our brochures, also are available.



Chief Forester Brandon Kuhn talking about Pioneer Forest.
PHOTO BY: Terry Cunningham

TIMBER FUN DAY

In September 2013 the City of Salem hosted a Timber Fun Day at the Commons. It was a huge success with an estimated attendance of more than 2,000 people. Pioneer Forest used some of its Community Support funds to help sponsor the event. Forest Manager Jason Green and Chief Forester Brandon Kuhn staffed a booth that included photos from Pioneer Forest, a cross-section from a tree showing its age and growth patterns, general information, and local contact for Pioneer land.



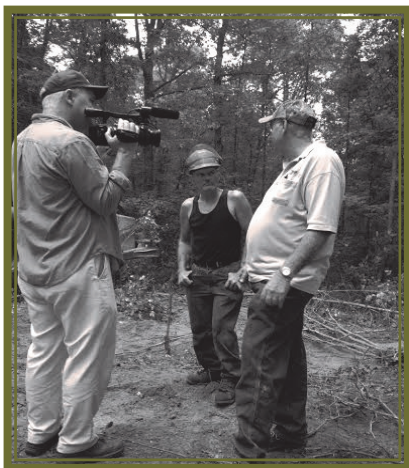
**L-A-D FOUNDATION BOARD AND STAFF
TRAVEL TO THE RED HILLS REGION OF
GEORGIA AND FLORIDA
FEBRUARY 3-8, 2014**



After several of the Foundation's Board and Staff had read the University of Georgia Press *The Art of Managing Longleaf Pine—A Personal History of the Stoddard-Neel Approach*, there was great interest in seeing firsthand the results of management in pine where methods of cutting and tending the woods are very similar to the practices which have been in use on Pioneer Forest for more than sixty years.

LEFT is the classic old-growth longleaf pine woodland of Greenwood Plantation with a red-cockaded woodpecker cavity in one of the older pine trees; **UPPER RIGHT** is the travel group talking with Dr. Kevin Robertson of Tall Timbers Research Station with its shortleaf pine in the background; **ABOVE LEFT** is Dr. Stephen Jack of the Joseph Jones Ecological Research Center talking about old-aged longleaf pine; **ABOVE RIGHT** is Phil Spivey, Manager of the Greenwood Plantation, discussing the long history of woodland management and cultural resource protection at this special property in southern Georgia. **PHOTOS BY:** Pioneer Forest Staff

CUNNINGHAM AND SKAGGS DISCUSS THE TRUTH ABOUT PIONEER'S TREES

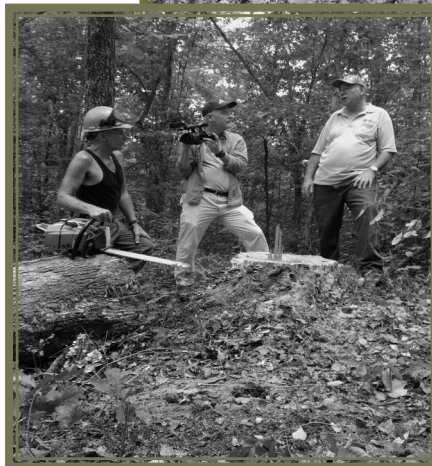


“The Truth About Trees” is a documentary film series and community story about

trees. It includes the natural history of trees, the deep connections between humans and trees, and the critical role trees play for all life on Earth. Biologist E.O. Wilson tells us that “everyone has a tree story.” Tree stories are told in the series from a variety of perspectives, including scientists, urban foresters, maple-syrup-makers, and treehouse-builders. “The Truth About Trees” is a production of the James Agee Film Project, Johnson City, Tennessee and University Park, Maryland; www.ageefilms.org.

Ross Spears is the project’s Producer/Director/Writer who visited Pioneer Forest last October to talk with retired Forest Manager Terry Cunningham, Senior Forest Technician Dan Skaggs, and Ron Tuttle, one of Pioneer’s loggers.

The photos beginning clockwise from upper left show: Ross Spears, Ron Tuttle and Terry Cunningham; Ross Spears and Dan Skaggs; Ron Tuttle; Ron Tuttle, Ross Spears and Terry Cunningham.



PHOTOS BY: Greg Iffrig

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PIONEER FOREST MANAGEMENT
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Recreation and Natural Areas



PHOTO BY: Adam Rothermich

TRAILS

L-A-D Foundation lands protect important natural and cultural resources and provide the public opportunities for primitive recreation activities. Private motorized vehicles are prohibited on Foundation lands, but may be used on state and county roads, which provide ample access to trailheads, streams, and hunting sites. The Foundation has several long-distance trails for hiking and backpacking, and certain trails are designated for equestrian use. Other trails include a walk through a shortleaf pine woodland near Round Spring or to see Cave Spring on the Current River. Those using water trails on the Current and Jacks Fork rivers pass more than 30 miles of the Foundation's river corridor lands within the Ozark National Scenic Riverways. Enjoyment of these lands includes general sightseeing, such as fall color drives on county roads; seasonal harvest of nuts, wild berries, mushrooms and fruits for personal use; and other traditional uses, such as hunting, camping, swimming, and photography.

L-A-D FOUNDATION LANDS - MORE THAN 73 MILES OF TRAILS

- **Ball Mill Resurgence Trail**, Perry County: A short 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 13-mile route through Pioneer Forest was the very first section of the well-known Ozark Trail to be completed in the late 1970s.
- **Brushy Creek Trail**, Shannon County: A 19-mile nested loop trail provides access to the interior of our Roger Pryor Pioneer Backcountry. Access to this trail is from the Himont Trailhead.
- **Cave Spring Trail**, Shannon County: A 4.6-mile moderately difficult round-trip hike connects Devil's Well and Cave Spring, crossing Pioneer and National Park Service lands with access at Devil's Well.
- **Clifty Creek Natural Area Trail**, Maries County: A 2.5-mile walk with scenic overlooks across the Clifty Creek valley, just before the creek empties into the Gasconade River.
- **Current River Trail** (under construction), Shannon County: A 12-mile hiking route will connect Round Spring on the west side of Roger Pryor Pioneer Backcountry with the Brushy Creek Trail farther east.

- **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 short 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 which shows ample signs of past wind and ice storms.
- **Hickory Canyons Natural Area Trails**, Ste. Genevieve County: Two trails - 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 two-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.
- **Roger Pryor Pioneer Backcountry 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.
- **Virgin Pine Walk**, Shannon County: This one-mile interpretive walk south of Round Spring leads through an old shortleaf pine stand where trees are aged at more than 200 years.

The Sierra Club, Ozark Trail Association, and DNR State Parks hosted 16 work days that attracted nearly 100 volunteers to complete hiking trail maintenance in the Roger Pryor Pioneer Backcountry. The Blair Creek, Brushy Creek, Current River, and Laxton Hollow trails all have received important maintenance in the form of brush and downed tree removal, trail signing, trail tread work and summer mowing in open field areas. New construction also was carried out on a portion of the Current River Trail by the Ozark Trail Association. Following a review of the Brushy Creek Trail, recent maintenance efforts have addressed many of the problems with tread and signing along the route, but more needs to be done. The ongoing commitment by these organizations helps to ensure continuing safe and enjoyable user experiences in the Backcountry.



NATURAL AREAS UNDER LEASE FOR MANAGEMENT WITH THE MISSOURI DEPARTMENT OF CONSERVATION

Seven L-A-D Foundation properties that are part of Missouri's Natural Areas System are leased without a fee to the Missouri Department of Conservation (MDC) for management: Ball Mill Resurgence Natural Area/Blue Spring Branch (Perry County); Clifty Creek (Maries County); Dripping Springs, Horseshoe Bend, and Piney River Narrows (Texas County); Hickory Canyons (Ste. Genevieve County), and Rocky Hollow (Monroe County). The MDC, and L-A-D Foundation Stewardship Committee and Pioneer staff continue to discuss management priorities and have been especially active at the following areas:

Ball Mill Resurgence Natural Area/Blue Spring Branch: There have been two significant changes in staff that have been key to our work here. The resignation of MDC Natural History Biologist Bob Gillespie to take a similar job in his home state of Illinois came just at the completion of the first five-year area plan. Bob was the architect for on-the-ground efforts and was essential to our accomplishments thus far. Another key staff change was the promotion of Matt Bowyer to be MDC's Southeast Regional Wildlife Supervisor. Matt had provided all of the oversight in the field for work and crews responsible in completion of each of the tasks at this area that had been planned. Matt will continue to have oversight of the area. We will discuss future management options soon.

Horseshoe Bend and Piney River Narrows Natural Areas: Issues related to trails, protecting riparian corridors, and old field management were recently discussed with MDC staff during an on-site visit by Neal Humke.

Rocky Hollow Natural Area: The management plan for the area remains unfinished. Rocky Hollow is the last of the Foundation's areas to have its plan updated, and we remain anxious to see the plan completed.

AREAS AND TRAILS UNDER MANAGEMENT AGREEMENT WITH THE MISSOURI DEPARTMENT OF NATURAL RESOURCES

The L-A-D Foundation leases three properties to the MoDNR, also without a fee: the Dillard Mill State Historic Site in Crawford County, Grand Gulf State Park in Oregon County, and more than 50 miles of trails within the Roger Pryor Pioneer Backcountry in Shannon County. Following are several updates:

Grand Gulf State Park: The Foundation has been interested in performing further research regarding the herptofauna and mammals of its lands at Grand Gulf. It is a park with outstanding geology, while relatively little is known regarding its fauna. Given the variety of habitat on and within the park's rock walls and crevices, there may be interesting discoveries to be made. In 1990 the vascular flora of Grand Gulf State Park was completed by Linda Sue Orr, graduate student at Southwest Missouri State University, who annotated a checklist of 346 taxa, including Spanish oak (*Quercus falcata*) which is a significant canopy component of the park's upland woods.

Trails and Trailhead at Roger Pryor Pioneer Backcountry: In July a new lease was signed with the MoDNR of the trailhead at Himont and the more than 50 miles of trail within the Backcountry, replacing the previous lease. Provision is made for additional trails and trailheads as may be needed and agreeable to both parties.

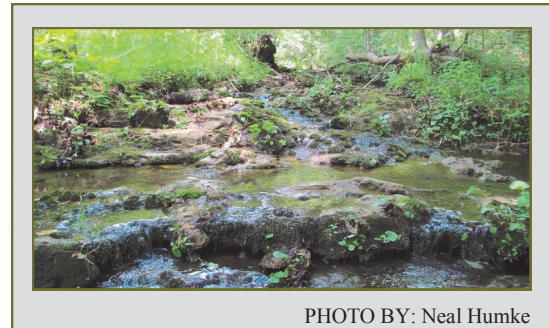
PIONEER'S NATURAL AREAS AND FOREST RESERVES

Four Missouri Natural Areas are on Pioneer lands (Current River, Pioneer, and Triple Sink Natural Areas all in Shannon County; and Lily Pond Natural Area in Reynolds County). Pioneer staff developed the concept for its Forest Reserves in 1994 along with boundaries and provisions for their management, and the idea was endorsed by the L-A-D Foundation Board of Directors. There are eleven areas, and we note the following:

Current River Natural Area: A late spring survey of the Current River Natural Area revealed that the site is in very good condition. No large-scale oak mortality, tree blow down, invasive species, or evidence of vehicle use were found. Evidence of minimal horse traffic was found, likely from wild horses, but this did not appear to be a problem.

Sutton School Hollow Fen Forest Reserve: Sutton School Hollow Fen received recent work from Susan Farrington of MDC and the AmeriCorps staff. They removed select woody vegetation directly from the fen area to increase the available light for herbaceous vegetation. Adverse public use and exotic species are not currently problems in this area.

Tufa Creek Forest Reserve: The fen areas, creek, and surrounding woodlands and glades are in very good condition. Human use is restricted to existing roads. A small and dispersed amount of invasive Korean lespedeza was found on these roads and was treated in 2014. Extensive areas of woodlands and glades in this drainage would benefit greatly from prescribed fire management.

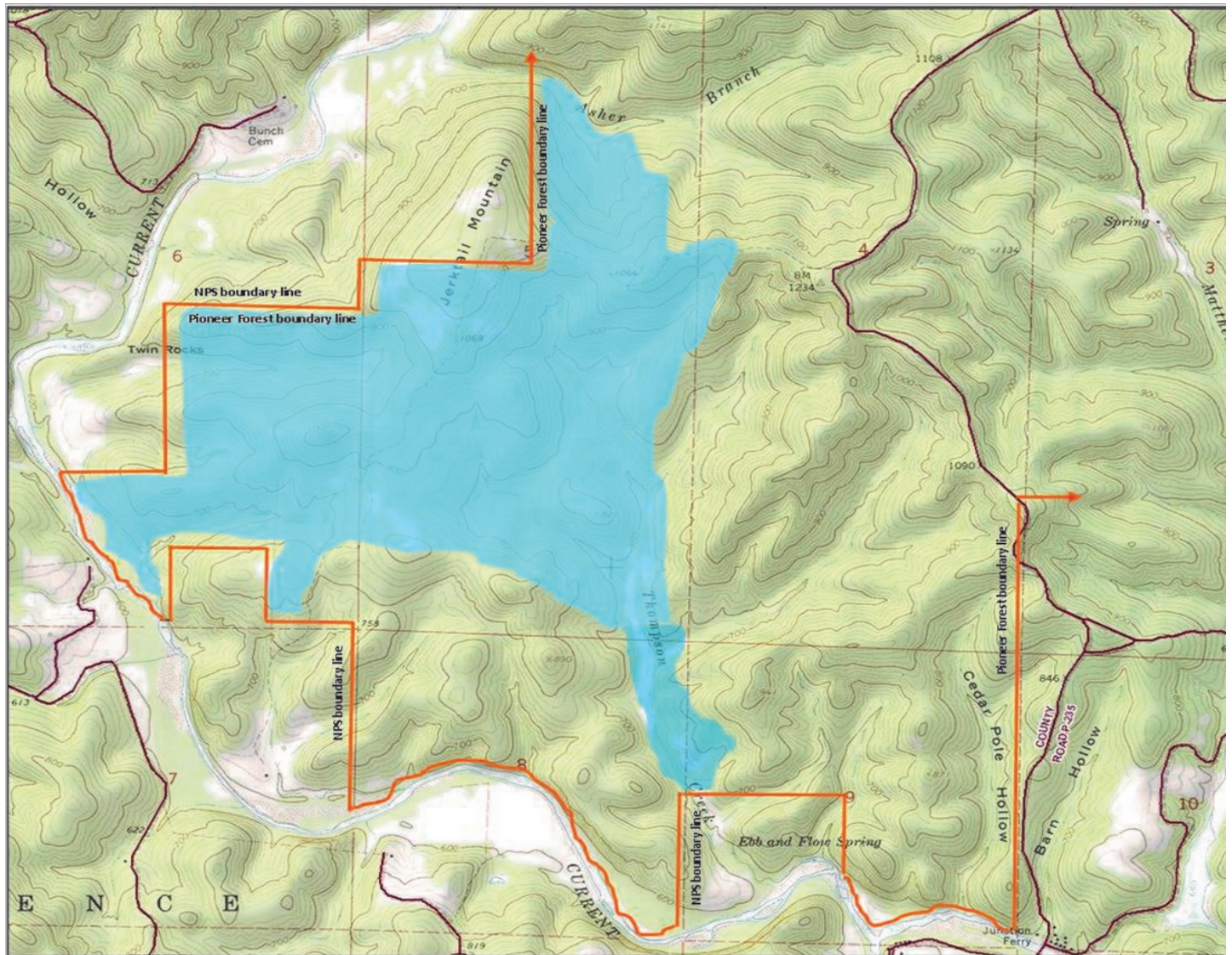


Leatherwood Creek Forest Reserve: Vehicle trespass remains an ongoing challenge on the western side of this forest reserve. Japanese stiltgrass (*Microstegium vimineum*), an exotic invasive annual that has been confirmed at the mouth of Leatherwood Creek, threatens the biodiversity of the site. Due to its remoteness and size, Leatherwood Creek Forest Reserve's integrity remains high.

Jerktail Mountain – Candidate Forest Reserve (estimated 1,100 acres): If there is one word to describe the greater Jerktail Mountain area, it is “diverse.” It is diverse in soil types, topography, hydrology, and timber growth potential resulting in a mosaic of vastly different natural features. Its natural communities include: igneous and dolomite glades, igneous and dolomite woodlands ranging from dry to wet-mesic, igneous talus, and Ozark fens along Thompson Creek. These diverse habitats call for a focus on ecological management where timber harvest may be periodic though not regular in order to restore and maintain these communities. It is not uncommon to walk a few hundred feet from a dry rocky glade to a rich mesic stand of quality hardwoods. Selective timber harvest prior to burning has been focused on restoring ecologically appropriate species composition, removing trees that are susceptible to fire damage, and restoring the woodland structure of the area. Initial monitoring indicates high restoration potential due to existing flora plus manageable threats such as exotic species. Cooperative management initiatives with the National Park Service will begin in March 2015.

The dolomite glade just east of Thompson Creek likely represents the largest glade of its kind on all of L-A-D's land. Due to unique bedrock characteristics, this glade has minimal woody encroachment and significantly high biodiversity.

Jerkail Mountain/Thompson Hollow Area - Candidate Pioneer Forest Reserve



Ownership atop Jerkail Mountain is shared between Pioneer Forest and NPS Ozark National Scenic Riverways. Outstanding natural features include much of Jerkail Mountain with its mix of igneous and dolomite bedrock supporting a diverse assemblage of glades, woodlands, and forest. Thompson Creek is spring-fed with several Ozark fens and an unusual dolomite glade along an eastern hillside. **PHOTOS BY:** Greg Iffrig, Neal Humke, and Google Earth

L-A-D Foundation

FOREST MANAGEMENT
LAND CONSOLIDATION
RESEARCH
EDUCATION AND OUTREACH
RECREATION AND NATURAL AREAS
GRANTMAKING AND COMMUNITY SUPPORT
PUBLIC POLICY ISSUES
ADMINISTRATIVE ISSUES

Grantmaking and Community Support



PHOTO BY: Kim Adams

FOUNDATION GRANT PROGRAM

Since 1962, the L-A-D Foundation has given more than 85 grants in excess of \$430,000 to a variety of non-profit organizations with projects that serve the Missouri Ozark region. The Foundation distributes submission guidelines annually to a targeted list of more than 100 organizations and individuals and also posts its information on its website - www.ladfoundation.org.

2014 Grant Program: The Grants Committee received 24 letters of inquiry in April 2014; ten of those letters were from first-time applicants. After initial review, the Committee asked finalists to submit full proposals by August 11, 2014. The Foundation this year adopted a version of the Missouri Common Grant Application made available by The Gateway Center for Giving, and also added an electronically-based process for its grant cycle. Applications were reviewed by the Foundation's Grants Committee, selections were made, and recommendations for funding were presented to the Board for approval at its October Board meeting. Grant funds will be awarded by the Board in November, and every effort will be made to present the awards in person by a Board or staff member.

2013 Grant Recipients: In the fall of 2013, eleven grants were awarded to the following organizations:

- **B.E.S.T. Foundation** – one-time contribution toward a Vocational Scholarship Fund for Eminence High School seniors
- **Bonebrake Center for Nature and History** – Ozark Kids Connection educational outreach
- **Environment Missouri** – informing small Ozark communities about importance of water quality
- **Greater Ozarks Audubon Society** – attendance for two Ozark-region students at the GOAS 2014 Green Leadership Academy for Diverse Ecosystems (GLADE)
- **Mark Twain Forest Watchers** – citizen participation in sustainable forest management projects in Missouri
- **Missouri Cave and Karst Conservancy** – cleanup efforts at Goodwin Pit Cave
- **Missouri Coalition for the Environment** – study to reduce the impact of low-water crossings
- **Open Space Council** – Ozark Wild Lands project at various public land areas along LaBarque Creek

- **Ozark Greenways** – interpretive kiosks along the Springfield to Bolivar Frisco Highline Trail
- **Springfield Plateau Grotto** – reprint of 2008 publication *Caring for Your Karst*
- **Watershed Committee of the Ozarks** – completing the Prairie Learning Station/Trail at the Watershed Center

"Because of your [L-A-D's] generous support of GLADE, we were able to immerse these students in an enriching conservation leadership academy designed to inspire the most promising young conservationists in Missouri."

Greg Swick,
Co-Director, Greater Ozark Audubon
Green Leadership Academy for
Diverse Ecosystems



Top right: Stream monitoring - macroinvertebrate census. Bottom right: Lake monitoring - chemical testing. PHOTOS BY: Greg Swick

Missouri Cave and Karst Conservancy's continued clean-up effort on Goodwin Pit



Goodwin Pit Cave entrance - January 2012



Cave entrance - July 2014

PHOTOS BY: Jonathan Beard

COMMUNITY SUPPORT

Throughout the past year, Pioneer Forest contributed financial support to various projects and community groups. Recipients include:

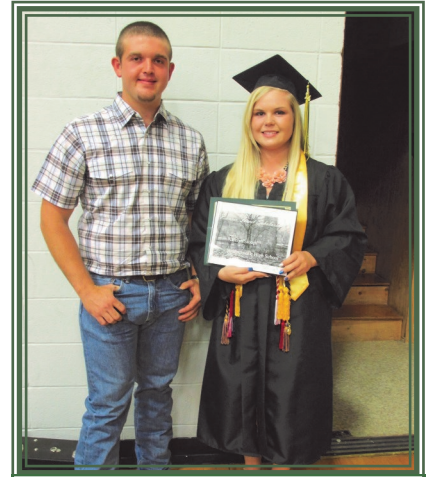
High School Scholarships: Pioneer Forest awarded college scholarships to two local graduating seniors. Recipients were Jordynn Watson from Bunker High School who will be attending Missouri State University-West Plains for Occupational Therapy, and Katelyn Stoops, Summersville High School, who will study Agricultural Economics and Accounting at the University of Missouri-Columbia.

Relay for Life (Eminence, MO): Pioneer funds helped support the American Cancer Society via this important local event.

Stream Team 1028 (Jadwin, MO): Funds from Pioneer helped support volunteer efforts to clean up along the upper Current River section of the Ozark National Scenic Riverways.

Timber Fun Day (Salem, MO): Pioneer contributes funds and staff presence in support of this annual event highlighting the local timber industry.

Old Heaton Cemetery (Moore, MO): Pioneer supported cleanup efforts on the old Heaton cemetery located on Big Creek near Round Spring.



Scholarship recipient Katelyn Stoops with Pioneer Forest Technician Dusty Smith.
PHOTO BY: Tanya Smith



Two of the oldest grave markers in Heaton Cemetery, located in the Roger Pryor Pioneer Backcountry. PHOTO BY: Greg Iffrig

L-A-D Foundation

FOREST MANAGEMENT
LAND CONSOLIDATION
RESEARCH
EDUCATION AND OUTREACH
RECREATION AND NATURAL AREAS
GRANTMAKING AND COMMUNITY SUPPORT
PUBLIC POLICY ISSUES
ADMINISTRATIVE ISSUES

Public Policy Issues



John Karel and JC Kuessner at Camp Zoe.
PHOTO BY: Cher Lowther

NATIONAL PARK SERVICE—OZARK NATIONAL SCENIC RIVERWAYS

This year marks the 50th anniversary of the Ozark National Scenic Riverways. In 1964, Congress established the Riverways after years of work toward that goal by the Governor, legislators, and state and local residents. Today the national park draws 1.2 million visitors each year, who spend an estimated \$51 million or more annually, which benefits the economies of southeast Missouri towns surrounding the park. National Park offices in Van Buren and visitor centers around the park provide full-time jobs. Associated employment involves lodging, rental, grocery, and restaurant businesses, as well as seasonal jobs within the park. The Riverways is substantially larger than any Missouri state park, and, unlike state parks, it is funded through the federal budget.



PHOTO BY: Bob Gestel

As a rule, all national parks undergo review and revision of their management plans every 20 years. In February, the National Park Service concluded the public comment period on its Draft General Management Plan for the Ozark National Scenic Riverways. This followed several years of information gathering and public meetings, many of which were held in towns along the Riverways.

As a neighbor bordering many miles of the Riverways, the Foundation had recognized that the park's outstanding natural resources have become degraded over the years due to lack of law enforcement, particularly regarding intrusion from motorized vehicles that leave park roads and create new paths. In our comments, we asked that improvements be made to solve these problems.

Just as the NPS review of the public comments began, legislative efforts emerged in the Missouri General Assembly and in Washington DC calling for the national park to be transferred to the state, a proposal which the Foundation considers unreasonable, unrealistic, and irresponsible.

L-A-D Foundation board and staff worked with area residents, Conservation Federation of Missouri, Missouri Parks Association, Show-Me Missouri Backcountry Horsemen, and the National Parks and Conservation Association to inform the public about this ill-advised plan. We are pleased the Missouri Legislature ended its 2014 session without specifying funding of a state takeover of the Riverways, and also pleased Congress has not acted on a bill proposing to relinquish federal ownership of the park.

An earlier generation of Missourians worked very hard to bring the first national river to our state, and we intend to continue our efforts to honor that legacy.

CAMP ZOE AND THE CURRENT RIVER STATE PARK

As part of its meeting in April, the L-A-D Foundation met with Missouri State Park officials and local staff regarding future development plans for the former Camp Zoe. This property, which for years was operated as a youth camp where Sinking Creek enters the Current River, has recently been acquired by the State for park purposes. A variety of public uses could include swimming, fishing, and hiking. General ideas regarding camping, possibilities for a lodge, and cabins were being considered. Work to be done on the infrastructure will include establishing the park entrance, a park road, and a bridge across Sinking Creek.

The Foundation's Roger Pryor Pioneer Backcountry surrounds the camp property on three sides. Its more than 50 miles of trails through more than 62,000 acres could be an important adjacent recreational resource for park visitors. Earlier, plans had already been discussed to extend the Backcountry's Current River Trail farther up-river to the Current River State Park. The L-A-D Foundation offered its support as a partner and as a neighbor as development of this park continues.



Above, Current River State Park Superintendent Jim Newberry explains considerations for park development; below, the group views one of several impressive bluffs along Sinking Creek.

PHOTOS BY: Greg Iffrig



FRIENDS OF THE ELEVEN POINT RIVER

Leo and Kay Drey and the L-A-D Foundation have long been keenly interested in the Eleven Point National Scenic River and its important features, especially Greer Spring and Greer Mill. The spring and mill are now owned by the US Forest Service, and both are especially important for Oregon County. The recent formation of Friends of the Eleven Point River has stimulated local interest in citizen efforts along the river, beginning with preserving and caring for the old Greer Roller Mill.

After Mark Twain National Forest officials engaged their services last fall, the HistoriCorps issued a detailed, step-by-step report along with specific costs for preserving this historic mill. This report serves as a guideline for efforts now underway by this friends organization, as well as for contractors, fundraisers, and contributors interested in saving this wonderful old mill. John Karel, the L-A-D Foundation's President, and Greg Iffrig, its Liaison to the Board, met recently with members of the organization to discuss the work they hope to accomplish.

L-A-D Foundation

FOREST MANAGEMENT
LAND CONSOLIDATION
RESEARCH
EDUCATION AND OUTREACH
RECREATION AND NATURAL AREAS
GRANTMAKING AND COMMUNITY SUPPORT
PUBLIC POLICY ISSUES
ADMINISTRATIVE ISSUES



Spring meeting of the Board of Directors in Salem.
PHOTO BY: Greg Iffrig

Administrative Issues

MEMORANDUM OF UNDERSTANDING WITH THE NATIONAL PARK SERVICE

The Foundation signed in August a Memorandum of Understanding (MOU) with the National Park Service, Ozark National Scenic Riverways. This MOU recognizes that both parties have: lands within the Current River watershed; share many miles of property lines; have some lands whose best long-term care and stewardship may require the use of management-ignited burns across shared boundaries; have other lands where suppression of wildfire may be necessary; and have expertise, personnel, and equipment capable of applying prescriptive management to result in stewardship benefits. Both organizations consider it to be of mutual benefit to combine personnel and equipment to fulfill these management goals on certain areas from time to time.

Prior to this, both organizations already have collaborated on management efforts on lands with shared boundaries near Devil's Well and Akers Ferry, and on Jerktail Mountain. The August memorandum includes provisions for either party to request technical assistance, management planning, on-the-ground preparation, implementation, environmental monitoring, and training.

MEMORANDUM OF UNDERSTANDING WITH THE MARK TWAIN NATIONAL FOREST

In May, 1998, the Dennig family sold its nearly 7,000-acre Greer Spring property in Oregon County to Leo Drey, while retaining for 25 years the right of access over a private road to, and the private use of, an area around the mill and cabins along Greer Spring Branch. The property had been long-sought by the Mark Twain National Forest. Several years later, Leo, with the help of others, arranged for its sale to the Forest Service. The right of use of the Dennig Road was to revert to Leo Drey; he donated that right to the L-A-D Foundation in 2012.

In May of this year, the L-A-D Foundation and officials of the Mark Twain National Forest completed an MOU, agreeing to meet annually to discuss shared responsibilities for public use of the Dennig Road including pedestrian access, road condition, maintenance, and the placing of signs.

ROGER PRYOR PIONEER BACKCOUNTRY—LEASE OF TRAILS AND TRAILHEAD

Staff members with Missouri State Parks and the L-A-D Foundation have been in conversation over several months regarding the Backcountry lease. The lease has now been amended and restated to be a lease to the State Parks of the trails totaling more than 50 miles plus the Himont Trailhead. A provision was also added so that the trails and trailhead could be expanded upon the agreement of both parties.

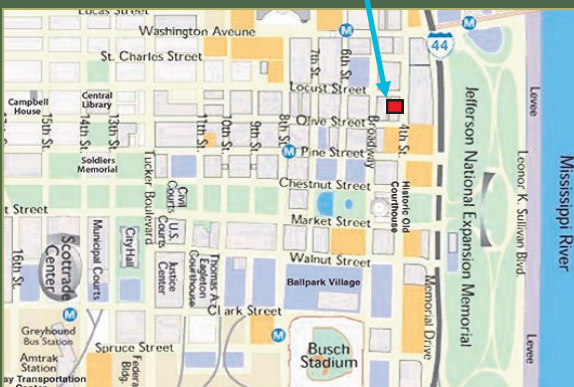
L-A-D MOVES ITS OFFICE TO THE SECURITY BUILDING

In May the L-A-D Foundation moved its St. Louis office from the 705 Building on Olive to the Security Building, which is closer to the Mississippi River and is just 2.5 blocks north of the Old Courthouse and Arch. Our new office provides more space for staff, equipment and supplies, and access to a spacious, technology-enhanced conference room with seating for more than 35 participants.

OUR NEW ADDRESS: 319 North 4th Street, Suite 805, St. Louis, MO 63102.

The Security Building was built in 1892 and is listed on the National Register of Historic Places. It was one of the first two tall office buildings on 4th Street, which at the time was the financial center for St. Louis. From 1893 until 1964 the top two floors were occupied by the Noonday Club frequented by leading citizens of the city. In 2007 it became the first historic building in downtown St. Louis to be certified by the US Green Building Council and is the first building in Missouri to achieve an LEED Silver rating.

PHOTOS: The upper left shows the front of the Security Building where the Foundation's new office is located; the upper right shows Pioneer Forest's 50-year history timeline in photos displayed on the wall in one of the offices (PHOTOS BY: Cher Lowther); lower right shows Neal Humke of the Foundation with Leslie Brandt of the US Forest Service conducting a webinar workshop in the conference room (PHOTO BY Greg Iffrig); lower left is an inset from a St. Louis City street map showing the location of the new office downtown.





From the left are Brandon Butler (Executive Director, CFM), Susan Flader, and David Smith (Bass Pro Shop).
PHOTO COURTESY OF: Conservation Federation of Missouri

FLADER HONORED AS CONSERVATIONIST OF THE YEAR

L-A-D Foundation Board Member and Vice President Susan Flader was named Conservationist of the Year by the Conservation Federation of Missouri (CFM). The award was presented on March 21, 2014, during the organization's annual awards ceremony at the Capitol Plaza Hotel in Jefferson City.

CFM recognized Susan as "a treasure to the state of Missouri" and for her lifetime of teaching and research. They noted "no other Missourian has been so dedicated and passionate about protecting and enhancing one of the finest state park systems in the nation."

DONATIONS TO PIONEER FOREST LIBRARY

Pioneer has accumulated a small library of information on Pioneer Forest and forest management. The collection includes research conducted on the forest, forestry textbooks, manuals, and a variety of professional journals including the *Journal of Forestry*, *American Forests*, *Natural Areas Journal*, and *Conservation Biology*. Its *Pioneer Forest—A Half Century of Sustainable Uneven-Aged Forest Management in the Missouri Ozarks*, published by the US Forest Service, Southern Research Station (2008), included an annotated bibliography of a wide variety of published works on L-A-D Foundation lands, many of which are part of this library. With help this collection of published information continues to grow.

Former University of Missouri forestry professor and L-A-D Foundation Board member, the late Richard F. Smith, donated his personal copies of early issues of the *Journal of Forestry*. When Forest Manager Clint Trammel retired, he donated forestry books from his own collection. Recently retired Forest Manager Terry Cunningham added his personal copies of the *Journal of Forestry* to those of Dr. Smith. Terry also has for many years actively sought out works on forest management from across the country, other books on natural and cultural history, and books of regional interest. After acquiring and reading them, he has given them to Pioneer where they now occupy a bookcase in the Salem office. Dr. Peter Becker, a retired researcher who worked with Pioneer staff reviewing the adoption and methodology of its CFI inventory, carbon sequestration, and the management implications of various thinning operations, donated his personal collection of issues of the *Annual Review of Ecology and Systematics* before recently moving away from Missouri. Board member Lauri Drey also has contributed a number of books to the Pioneer Library. Most of these are about trees, including the American Chestnut and the longleaf pine of the southeastern United States. Other books she has donated cover natural history, evolution, wilderness, and wildflowers.

The Pioneer Library has become an important component of the Pioneer office in Salem. We have added new bookcases and chairs and are organizing and categorizing the collection. Although we do not have the capacity to administer lending services, visitors are welcome to browse and read on site.

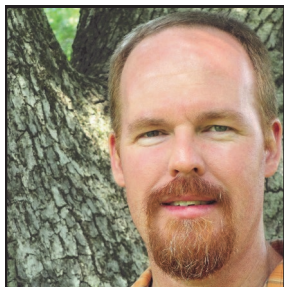
AUDIT COMPLETED

At the close of FY2013 the Foundation's accounting firm, Wilhelm and Wilhelm, LLC, completed the Financial Statement for the year. In the fall, the firm Botz, Deal and Company, P.C., conducted an audit of the Foundation's financial records. Staff members in St. Louis and Salem were asked to participate in gathering information and responding to questions. The audit review was successfully completed in November. They concluded that our financial statements were presented fairly and in accordance with generally accepted accounting practices.

BOARD AND STAFF CHANGES

Rindy O'Brien leaves the Board of Directors to join the Foundation's Advisory Council. Rindy joined the Foundation's Board of Directors in 2008 and has played a significant role in guiding the Foundation: chairing the strategic planning effort that developed the plan adopted by the Board in 2012; spearheading new policies on Finance and Governance; encouraging the Foundation to seek its most recent audit; and urging the Foundation to earmark funds for a company-held pension plan for employees hired prior to 2004. In January Rindy presented her resignation from the Board of Directors to allow for more time to pursue her passion for photography. In her resignation letter she asked to remain an extended member of the L-A-D Foundation family. At its April meeting the Board accepted her resignation and appointed her to the Advisory Council. We look forward to Rindy's participation as often as she can.

Josh Reeves joins the L-A-D Foundation Board of Directors. At its spring meeting in Salem, the Board discussed and approved the nomination of Josh Reeves to become a director. Josh resides in Willow Springs and graduated in 2005 from the University of Missouri-Columbia. He has been a federal contractor and construction company founder with special experience on public lands, including work with the US Forest Service, United States Air Force, U. S. Army Corps of Engineers, National Park Service, and US Fish and Wildlife Service. He also serves on the board of the Missouri Parks Association.



Neal Humke. Neal worked on land stewardship activities in Iowa and Virginia before coming to Missouri. Beginning in 2009 he supervised our first prescribed burn at Pioneer's Randolph Tract. As a contractor he has carefully guided our fire management efforts, acquired necessary tools and equipment, completed training, and supervised AmeriCorps crews. In January of this year he hired and supervised our first seasonal Pioneer/L-A-D work crew. Beginning in July, Neal became full-time staff to continue providing oversight for our natural areas, and to monitor our forest reserve sites on Pioneer lands.

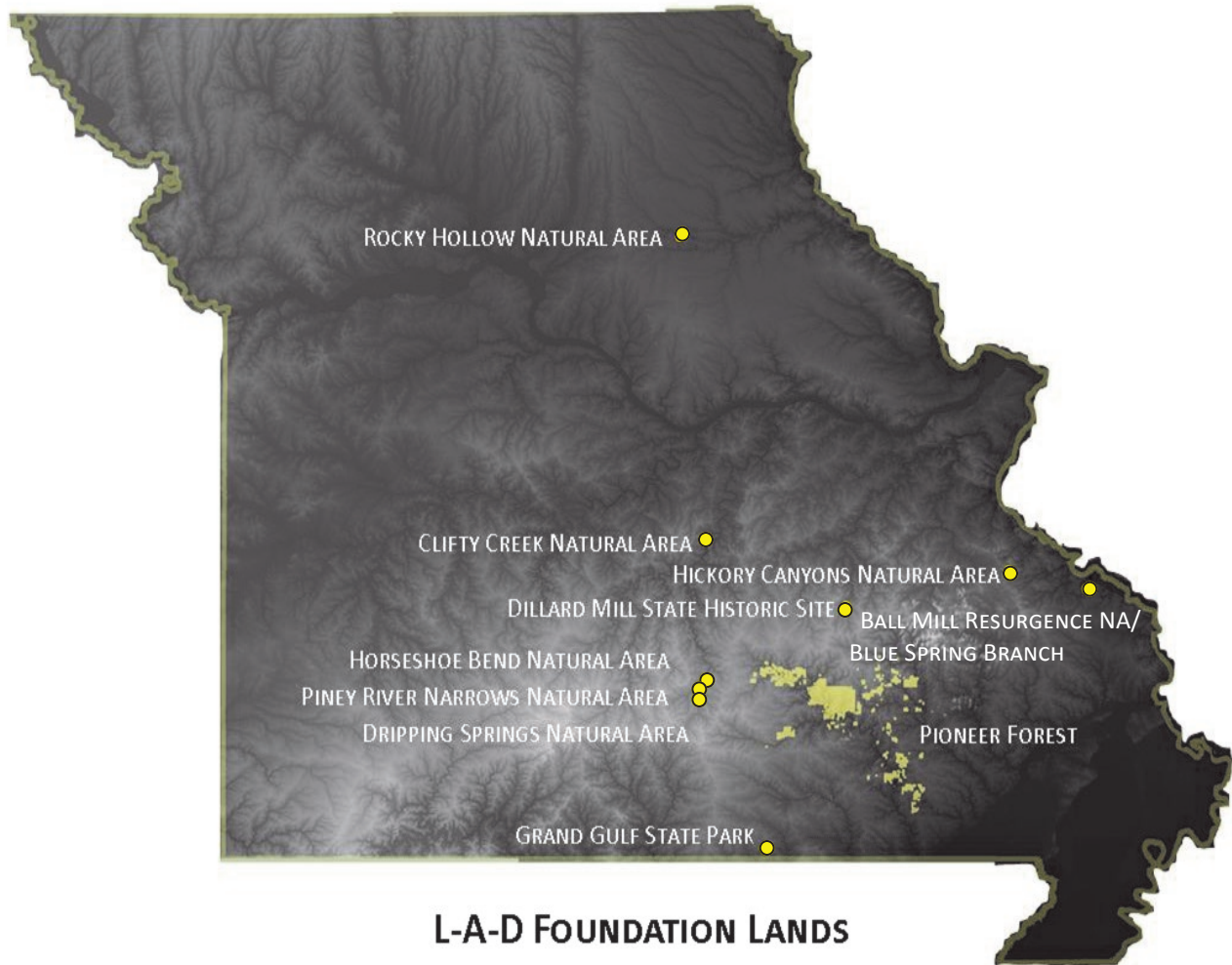


Dusty Smith. Dusty began a practicum on Pioneer in 2013 to meet his academic course requirement at Three Rivers Community College in Poplar Bluff. After completing his Associate of Arts Degree - Forestry, he was hired as an intern, and in December of last year he was hired as a full time Forest Technician. Dusty continues to grow and learn and has become a valuable asset to Pioneer Forest.

Appendices



LOCATION AND LISTING OF L-A-D FOUNDATION LANDS



L-A-D FOUNDATION LANDS

	<u>COUNTY</u>	<u>SPECIAL DESIGNATION</u>	<u>SIZE</u>
PIONEER FOREST (including each of the following special areas)			142,259.25 ACRES
Blair Creek Hanging Fen	Shannon	Forest reserve ¹ , 2011, 25 acres	
Bluff School, Medlock Cave	Shannon	Forest reserve, 1995, 51 acres	
Cunningham Sink	Shannon	Forest reserve, 2011, 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; Total area 265 acres	
Fishtrap Hollow and Marshy Spring Hollow Fens	Shannon	Forest reserve, 1995, 45 acres	
Laxton Hollow	Shannon	Forest reserve, 1995, 145 acres	
Leatherwood Creek	Shannon	Forest reserve, 1995, 1003 acres	
Lily Pond NA	Reynolds	State Natural Area, 1975, 8 acres	
Old Schoolhouse Hollow Fens	Shannon	Forest reserve, 1995, 140 acres	
Pioneer NA	Shannon	SAF Natural Area, 1964, and State Natural Area, 1977, 20 acres	
Sinkhole Ponds Complex	Reynolds	Forest reserve, 1995, 45 acres	
Sutton School Hollow Fens	Shannon	Forest reserve, 1995, 75 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	
RIVERWAYS CORRIDOR LANDS			1,123.55 ACRES
Scenic Easements	Shannon, Carter	National Park Service, Ozark National Scenic Riverways, 1970, 951 acres	
Cave Spring	Shannon	Adjacent to the Current River, 172.55 acres	
LANDS LEASED TO THE MISSOURI DEPARTMENT OF CONSERVATION (MDC)			2,166.72 ACRES
Ball Mill Resurgence ⁵	Perry	State Natural Area, 1979, 19.61. acres; addition of 183.2 acres in 2007; addition of 77 acres in 2012, total area 279.81 acres with 276.22 acres under lease	
Clifty Creek	Maries	State Natural Area, 1971, total area of 230 acres under lease	
Dripping Springs	Texas	State Natural Area, 1973, total area of 8.59 acres under lease	
Hickory Canyons ⁶	Ste. Genevieve	State Natural Area, 1973, 420 acres; addition of 560.91 acres in 1979; addition of 18.68 acres in 2013; addition of 94.75 acres in 2014; total area of 1,094.34 acres with 980.91 acres under lease	
Horseshoe Bend ⁷	Texas	State Natural Area, 1973, 69 acres of 222 acres; addition of 11 acres in 2009; total area 233 acres with 222 acres under lease	

	<u>COUNTY</u>	<u>SPECIAL DESIGNATION</u>	<u>SIZE</u>
Piney River Narrows	Texas	State Natural Area, 1971, 50 acres of 258 acres leased to MDC	
Rocky Hollow	Monroe	State Natural Area, 1973, 188 acres; National Register of Historic Places, 1974; total area of 191 acres leased to MDC	
LANDS LEASED TO MISSOURI DEPARTMENT OF NATURAL RESOURCES			289 ACRES ⁸
Dillard Mill	Crawford	State Historic Site, 1977, 130 acres	
Grand Gulf State Park	Oregon	National Natural Landmark ⁹ , 1971 and State Park, 1984, 159 acres State Natural Area, 1986, 60-acre portion	
Trails and Trailhead of the Roger Pryor Pioneer Backcountry	Shannon	Lease to Missouri State Parks, 2014 More than 50 miles of existing or under construction trails	
OTHER			395.44 ACRES
Lands acquired but not yet leased	Perry, Ste Genevieve, Texas	128.02 acres	
Lower Rock Creek	Madison	Recreation land, 226 acres	
Virgin Pine	Shannon	Scenic remnant corridor, 41.42 acres	
TOTAL LAND OWNERSHIP			146,234.05 ACRES
<p>¹The concept for 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.</p> <p>²The Society of American Foresters Committee on Natural Areas was organized in 1947.</p> <p>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.</p> <p>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.</p> <p>⁵The total area of Ball Mill includes 3.27 acres recently acquired by the Foundation and not yet leased to MDC.</p> <p>⁶The total area of Hickory Canyons includes 113.43 acres recently acquired by the Foundation and not yet leased to MDC.</p> <p>⁷Horseshoe Bend includes 11 acres recently acquired by the Foundation and not yet leased to MDC.</p> <p>⁸State Historic Sites and State Parks are managed by the Division of State Parks, Missouri Department of Natural Resources. The Roger Pryor Pioneer Backcountry is included in the Pioneer Forest acreage ("Total Land Ownership").</p> <p>⁹The National Natural Landmarks program is administered by the National Park Service. Grand Gulf is among fewer than 600 sites designated in the United States as National Natural Landmarks.</p>			

GLOSSARY OF TERMS

Acre – A unit of land area measurement equal to 43,560 square feet.

Age class – An aggregation of trees essentially of the same age. Age class is often used synonymously with “size class.” Age intervals of 10 years are commonly considered to be the same age class.

Aquatic habitat – A local environment in or near water that provides food, a place to reproduce, and shelter for water-dependent species.

Aquatic invertebrate taxa – Includes a range of organisms, such as snails, crustaceans, insect larvae, leeches, and aquatic worms.

Aspect – The cardinal direction that a slope faces (north, south, east, west).

Avifauna – Avian wildlife, birds.

Basal area – The area (in square feet) of the cross section of a tree stem, including the bark, generally at breast height (4.5 feet above the ground). In the aggregate, it is the total cross-sectional area per acre of all trees at breast height.

Biological diversity (biodiversity) – The existence of a variety of plants, animals, and other living beings in particular regions or ecosystems.

Biotic index – A range of values used to observe and compare biotic changes in response to pollution or habitat change.

Blocking – Structural wood products used to package and ship manufactured goods.

Board foot – A unit for measuring wood volume. It is commonly used to express the amount of wood in a tree, sawlog, or piece of lumber. A piece of wood one foot wide by one foot long by one inch thick equals one board foot (bf).

Bolt – A short log or a squared timber cut from a log, usually less than 8 feet in length.

Buffer strip – A strip of vegetation that is left unmanaged or is managed to reduce the impact that a treatment or action on one area would have on an adjacent area.

Canopy – The more or less continuous cover of branches and foliage formed collectively by the tops, or crowns, of adjacent trees.

Canopy closure – The progressive reduction of space between tree crowns as they spread laterally.

CFI – Continuous Forest Inventory. An inventory repeated with regular frequency, over a long time period, to locate and estimate quantities by species, product, size, quality, and other characteristics.

Chrono-sequence – Forest stands covering a range of ages and management-related disturbances.

Clear-cut – A harvest method used in the even-aged silvicultural system. The removal of all merchantable and non-merchantable trees greater than 1.0 inch in diameter in one harvest cut. Pioneer Forest management does not include the use of clear-cutting.

Community – An assemblage of plants, animals, bacteria, and fungi that live in an environment and interact with one another, forming a distinctive living system with its own composition, structure, environmental relations, development, and function.

Conservative species – Plants most often associated with a specific habitat or natural community. For example, a weedy plant species can be found along roadsides, disturbed woodlands, and old fields, whereas a lead plant would only be found in prairies and open glades. This may be better understood by comparing birds such as the common American Robin to the uncommon and more conservative Swainson’s Warbler.

Cord – A unit of gross volume measurement for stacked roundwood based on external dimensions;

generally a 4 by 4 by 8-foot stack (128 cubic feet of stacked wood).

Cross-tie – A transverse timber forming a foundation or support.

Cull – A tree or log of merchantable size that, because of defect, has no merchantable value. A cull may be highly valuable as a den tree.

Customary rights – Rights that result from long habitual or customary actions that have, by such repetition and by uninterrupted acquiescence, acquired the force of law within a geographical or sociological unit.

Cutting cycle – The planned interval between partial harvests in an uneven-aged stand.

Dendrochronology – The study of tree rings and tree ring patterns influenced by environmental factors such as climate and fire. Analyzing annual growth increments helps us to understand the age of a tree or a forest canopy and to compare responses to change between species and within a forest or a region.

Den tree – A living tree with a cavity large enough to shelter wildlife. Also called a cavity tree.

Diameter breast height (d.b.h.) – Diameter of a tree measured on the uphill side of the tree at 4.5 feet (breast height) above ground line.

Disturbance regimes – Any of a variety of events, such as wind, floods, and/or fires, that cause a significant change in the local or regional environment and the associated plants or animals.

Dolomite – A carbonite sedimentary rock consisting of double carbonates of calcium and magnesium. Associated in Missouri with karst topography.

Down woody debris – Woody portions of trees that have fallen and are lying on the ground. Down woody debris includes twigs, branches, logs, stumps, and whole trees that have fallen. Also referred to as either fine or course woody debris.

Duff – Partly decayed organic matter on the forest floor.

Ecosystem – A conceptual unit comprised of organisms interacting with each other and their environment, having the major attributes of structure, function, complexity, interaction and interdependency, and temporal change with no inherent definition of spatial dimension.

Endangered species – Any species in danger of extinction throughout all or a significant part of its range. Endangered species may be state or federally listed.

Erosion – The displacement of soil from one place to another by any means, including wind, water, gravity, logging, road building, and fire.

Even-aged management – A system of forest management in which stands of trees are maintained or cut with relatively minor differences in age, usually less than 10 percent of the rotation.

Even-aged silvicultural system – The application of a combination of actions that results in the creation of stands of trees of essentially the same age that are growing together. Managed even-aged forests are characterized by a distribution of blocks of single-age stands (and therefore, tree size) throughout the forest area. The difference in age between trees forming the main canopy level of a stand usually does not exceed 20 percent of the age of the stand at harvest rotation age. Regeneration in a particular stand is obtained during a short period at or near the time a stand has reached the desired age or size and is harvested. Clear-cut, shelterwood, or seed tree cutting methods produce even-aged stands.

Exotic species – Species that would not occur naturally in the location where they are found.

Federally listed – Animals or plants formally added to the federal lists of endangered or threatened wildlife or plants by the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service. In legal terms, this also includes species formally proposed for addition to these lists.

Fen – A wetland type with groundwater discharge and a specific pH type base of the associated geological material.

Feral – Having escaped or been released from domestication and become wild, for example feral hogs.

Fluctuating asymmetry (FA) – A measure of developmental stability based on genetic complexity.

Forest – An area dominated by trees forming a closed canopy and interspersed with multilayered shade-tolerant sub-canopy trees, shrubs, vines, ferns and ground flora that is rich in spring ephemerals. Trees attain heights of 60 to over 100 feet.

Forest structure – The layers of vegetation within a forest. These layers are, in general: seedlings, advanced reproduction, saplings, poles, and overstory. Except for seedlings, each of these layers can be made up of multiple age classes.

Fragipan – Loamy, brittle subsurface soil layer low in porosity and organic matter, and low or moderate in clay, but high in silt and fine sand. A fragipan appears to be cemented and restricts roots.

Geo-reference – Spatial information related to geographic data allowing the data to be displayed along with other related geographic data within a geographic context.

GIS/GPS – Geographic Information System, best described as telling us where a particular oak is within the forest; compared to GPS (Geographic Positioning System), which tells us the particular point (x, y, z) where we are within the forest.

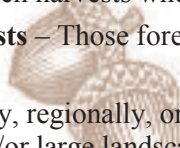
Glade – Open, exposed bedrock areas dominated by drought-adapted herbs and grasses in an otherwise woodland or forest matrix.

Growth – The change in volume for trees measured in one inventory and then re-measured in the next.

Harvest cycle – The time period between harvest entries when using an uneven-aged management system.

Harvest rotation – The time period between harvests when using an even-aged management system.

HCVF – High Conservation Value Forests – Those forests that possess one or more of the following attributes:

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1. forest areas containing globally, regionally, or nationally significant concentrations of biodiversity (e.g., endangered species) and/or large landscape-level forests contained within the management unit, where viable populations of most, if not all, naturally occurring species exist in natural patterns of distribution and abundance;
 2. forest areas that contain rare, threatened, or endangered species;
 3. forest areas that provide basic services of nature in critical situations (e.g., protection of water catchments and control of soil erosion).

High-grading – Harvesting to extract only the most valuable trees from a forest. No consideration is given to regeneration requirements of tree species or future development and health of the trees or forest.

High-quality hardwoods – Hardwood trees or stands that will yield high-value timber products, such as face veneer, knot-free lumber, furniture, or specialty product stock and flooring.

Igneous – A rock that has solidified from lava or magma.

Ingrowth – Trees that during a specified period have grown past an arbitrary lower limit, primarily of diameter or height. Ingrowth is usually expressed as basal area or volume per unit area.

Indicator species – A species whose presence in a certain location or situation at a given population level indicates a particular environmental condition. Population changes are believed to indicate effects of management activities on a number of other species or on water quality.

Karst (topography) – Terrain with distinctive characteristics of relief and drainage arising primarily from a higher degree of rock solubility than is found elsewhere. Some examples are springs, losing streams, underground drainage and water reservoirs, caves, natural bridges, and sinkholes.

Landscape – A physiographic unit capable of sustaining several populations of a species; a mosaic of landforms and plant communities irrespective of ownership or other artificial boundaries.

Layering – A forest regeneration technique in which portions of a plant, such as a limb, can be used to sprout

roots and stems.

LEED – Leadership in Energy and Environmental Design; a certification system developed by the U.S. Green Building Council.

Legacy tree (or forest) – Preserves certain qualities (such as old-growth trees or forests, wildlife habitat, species, community, etc.) that may be lacking on a landscape scale.

Log landing – A place where logs are taken (skidded) to be loaded on trucks for transport to the mill.

Losing stream – A flow stream that gradually gets smaller or disappears due to the loss of some or all of the flowage into below-ground channels or caverns.

MBF – Thousand board feet.

MMBF – Million board feet.

Mature tree – A tree in which growth has reached the culmination of mean annual increment (economic maturity) and/or one in which growth equals loss of biomass, beyond which decline and mortality will eventually occur (biological maturity).

Mesic – (Of an environment or habitat) containing a moderate amount of moisture.

Native species – Any species of flora or fauna that naturally occurs in a particular area, and that was not introduced by humans.

Natural forest – A forested area in which many of the principal characteristics of the native ecosystem are present.

Natural regeneration – An age class of trees created by natural seeding, sprouting, suckering, or layering.

Neotropical migrants – Bird species that breed in the United States during summer and spend winter in Mexico, Central America, South America, and the Caribbean Basin.

Non-timber forest products – All forest products except timber; other materials obtained from trees, such as resin, bark, and leaves, as well as other non-tree plant or animal products found in a forest.

Old-growth forest – Ecosystems distinguished by old trees and related structural attributes. Old-growth encompasses the latter stages of stand development. These latter stages typically differ from earlier successional stages in a variety of ways that may include: tree size; accumulations of large, dead woody materials, especially on the forest floor; number of canopy layers; species composition; and ecosystem functions.

Old-growth stand – A stand of mature trees that is unroaded or lightly roaded, with little evidence of previous logging, usually ranging in size from 15 to 500 or more acres, and of sufficient size and configuration to maintain specific ecological functions.

Overstory – The uppermost layer of foliage that forms a forest canopy.

Plantation – A forested area that lacks most of the principal characteristics of native ecosystems because of human activities, such as planting, sowing, and intensive crop-like management and harvests.

Prescribed Fire – (Prescriptive fire management) The knowledgeable and controlled application of fire to a specific land area to accomplish preplanned resource objectives.

Progeny – Offspring from a parent, in this case, the offspring of tree species within the timber stand.

Regeneration – Seedlings and saplings existing in a stand. This is the process by which a forest is renewed, either artificially by direct seeding or planting, or naturally by self-sown seeds and sprouts.

Resurgence – A sinkhole that acts in the traditional manner of collecting and moving surface water directly to underground reservoirs and then, during especially heavy rainfall, reverses this flow of water to act like a spring.

Riparian area or zone – An area along the bank of a river, stream, lake, or pond identified by the presence of vegetation that requires free or unbound water or is more moist than normally found in the area. The zone may be a narrow strip of vegetation that borders a creek, river, or other body of water. Riparian zones may occupy

only a small percentage of a watershed but are extremely important components of the general landscape.

Root-sprung – A condition of storm-damaged trees in which high winds bend a tree to the point where roots are partially pulled from the ground but the tree is not blown down.

Savanna – Grasslands interspersed with open-grown scattered trees or groupings of trees. They are strongly associated with prairies and are dominated by prairie grasses and forbs. Canopy cover is usually less than 30 percent.

Scale – A measure of volume in a tree, based on the diameter and height of the tree.

Silviculture – The art and science of producing and tending a forest by manipulating its establishment, composition, and growth to best fulfill the objectives of the owner, which may or may not include the production of timber.

Single-tree selection – A harvest method expressed by the selection of individual trees to be removed from a stand of trees, the basis of uneven-aged management.

Skid trail – A road or trail over which equipment or horses drag logs from the stump to a road or log landing.

Snag – A standing dead tree from which leaves and most of the branches have fallen. A snag may be newly dead and appear to be a leafless tree or may be little more than a tall stump from which all of the limbs and bark have fallen. Snags are used by a variety of wildlife species.

Spatial – Of or relating to space, such as “the spatial distribution of individual trees.”

Stream – A channel with a defined bed and a bank that carries enough water flow at some time during the year to flush out leaves. (1) Ephemeral streams are streams that flow less than 10 percent of the time, only in direct response to rainfall, with a channel that may be scoured or unscoured and is always above the water table. (2) Intermittent streams are streams that flow seasonally (10 percent - 90 percent of the time) in response to a fluctuating water table, with a scoured channel at least three feet wide. (3) Perennial streams are streams that flow year-round (more than 90 percent of the time), with a scoured channel always below the water line.

Stumpage – The value of standing timber or uncut merchantable timber.

Suckering – The generation of sprouts that grow along the trunk of a tree, usually after a drastic change in growing conditions, such as a heavy harvest that allows a sudden increase of light to reach the trunk.

Sustainable forest management – The practice of meeting forest resource needs and values of the present without compromising the forest’s value for future generations.

Talus – A slope formed especially by an accumulation of rock debris.

Threatened species – Any species likely to become endangered within the foreseeable future and designated in the Federal Register or is State Listed.

Timber stand improvement (TSI) – A thinning made in timber stands to improve the quality, composition, structure, condition, health, and growth of the remaining trees.

Topographic relief – The three-dimensional quality of the surface of land, more specifically depicting the differences between the lowest and highest elevations within an area or region. (The most-used example would be a topographic map showing contour intervals.)

Topographic roughness – A measurement of the variability of the land surface in a particular area that takes into account slope, shape, and aspect within the landscape.

Travertine – A mineral consisting of a massive layered calcium carbonate formed by deposition from spring waters or especially from hot springs.

Tufa – A natural, calcareous deposit associated with springs, lakes, and groundwater.

Understory – The area of the forest at the lowest height level below the forest canopy. Plants in the understory are a mix of saplings of canopy trees together with understory shrubs and trees. In the Ozarks, dogwoods, redbud, and bladder nut are rarely tall and are generally understory trees.

Uneven-aged silvicultural system – The application of a combination of actions that results in the creation of stands in which trees are in at least three age classes. Managed uneven-aged forests are characterized by a distribution of age classes and tree sizes ranging from regeneration to mature trees on virtually all acres throughout the forested area. Regeneration in a particular stand is obtained throughout the harvest cycle and following a harvest and, in oak/hickory stands, is retained until a short time after complete canopy closure has occurred. Single-tree selection or small-group selection tree harvest methods produce uneven-aged stands.

Vascular Plant – A plant having specialized tissue for circulating resources (water, minerals, and photosynthetic products) through the plant. These include ferns, club mosses, flowering plants, and conifers.

Vegetative architecture – Stratified vegetation levels consisting of various canopy layers, understory layers, and groundcover.

Veneer – A thin slice of wood removed from a log. The thin slice is laminated onto a lower quality or more stable base often, but not necessarily, of the same species.

Veneer tree – A large (usually more than 18 inches in diameter), knot-free, high-quality tree from which veneer logs are obtained.

Volume – The amount of wood in a tree, stand of trees, or log expressed in some unit of measure, such as board feet, cubic feet, etc.

WCS – Wildlife Conservation Society, a non-profit conservation organization whose mission is to save wildlife and wild places worldwide through science, conservation action, education, and inspiring people to value nature.

Water bars – Low mounds of dirt constructed at a diagonal on sloping trails or roads that are used to prevent erosion, reducing the velocity of water and the length of its flow.

Watershed – An area of land with a single drainage network. A watershed may be very large, such as the Mississippi River watershed, or smaller, such as the Blair Creek watershed. A watershed may or may not include a perennial stream. Holmes Hollow in Shannon County is an example of a watershed without a perennial stream.

Wetlands – Those areas inundated by surface or ground water often enough to support plants and other aquatic life that require saturated or seasonally saturated soils for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas, such as sloughs, potholes, wet meadows, fens, river overflows, mud flats, and natural ponds.

Woody debris – All woody material, from whatever source, that is dead and lying on the forest floor.

Woodland – A natural community with a canopy of trees ranging from 30 -100 percent canopy closure, with a sparse understory and a dense ground layer rich in forbs, grasses and sedges. Canopy height may range from 20-90 feet depending on site conditions.

Working forest – That portion of a forest dedicated to the production of forest products.



October 2014. Between 1996 and 2006, the staff of Pioneer Forest prepared an *Annual Report to the Foundation* 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*.

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