

Annual Report of the L-A-D Foundation



September 2010



“Incorporated in 1962, 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.”

Leo Drey began acquisition of forest land in the Missouri Ozarks in 1951. The name Pioneer Forest was originated by Pioneer Cooperage Company of St. Louis, and in 1948 it was sold to National Distillers Products Corporation, and the forest was renamed the Seton Porter Forest. Then in 1954 Leo Drey purchased all of the land, 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.

ANNUAL REPORT

of the L-A-D Foundation

September 2010

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COVER PHOTO: Upper left: showy lady slipper orchid, PHOTO BY Jason Green; Upper right: Current River from Pioneer Natural Area, PHOTO BY Greg Iffrig; Lower left: Blair Creek, PHOTO BY Greg Iffrig; Lower right: spider and web along proposed Current River Trail, PHOTO BY Greg Iffrig.

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From the President

In the past year, the L-A-D Foundation has responded to a series of challenges, and board and staff have been fully engaged.

Pioneer Forest is our most comprehensive undertaking, and it continues to be well run, a model of selective harvest forestry as per the vision of our founder, Leo Drey. Salvage harvests resulting from the May 2009 windstorm have dominated our sales program, with significant increases in timber volume sold from the Forest. This has required major effort from the Pioneer staff, and their performance has been outstanding. It will be very important to monitor the effects of this salvage harvest on the overall condition of the timber of Pioneer Forest.

In addition to the salvage work, Pioneer has also conducted management so as to encourage the health and vigor of our best remaining stands of native shortleaf pine. We have worked carefully and in conjunction with other conservation groups to ensure that this component of our Ozark landscape is not lost.

All of us can be quite proud that our Pioneer Forest Manager, Terry Cunningham, was chosen as the 2009 Forest Conservationist of the Year by the Missouri Conservation Federation. This recognition is well deserved and reflects favorably on our whole program. Congratulations, Terry!

It is natural that with such a concentration of our land in the vicinity of the Current and Jacks Fork Rivers, we should have a strong and vested interest in the management of the Ozark National Scenic Riverways. The Foundation has joined with a wider range of resource conservation groups and individuals in the effort to strengthen and improve the quality of the management of the Riverways provided by the National Park Service. This project has required significant time and effort from both staff and board members. It will continue to do so.

As a board, we continue to work toward updating and improving our governance policies and processes. Thanks for your help on this key aspect of our responsibility.

Finally, all of us were saddened this year at the loss of our former board member, Allen Brohn. The commemoration planned for this October at Hickory Canyons will be a satisfying and appropriate recognition of a distinguished colleague and good friend.



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Pioneer Forest Management



PHOTO BY Greg Iffrig

Pioneer's management experience comes from decades-long conservative, sustainable harvest that maintains and improves the forest and provides a multitude of benefits. All our management, recreation, outreach, and education efforts are guided by this underlying principle.

STORM DAMAGE SALVAGE

For the first time in Pioneer Forest's history, no standing timber has been cut for more than a year. A major straight-line wind storm hit the southern half of Missouri on May 8, 2009 (see map, Appendices, page 29), and since that storm, Pioneer Forest has been entirely committed to salvaging blown down trees. We estimate that the salvage will be completed sometime during the fall of 2010 when we will resume our timber management program.

We currently have 15 logging contractors working and had as many as 23 working during the previous year. Year to date (August 15, 2010) since the storm, we have harvested over 25 million board feet. For comparison, prior to the storm we had six contractors cutting marked standing timber. When we resume our normal timber harvesting program we will retain these six contractors, plus one additional contractor from the salvage crews. The remaining contractors will be terminated as they complete work on their respective salvage areas.

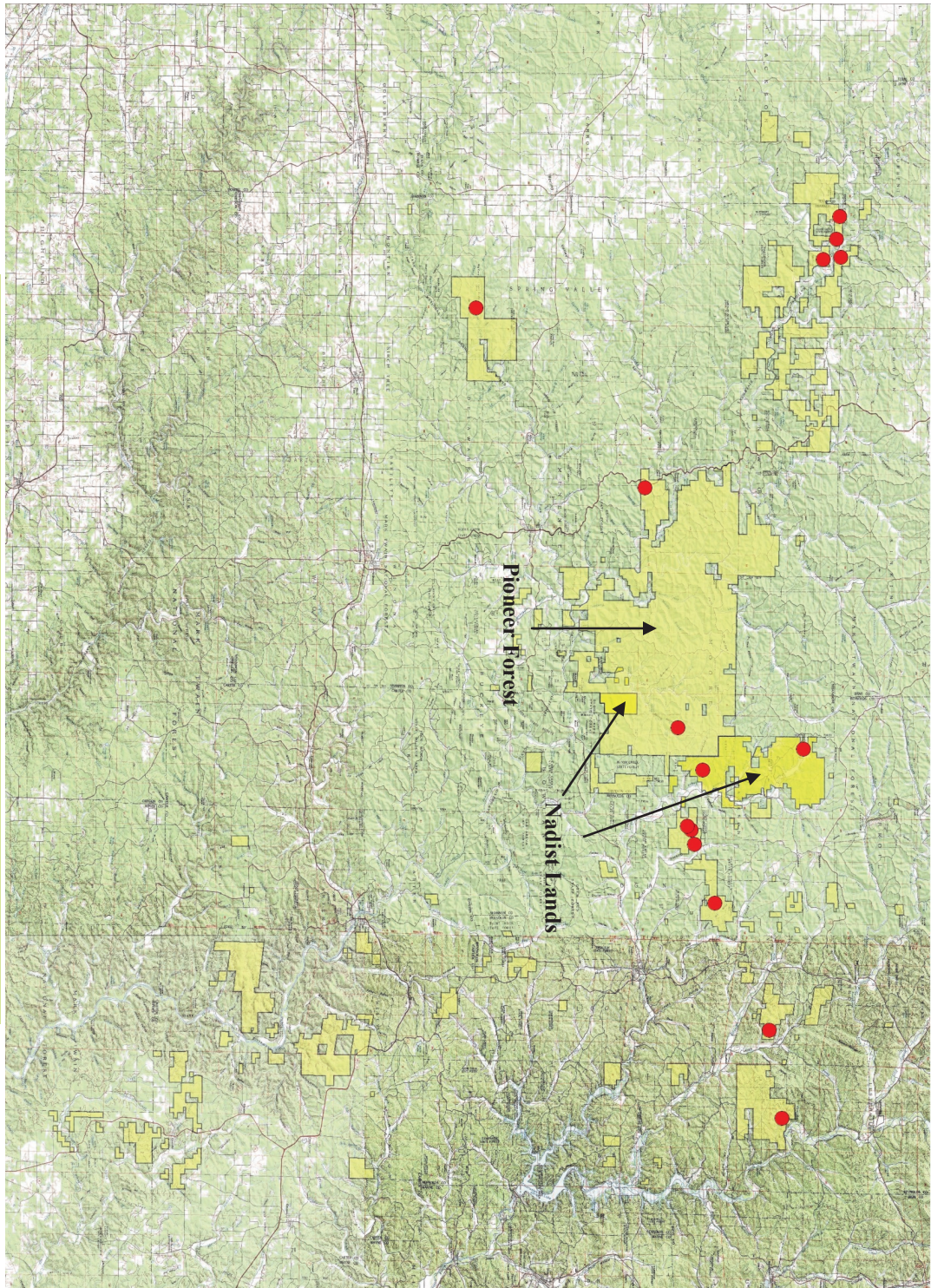
In 2009, we were hopeful that the markets would remain stable so that we could maintain our stumpage prices at \$125 per thousand board feet. This has been the case, and in fact, markets have begun to improve during the past quarter. There have been a few standing timber sales bids within our area, with prices ranging from \$160 to \$200 per thousand board feet. We are monitoring timber sales as we resume our timber program and expect stumpage prices to be set at least at what they were before the storm.

The storm areas have begun to heal, with regrowth evident. However, it will take time before we can assess the effects of this storm on our timber management.

Please read on for pine management and forest inventory information.

A handwritten signature in black ink, reading "Terry Cunningham".

Terry Cunningham
Forest Manager



Locations of timber sale areas on Pioneer Forest (during the period of September 2009 through August 2010) are shown here with red dots.

Legend

Pioneer Forest Properties

Nadist Properties

PINE MANAGEMENT AREA

Members of the Nature Conservancy staff have been assisting Pioneer in developing a long-term management prescription to reduce a substantial duff layer at a 120-acre site immediately east of the Virgin Pine strip along Highway 19 near Round Spring. For the past two years we have successfully introduced a cool fire into this pine area and reduced the duff layer without damage to our monarch trees. Pioneer had conducted several pine post thinnings beginning in the mid-1970s, and then again in the mid-2000s. While these thinnings were effective in improving the vigor, growth, and health of the residual trees, many of the trees grew to be too large for posts, but too small for most other pine products. Furthermore, the pine was becoming very dense, with over 200 trees per acre in some areas. Removing some of these larger trees as part of our ongoing silviculture effort was necessary in order to ensure the overall health of the stand. Pine with low vigor and in very dense stands tends to be susceptible to ips beetle. (Also known as “engraver beetles,” these bark beetles develop under the bark and tunnel through the tree, damaging and killing pine trees.)

We had pine that needed to be harvested, but there was a very limited market that could utilize smaller diameter pine sawlogs. However, beginning in the summer of 2010, we contacted a logger who was able to utilize many different products including pine sawlogs, pine utility poles, pine posts, oak blocking, and oak sawlogs. We have since begun the first logging operation (as opposed to post cutting) on this site since the 1950s.

Our objective is to reduce the density of the stand and favor the pine for our crop trees. In areas of heavy pine, we are using a thinning rule that will give the stand a spacing of approximately 25 feet between each remaining crop tree. We expect that this will reduce the stand density by at least one-half from approximately a 120-foot basal area to approximately a 60-foot basal area. This may seem drastic, but we feel it is necessary. The younger pine are displaying physical signs of being overstocked, including some mortality to ips beetle infestation, a reduced height growth (20%), and very dense spacing. Shading prevented us from burning in areas where the ground received very little light and where high moisture levels were retained in the abundant fuel.

The Pine Management Area also has a north-facing slope with a much higher component of hardwoods. On the north slope, we are favoring the pine where possible and marking the other hardwood dominated areas using the classic Pioneer Forest method of uneven-aged single tree selection. We continue to work with the Nature Conservancy and are planning on conducting a burn in two to three years to help control woody plants, increase species diversity in the herbaceous layer, and promote pine regeneration by improving space and light on the forest floor.



Pine Harvest on the Randolph Tract.
PHOTO BY Jason Green

Within a few years we will revisit the inventory plots put in by Tom Nelke, Pioneer's 2009 intern from the University of Missouri and also contact the Institute of Botanical Training to complete another herbaceous plant inventory so that we can determine how our treatments have changed the forest composition and herbaceous composition. We hope that this management will increase the vigor and health of our pine and allow this area to regain the open woodland character similar to that found in the adjacent Virgin Pine area.

INVOICING PROGRAM

Pioneer has been using a timber invoicing program designed and written by Clint Trammel, our former Forest Manager. This program provides for recordkeeping and volume calculations and for calculating tax basis information. We are now undertaking an update of the program that will save us time, paper, and redundancy. To make these changes will require rewriting the software program to current operating system standards. We have asked the Foundation's Advisory Council member, Dr. David Larsen at the University of Missouri-Columbia for his help in addressing these issues. Dr. Larsen is very familiar with Pioneer Forest and has a graduate student working on this project. Together they are designing a completely new invoicing program that will share all of the components of the old program, but with increased flexibility to better suit our needs.

FOREST INVENTORY PROGRAM

One of Pioneer Forest's most valuable assets is our forest inventory that began in 1952. Currently we have nearly 500 permanent plots on the forest with the longest-running and most extensive forest inventory in the state of Missouri. We have contacted Dr. Larsen to help design a new component of our inventory program that will allow us to map individual trees within a given plot. This will allow us to see several different things. We will be able to see the trees' spatial distribution within each plot and be able to map crown dimensions of each individual tree. Each tree will be identified by number and Location and will have its species, diameter, and height information typically included in our Pioneer Forest inventory for each plot of trees, collectively. This will increase the detail of our current inventory and allow us to better understand how the uneven-aged single tree selection method and gap dynamics work to sustain our forest.

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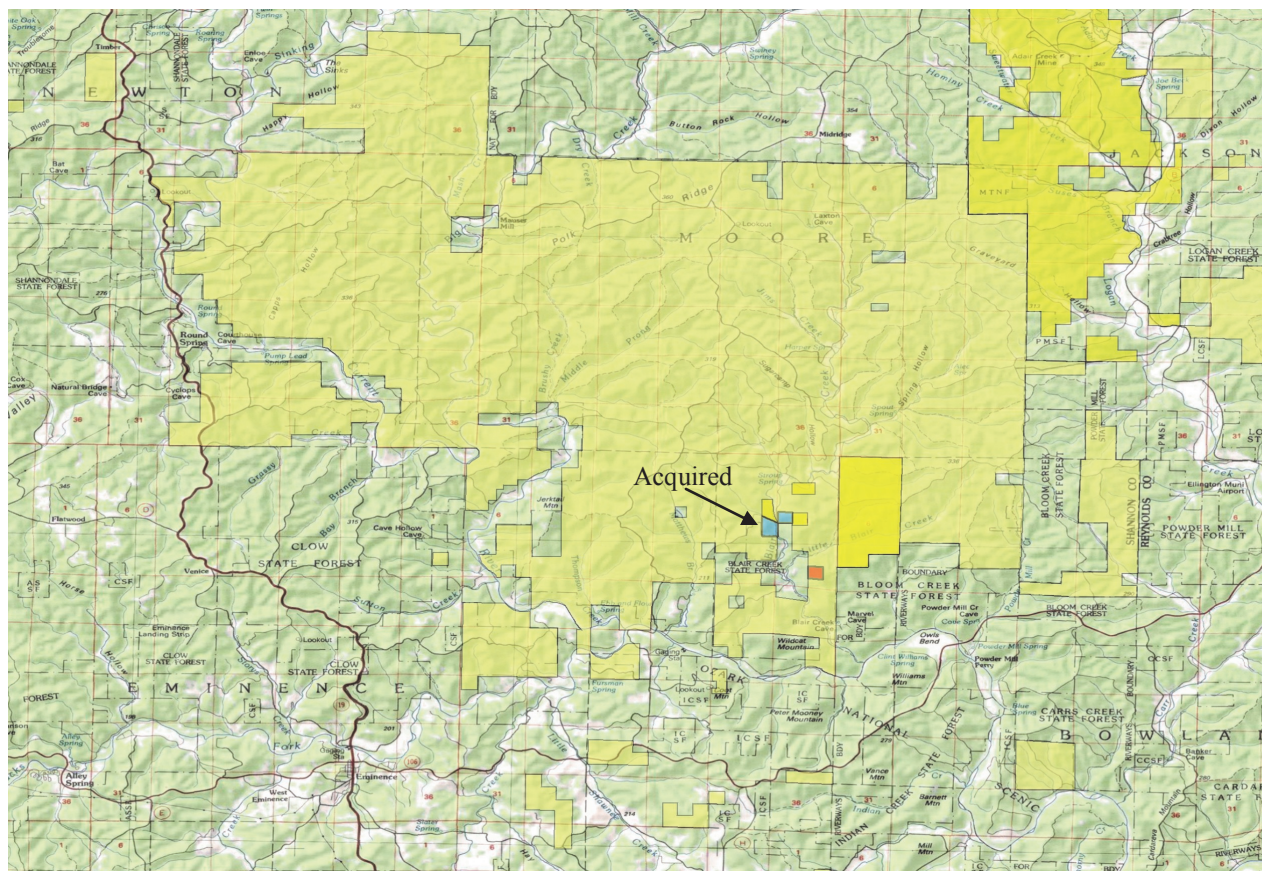
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Land Consolidation

PURCHASED LAND

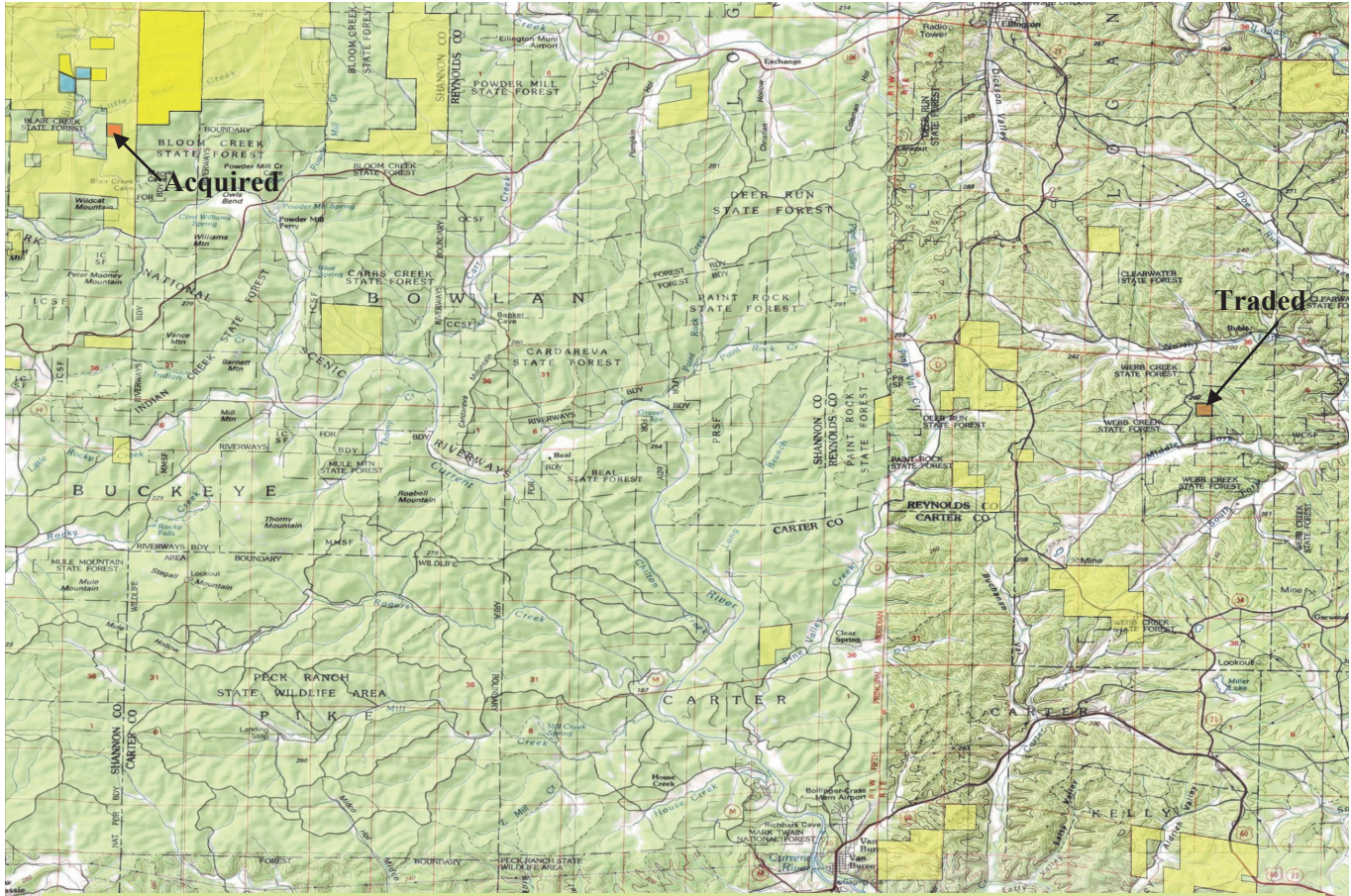
During the past year, the following parcel was purchased for Pioneer Forest, LLC:

An 86-acre tract was acquired from Shirley Jean Ferguson in May 2010. The property is located in Shannon County Section 1, Township 29N, Range 3W on Blair Creek.



LAND ACQUIRED BY TRADE

An isolated 40-acre tract located in Reynolds County Section 2, Township 28 N, Range 1 East was traded to Herman and Barbara Skaggs to acquire the John Lewis property (40 acres) located in Shannon County, Section 1, Township 29 N, Range 3W. Other Pioneer lands are shown in light yellow.



A property of 40 acres in size traded for 40 acres located within a much larger area of Pioneer Forest.

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Research



PHOTO BY Jered Hayes

INDIANA BAT MONITORING AT MEDLOCK CAVE

Medlock Cave on Pioneer is located on the Current River, just upstream from Bluff School and across from the NPS property known as Flying W. The National Park Service and Missouri State University in Springfield, Missouri, have collaborated on a three-year project to monitor summer activity of all Missouri bats, but particularly Gray and Indiana Bats. Gray Bats have been known to use Medlock Cave for many years, with numbers ranging from a high of 36,000, but down to 9,000 in 2003. The cave entrance is gated. Mist nets and a tape recorder known as an Anabat detector are used to collect information regarding potential habitat. The goal is to develop "best management practices" for significant summer habitat.

FOREST PRODUCT UTILIZATION STUDY

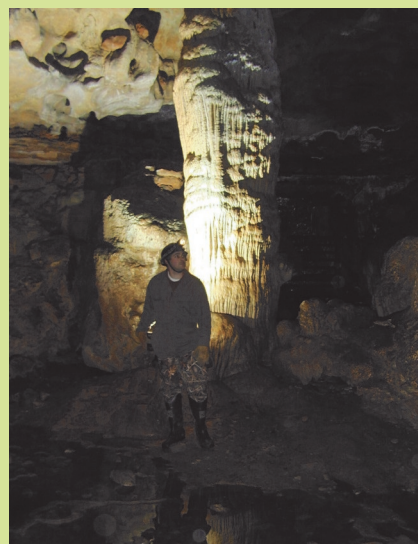
Dr. Peter Becker, with the Eastern Ozarks Forestry Council, has been studying how our loggers adapted to handle the different products through harvesting the blowdown and found there are several different harvesting strategies.

Prior to the storm, many logging operations were marketing only sawlogs and some blocking products. However, the storm damage was extensive in many areas, and many loggers quickly found it was not feasible to haul strictly sawlogs with other products also on the ground and in the way. Therefore, many loggers began to sort into sawlogs, blocking materials, and pulpwood, because all of these products could be pulled to the landing.

Often private landowners are not paid for pulpwood stumpage. One of the key findings of the study was that although low value products such as pulpwood usually do not yield any profits for a landowner, a logger can profitably utilize pulpwood and blocking materials while also



Above: View from the entrance of Medlock Cave with the spring spilling down the hillside and the Current River in the background. Column inside Medlock Cave. PHOTOS BY Missouri Conservation Department, Bill Elliott



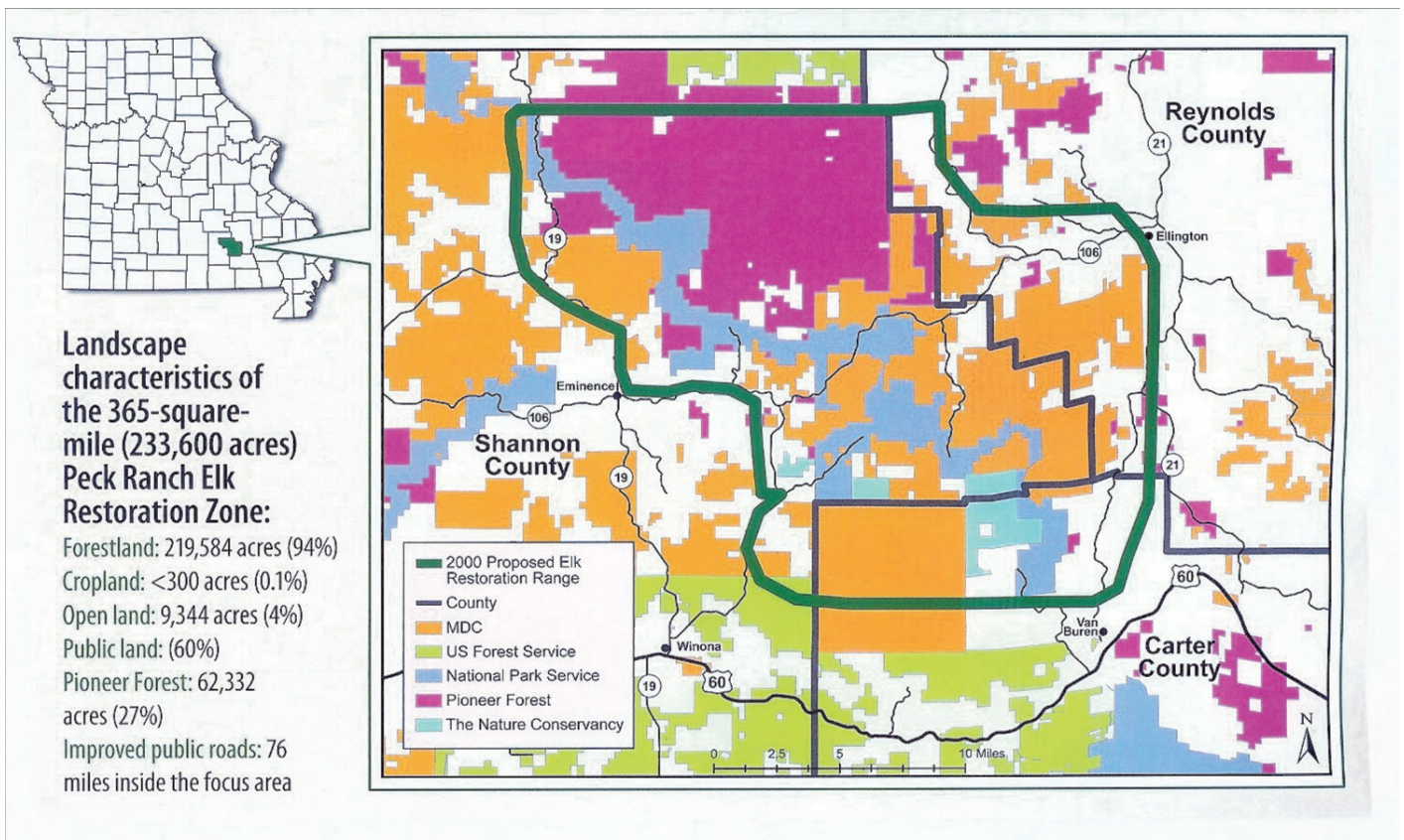
paying a small stumpage fee for these products to the landowner.

ELK REINTRODUCTION

Since as early as the 1970s Leo Drey has been interested in the re-establishment and maintenance of native populations of elk, black bear, and mountain lion in the Missouri Ozarks. He viewed Pioneer Forest as providing an important and sizeable land base for such efforts.

Leo Drey had always offered the lands of Pioneer Forest for research and for potential habitat for these species. Earlier this year, President Karel wrote to the Missouri Conservation Commission and to Governor Jay Nixon to reaffirm support for the idea that elk might be returned to Missouri soil and extending the offer of Pioneer Forest lands for such purposes.

Recent news coverage indicates that MDC is once again actively considering an elk reintroduction program for a limited area of the Ozarks, including Pioneer Forest.



The proposed Peck Ranch Elk Restoration Zone. Pioneer Forest land is shown in purple.
Map courtesy of *Missouri Conservationist* magazine, September 2010.

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Education and Outreach



Students visiting Pioneer Forest.
PHOTO BY Jason Green

VISITS TO PIONEER, TOURS, AND OUTREACH

There were several visitors to Pioneer Forest throughout the past year, including:

David and Janet Carle of Mono Lake, California. In October 2009, the Carle's began a goal of traveling the 38th parallel around the world, seeking water-related environmental and cultural connections, with plans to publish a book (by the University of California Press), documenting their discoveries. Both



Dr. John Lhotka and students from the University of Kentucky
Forestry Department.
PHOTO BY Jason Green

David and Janet worked as park rangers for the State of California for over 27 years, and they have authored several newsletters and non-fiction books. Author Wendell Berry suggested Pioneer Forest as one of their places to visit. The Carle's met with Pioneer Forest staff members Terry Cunningham, Jason Green, and Brandon Kuhn.

University of Kentucky-Forestry Department. Dr. John Lhotka and seven students from his silviculture class toured Pioneer Forest in November 2009 to learn about uneven-aged single tree selection.

Watershed Group of Springfield, Missouri. In April 2010, four Springfield officials investigated forest management on Pioneer and its implications to water quality and watershed management.

University of Missouri-Forestry Department. On April 13, 2010, Dr. David Larsen and a graduate student gave a field demonstration to Pioneer Forest staff on an inventory program that can spatially map trees and give scale-to-tree dimensions on plots in the forest.

Southern Illinois University (SIU). In May 2010, 60 participants in the SIU Forestry Summer Camp toured Pioneer Forest to learn about uneven-aged single tree selection.

Licking High School Science Club. On May 19, 2010, 15 students toured the Virgin Pine Trail to learn

about virgin pine. The students also volunteered their time and helped to re-establish the trail.

University of Missouri. On June 3, 2010, 30 students who were part of the University's forestry summer camp toured Pioneer Forest to learn about uneven-aged single tree selection management.

Logging Profit Workshop. On August 7, 2010, Pioneer Forest sponsored a workshop for loggers to demonstrate how to utilize an assortment of products and remain profitable. Presentations were given by Pioneer Forest staff, Peter Becker of the Eastern Ozarks Forestry Council, and Bill Stuart and Laura Grace from Mississippi State University Extension. Approximately 50 people were in attendance.

INTERNSHIP

This past summer Eric McDonald, a Ph.D. candidate from the University of Missouri-Columbia, began work on a three-part project to assist operation on the forest. As described elsewhere in this report, Eric is designing a new computer software program to be used in calculating timber volume and producing invoices. Eric also plans to redesign Pioneer's software that has been used to analyze and produce summary information from the forest's Continuous Forest Inventory (see Forest Management section).

PIONEER FOREST FISH FRY

Beginning in 2007 Pioneer Forest has hosted an evening of fellowship and dinner at the Salem office grounds in conjunction with the Board's spring meeting. The Foundation and Pioneer Forest invite neighbors, contractors, friends, community leaders, elected officials, and others we have worked with. This past year's event was held on April 29, and more than 100 guests, staff, and Board members were in attendance.



2010 Pioneer Forest Fish Fry.

Pictured l-r (back row): Department of Conservation Director Bob Ziehmer, State Senator Frank Barnitz (D-Lake Spring), and L-A-D Board Treasurer Wayne Goode. Front row: L-A-D Chairman Leo Drey, L-A-D Board Secretary Kay Drey, Rep. Jason Smith (R-Salem), Leon Cambre, and Mark Twain National Forest Supervisor David Whittekiend. PHOTO BY Donald Dodd, courtesy of the *Salem News*.

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Recreation and Natural Areas



Hikers along Blair Creek.
PHOTO BY Bob Gestel

Virgin Pine. Three years after numerous small saplings were removed beneath the large shortleaf pine in Shannon County, much more sunlight is reaching the ground, producing a thick growth of knee-high oak brush. Plans are to begin to reduce this young oak brush. It will likely require several years to complete the one-mile long stretch along both sides of Highway 19. A group of high school students from Houston, Missouri, visited the Virgin Pine in May and completed trail maintenance and a small piece of trail tread reconstruction work.

Cave Spring. This spring, May 16-17, a crew of 14 seniors from John Burroughs School in St. Louis and several crew leaders from Americorps joined together to complete maintenance and light trail tread restoration on the Cave Spring Trail. National Park Service staff assisted with the project.

Lily Pond Natural Area. Scattered trees were blown down here and across the surrounding Pioneer Forest property during the severe derecho winds of May 2009. A Pioneer timber sale has cleared the forests' woods road but left downed trees within the sinkhole basin uncut. This property was donated to the L-A-D Foundation in 2006 by the Nature Conservancy. Pioneer will provide signage onsite to acknowledge the assistance of The Nature Conservancy in acquiring this property.



Pictured is L-A-D Board member Dorothy Ellis with Matt Kantola of the Grand Gulf State Park at its Anniversary celebration. PHOTO COURTESY OF Missouri Division of State Parks.

AREAS UNDER SPECIAL MANAGEMENT AGREEMENT

Missouri Department of Natural Resources, Division of State Parks. The Roger Pryor Pioneer Backcountry and two other L-A-D Foundation properties (Dillard Mill State Historic Site and Grand Gulf State Park) are under lease agreements with the Missouri Department of Natural Resources, Division of State Parks.

Grand Gulf State Park, Oregon County. On September 19, 2009, Grand Gulf State Park celebrated its 25th Anniversary. Board member Dorothy Ellis, who had worked to preserve this property, was in attendance.

The 25-year lease for the park was amended and brought up-to-date, modeled in part after the earlier amended lease for Dillard Mill. The new lease was signed by both the Foundation and DNR on February 4, 2010.

Dillard Mill State Historic Site, Crawford County. The machinery at the mill had been operable off and on up until the past year. Water from the Huzzah Creek passes through a raceway, and the pressure forces gears to turn the milling machinery inside. Part of the raceway is a cleanout area with steelwork that has become unhinged and jammed with gravel, rock, and debris. These components and the fittings have become damaged and are too dangerous to clean out or continue to operate.

At its October 2009 meeting, the Foundation Board voted to offer financial assistance to the state DNR, providing that the DNR finalize its own financial commitment. DNR staff reported they planned to use an in-house historic site work crew as opposed to more expensive contract labor.

The L-A-D office received notice in early September 2010 from the DNR that an upcoming event was planned for September 18, 2010, to celebrate restoration work of the mill. The celebration would include a viewing of the mill in operation, a tour of the interior first floor, and performances by local musicians.

Roger Pryor Pioneer Backcountry. This area of approximately 61,000 acres is the largest single block of land for outdoor recreation in Missouri. In addition to its size, its geography is significant in that it joins National Park Service, Missouri Conservation Department, and Mark Twain National Forest lands. Within the area there are few public roads, and the landscape and working forest are undeveloped. It affords primitive recreation on a grand scale.

Creation of the Backcountry was led by Leo Drey and began as an entirely Pioneer Forest initiative. The staff marked the entry points with Backcountry signs, established the first trailhead, and produced the first area brochures. Several years later, the Division of State Parks (DSP) sought an agreement whereby DSP would lease the property with joint tenancy; Pioneer would continue its forest management; and DSP would provide recreation, law enforcement, and park system publicity to a larger audience.

Volunteers continue to contribute the most significant labor force for trails research, marking, development, and maintenance. There are approximately 27 miles of developed trail, and the proposed 12 miles of Current River Trail are to be developed beginning this fall/winter.



Top photo: interior view of Dillard mill. Bottom photo: exterior view of the mill. PHOTOS BY Greg Iffrig



An Ozark Trail Association and Sierra Club joint outing was conducted in the Backcountry February 20-21. There were 12 volunteers who sawed through numerous downed trees to clear about 3-4 miles of the south end of the Ozark Trail.

During the period of May 18-20, a small crew of about eight seniors from John Burroughs High School in St. Louis joined Backcountry trails crew staff from Johnson's Shut-Ins State Park to work on trail reconstruction. The work site was above Satterfield Hollow on a trail leading to Bee Bluff.

Agreement was reached this year for the first time for Ozark Trail Association to complete mowing work on several old fields where Pioneer's Blair Creek section of the Ozark Trail is located. This work will occur twice a year to keep the route open, visible, and hikeable.

The Foundation's goal is to insure that the Roger Pryor Pioneer Backcountry consistently meets the expectation of those who come to visit. Law enforcement, as well as attention to the Backcountry trails maintenance and new construction, are essential to ensuring an enjoyable experience for visitors.

Over the years, the law enforcement function has been provided by part-time or full-time staff depending on other park system needs. Today the position is unfilled, a result of staff reductions last fall. Pioneer depends on DSP law enforcement to curtail problems. During the holiday weekends of Memorial Day, Fourth of July, and Labor Day, it is particularly important to establish the presence of a park ranger. During these weekends, visitation is higher and off-road vehicle travel into the Big Creek valley, and at several areas along Blair Creek, has occurred.

Re-establishing consistent law enforcement is a high priority for the continuity of positive public experience at this unique property.

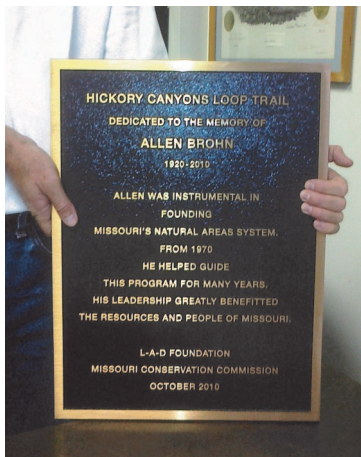


Workers at Brushy Creek Trails.
PHOTOS BY Bob Gestel



Missouri Department of Conservation (MDC) Overview. *The Foundation also leases seven other properties for management to the Missouri Department of Conservation (Ball Mill Resurgence/Blue Spring Branch, Clifty Creek, Dripping Springs, Hickory Canyons, Horseshoe Bend, Piney River Narrows, and Rocky Hollow).*

Hickory Canyons Natural Area, Ste. Genevieve County. The management plan for the site is still being drafted. In discussions following the death of Allen Brohn, the Foundation and MDC officials agreed to name the loop trail at Hickory Canyons the "Allen Brohn Trail," and to mark it with an engraved bronze plaque. The dedication has been scheduled for Sunday, October 3, 2010. Allen Brohn was a founding member of the L-A-D Foundation Board.



Pictured above is the bronze plaque to be installed at the loop trail at Hickory Canyons.
PHOTO BY Greg Iffrig

Clifty Creek Natural Area, Maries County. In the fall of 2009, L-A-D and MDC staffs had a site visit to review planning issues. A new draft management plan is being developed.



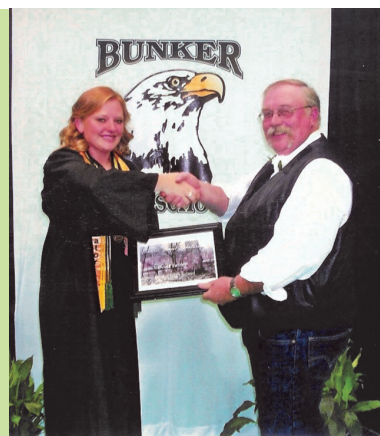
Natural Bridge at Clifty Creek Natural Area.
PHOTO BY Greg Iffrig

Ball Mill Resurgence. Restoration work on the Shafer tract has continued throughout 2010, with the ongoing conversion of farm fields, using seeding of native grasses and forbs, and some controlled burning. Plans for this year also include expanding the original two-car parking area to accommodate four to five vehicles.

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Grantmaking and Community Outreach



Pioneer Forest staff member Dan Skaggs presenting college scholarship assistance to Bunker High School student Danielle Swiney.
PHOTO BY Pioneer Forest staff

FOUNDATION GRANT PROGRAM

Since 1962 the L-A-D Foundation has given more than 65 grants, totaling over \$300,000, to various groups with projects that support the Missouri Ozark region. Examples of support have included environmental and conservation education, grassroots organizing, restoration, and scientific research. The Foundation distributes general submission guidelines and deadline information annually to more than 100 organizations and individuals. This information is also posted on the L-A-D website.

Friends of Ozark Riverways. Beginning in the summer of 2009, the Foundation provided a grant for the Missouri Coalition for the Environment's research project to establish a database about the Ozark National Scenic Riverways (ONSR) management problems. The Coalition hired a consultant, Jerry Sugerman, to lead a major effort to identify all the motorized vehicle routes to the Current and Jacks Fork rivers. Aerial photographs taken in 2007 show at least 130 mapped routes that have now become part of a GIS-based system. When the ONSR was established in 1964, only 14 motorized access routes were envisioned to provide launch, camp, and other public services along the ONSR's 134 shoreline miles. Additional information is being gathered to identify the increasing pressures being placed on the rivers and their watersheds. This includes the collection of on-the-ground information needed to resolve the over-development challenges and other management issues. The information is to be used to seek broader public recognition of the continuing need to preserve the ONSR and its outstanding river resources.

2010 Grant Program. In April 2010, the Grants Committee received 17 grant proposals. Among the requests this year were many worthy projects. It was nice to see not only familiar organizations, but new ones as well. Finalists were asked to submit additional proposal information by August 16, 2010. Final proposals are being reviewed by the Committee. Grant checks will be presented by a Board member in person to each of the organizations in November 2010.

COMMUNITY SUPPORT

Throughout the year, the L-A-D Foundation and Pioneer Forest contribute to various projects and community groups.

Summersville Fire and Rescue - Flat Rock Station. The Flat Rock Community was offered a 99-year lease from the Missouri Department of Conservation for land on which to construct a fire station at the tower site. Plans include a two-bay station to house two fire trucks and shelter space for the community in case of power outages. Pioneer Forest made a financial contribution to the project in May 2010.



Pictured is a display room in the Ozark Natural and Cultural Resource Center (ONCRC).
PHOTO BY ONCRC

Ozark Natural and Cultural Resources Center (ONCRC) - Salem, Missouri. In June 2010, Pioneer Forest gave a grant to the Center in support of its ongoing programs and exhibits. The venue attracts many visitors each year and provides natural and cultural information about the region, including free exhibits and hands-on workshops on Ozark life. The Center showcases Pioneer Forest poster panels within its entry display area.

Salem Area Community Betterment Association. The city of Salem celebrated its Sesquicentennial (150-Year) Anniversary during the July 4, 2010, holiday weekend. Events included the Salem Heritage Festival, fireworks, and more. Pioneer Forest gave a donation toward the costs of hosting the events.

37th Annual Natural Areas Conference - Osage Beach, Missouri. The L-A-D Foundation joined a number of other sponsors of the Natural Areas Association Annual Conference to be held October 26-29 at Tan-Tar-A Resort in Osage Beach, Missouri. More than 500 natural resource professionals from around the world will attend the four-day conference. Highlights of the conference will include workshops, field trips, and symposia offering continuing education credits through traditional professional societies.

High School Scholarships. In 2010, Pioneer Forest awarded college scholarship assistance to Bunker High School student Rebecca Swiney and to Eminence High School student Ethan Piatt. Both students plan to pursue careers relating to science. Each scholarship is in the amount of \$1,500 and is awarded based upon academic achievement, financial need, and service to the school and community.

"Pioneer Forest Team,

I would like to thank you for choosing me as the winner of your scholarship. The generous amount you have given me will be used wisely in order to make the most of my college education."

*Thank you,
Danielle Swiney*

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Current River at Bee Bluff
PHOTO BY Greg Iffrig

Public Policy Issues

NATIONAL PARK SERVICE, OZARK NATIONAL SCENIC RIVERWAYS

Overview. Ozark National Scenic Riverways (ONSR) was created by an Act of Congress and signed into law in 1964. The creation of this national park was widely supported by members of the General Assembly, the Governor, and by many residents of the Ozarks. Saving the Current River from a dam helped inspire the creation of this park as the country's first national river.

Missouri contributed three state parks as part of this effort to protect significant areas of the Current River watershed. The L-A-D Foundation is the largest private property owner adjacent to the river and the park. It owns nearly 1,000 acres of scenic easement lands along the two rivers, and the largest block of contiguous Pioneer Forest includes three permanent streams that feed the Current River namely, Blair, Big, and Brushy.

The Foundation has always viewed good management of the park as essential for providing rewarding experiences for the 1.5 million visitors each year. It is also important for supporting the river-based and tourism-related economies of many small Ozark towns and communities. The value of this national park derives from the lasting and positive influences that well-managed national parks have always provided to rural communities across America.

Revising the National Park Service General Management Plan (GMP). The development of the park's GMP has been ongoing since 2006 when an initial series of public meetings was held to gather information and to outline issues of concern. This led to a series of alternatives that the NPS published and distributed to the public in 2009. Following a series of meetings that were held in southeastern Missouri, Columbia, and St. Louis, there was substantial public input to the NPS during the summer of 2009.



Pictured is a vehicle featuring a Friends of Ozark Riverways bumper sticker calling for public support.

PHOTO BY Greg Iffrig

On February 24-25 this year, NPS staff from the Riverways and the Denver Service Center held a workshop in Rolla as part of the ongoing GMP effort. There were more than 40 people in attendance, representing various organizations including the L-A-D Foundation. The issues

discussed included the increase of motorized boats and vehicles and of horse trails along the river. The NPS has been considering the ideas offered at this meeting along with other information from Park Service research and analysis as development of the revised General Management Plan continues.

According to the NPS website for ONSR, the agency “will be doing additional work in 2010 and 2011 to revise and refine the planning alternatives and develop the agency’s preferred alternative. Included in this process will be work to better understand the impacts of these alternatives on the natural, cultural, social, and economic environment of the riverways. The park will also be seeking funding to complete studies in the areas of social and natural science to support agency decisions.” The concluding dates of the NPS planning process and the public’s review remain uncertain regarding the Draft General Management Plan.

Carter Riley Field. In March 2010, the L-A-D Foundation and Pioneer Forest staff met with ONSR representatives to discuss an NPS proposal to develop an additional park road within the ONSR, along with a campsite, parking area, and restroom.

Onsite, and following the visit with ONSR staff, the Foundation objected to an alarming pattern of increased development of the river corridor. In a follow-up letter of March 12, 2010, we stated: “The Ozark Riverways has been degraded because of many dozens of decisions just like this one. Each is rationalized as a convenient solution to a specific problem, except that over time the general condition of the Riverways shifts from a natural river park to a poorly designed, poorly maintained, nearly continuous series of small, medium, and large motor-vehicle drive-up recreation sites.”

Our work with others. The L-A-D Foundation has been committed to respectful management of the Ozark Riverways and has called on the Park Service to bring management of these resources up to national park standards. Board and staff have been mindful of damaged resources, a general lack of law enforcement, and the continuing physical development of the river, both planned and unplanned. The development comes in the form of many unauthorized routes for ATV and other motorized intrusions, private cabins, agency facilities, and facilities for commercial horse use and associated river-bank trails. These problems have reached a level that now threatens the long-term integrity of the park and this fragile, valuable Missouri resource.

The Foundation has joined with others who also recognize these problems, and together we are discussing realistic solutions. Local residents, former NPS staff, park visitors, individuals, and organizations have formed a broadly based organization known as Friends of Ozark Riverways (FOR).

"1.3 million people a year are visiting the ONSR park. If the Riverways is rutted, over-crowded, congested with vehicles, horses, and motorized boats, this Ozark gem will soon lose its appeal. Furthermore, a river that is closed for potential health problems becomes an economic disaster. The natural resources of the Current and Jacks Fork rivers have reached a tipping point where further damage could permanently impair the likelihood of their ever being restored . . . It will take leadership from the national headquarters to reverse poor management practices and to commit the resources essential to restore the ecological health of the Riverways and to guarantee their economic viability for the local communities."

**Leo and Kay Drey
Letter to Senator Claire
McCaskill
May 19, 2010**

The Foundation works with and provides support to the Friends of Ozark Riverways organization to research and document the most serious problems on the river. We hope this will be helpful to the NPS, and to others as well, as this important public conversation continues.

MARK TWAIN NATIONAL FOREST

The L-A-D Foundation Board and Pioneer Forest staff have continued to be in touch with Mark Twain officials on matters of mutual interest. We support USFS' efforts to restore the Ozark's native pineries. We contributed positive comments on their Pine Knot project several years ago (2003) and at the time offered to collaborate on a 220-acre parcel of Pioneer which that project surrounds.

More recently, this spring we renewed our interest in that work and provided verbal support for a much expanded effort (potentially affecting 110,000 acres) known as the Collaborative Forest Landscape Restoration Program directed primarily at shortleaf pinelands. This project area extends from around Akers Ferry southeast through Shannon County, into the western side of Carter County, reaching to the Current River. Pioneer's land base in this region is small but does include significant pine under our management at the Randolph tract and at the Virgin Pine area. We have expressed interest and support and will continue to be helpful where we can be.

In early July, the Foundation met with Forest Supervisor Dave Whittekiend to discuss the following: the USFS proposal to expand shortleaf pine management (prospects for funding seem good); joint NPS/USFS interest in the Big Spring wilderness study and proposal near Van Buren; blowdown and salvage timber around the Devil's Backbone area; Greer Spring Mill; and wilderness monitoring.

GREER MILL

The Foundation continues to support the stabilization of Greer Mill. The Greer Mill property is owned in fee title by the USFS Mark Twain National Forest. A small portion of the bigger property containing the Greer Mill, cabins, and the small house immediately across from the mill are under lease to the Dennig family until 2013. Many people are hopeful that the mill building can be cleared of the brush growing around it and other structural assists can be completed to extend the life of the mill building that is a key landmark of Oregon County and Ozark history.



Greer Mill, Front Facing Northwest. Photo from "*Greer Mill and Greer Spring on the Eleven Point National Scenic River: An Historic Site Assessment for the Mark Twain National Forest*," (masters thesis) by Clara Lee Gunn Rutherford of Middle Tennessee State University, Murfreesboro. December, 1994.

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Administrative Issues

FOREST STEWARDSHIP COUNCIL (FSC) CERTIFICATION



Pictured is a poster approved by
SCS to market Pioneer's FSC products.
PHOTO BY Dale Dufer

In early 2010 Pioneer Forest was audited by Scientific Certifications Systems (SCS) of Emeryville, California. During the audit proceedings, minor areas of concern were identified but were quickly addressed and resolved within a week. SCS awards Forest Stewardship Council (FSC)-endorsed certificates to forest management operations that are properly managed in accordance with environmentally and socially responsible guidelines, as outlined by the FSC Standards of Forest Stewardship. FSC is broadly considered the world's leading forest certification system. The final follow-up report from SCS described Pioneer Forest as "well-managed."

Pioneer Forest Lumber, LLC was formed in December 2008 for the purposes of buying, owning, and processing timber grown on Ozark woodlands managed in accordance with principles and practices of mixed-age, mixed-species selective timber harvesting. Pioneer Forest Lumber, LLC is awaiting a group FSC Chain of Custody (CoC) certificate from the Woodnet Market Council.

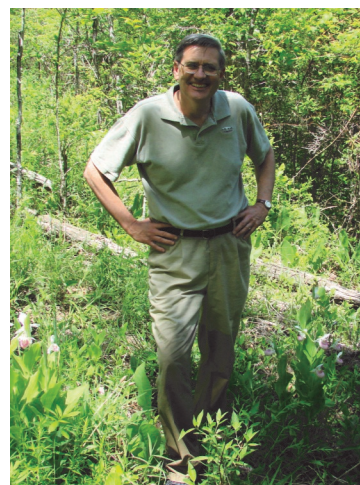
Holding an FSC-CoC certificate will entitle Pioneer Forest Lumber, LLC to market and sell wood products as "FSC Certified."

STAFF AND BOARD MEMBER RECOGNITIONS



Vice-President, Dr. Susan Flader.
Photo Courtesy of Great Rivers Environmental
Law Center

On Thursday, October 29, 2009, Board President John Karel, and Vice-President Dr. Susan Flader were honored with "Lewis C. Green Environmental Service Awards" by the Great Rivers Environmental Law Center at the Center's Fourth Annual Awards Dinner in St. Louis. The award was given to both individuals for their many years of dedicated work on behalf of wildlands, parks, and the environment.



Board President, John Karel.
PHOTO BY Dan Drees

Pioneer Forest Manager, Terry Cunningham was the recipient of the “Forest Conservationist of the Year” Award by the Conservation Federation of Missouri. The ceremony was held on February 26, 2010 at the Lodge of the Four Seasons at Lake Ozark, Missouri. Staff and board members Greg Iffrig, Jason Green, Susan Flader, and John Karel were in attendance for the presentation of the award.

Retired Pioneer Forest Manager, Clint Trammel also received this award in 2004.

ALLEN BROHN MEMORIAL

In March 2010, the L-A-D



Brohn

Photo courtesy of *Jefferson City News Tribune*
March 24, 2010

Foundation received news that former Foundation Board member Allen Brohn had passed away. Brohn was well respected for his service to the Foundation and to the Missouri Department of Conservation, where he formerly served as Assistant Director. President Karel contacted Brohn’s son David to offer condolences on behalf of the Board, and soon afterward notified the family that the Foundation plans a permanent remembrance of Allen by naming the main trail at Hickory Canyons in his honor, as the "Allen Brohn Trail." The news was shared with Brohn’s family at his funeral services. Upon learning of the dedication, some of Brohn’s relatives sent memorial donations to the L-A-D office. A trail dedication ceremony is set for October 3, 2010.



Terry Cunningham with the “Forest Conservationist of the Year” award. On the left is Greg Iffrig, and pictured at right are John Karel and Jason Green.
PHOTO BY Martha Cunningham

LEGAL PROCEEDINGS REGARDING DAMAGE AT BIG CREEK

In January 2009, Pioneer Forest staff reported damage to our lands along Big Creek in Shannon County, near Mauser Mill. The damage was the result of direction given to Shannon County road crews and a contractor by the County Commission. Actions included the transfer of many tons of gravel, clay, and large boulders from our property into the creek, and resulted in severe damage to our property and the water quality.

In the spring of 2010, heavy rains washed away much of the gravel and other damage to Big Creek. The State of Missouri intervened in the Foundation’s lawsuit against Shannon County, and all parties have asked the Corps of Engineers to revisit what action to take. Bruce Morrison of the Great Rivers Environmental Law Center is working with a consultant regarding proposed remediation.



Pictured is an example of damage caused at Big Creek in 2009. PHOTO BY Jered Hayes

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Financial Summary

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*As of June 30, 2009

Assets:	Cash/Savings	831,023
	Receivables	37,599
	Prepaid Expenses	4,914
	Inventory	42,699
	Investment Securities	1,048,103
	Forestland and Timber	120,532,973
	Land and Equipment	2,031,830
Total Assets		124,529,141
Liabilities:	Refundable Deposits	31,700
	Accrued Expenses	56,115
	Retirement	432,914
Equity:	Unrestricted Net Assets	124,008,412
Total Liabilities & Net Assets		124,529,141
Revenues:	Contributions	226,790
	Timber Sales	1,494,622
	Interest and Dividends	30,167
	Other Income	12,195
Total Support and Revenues		1,763,774
Program Expenses:	Timber & Forestland	2,169,971
	Education & Outreach	99,672
	Grants Made	14,975
Total Program Expenses		2,284,618
	Administrative Expenses	203,815
	Stock Losses	484,220
	Excise Taxes	324
Total Expenses		2,972,977

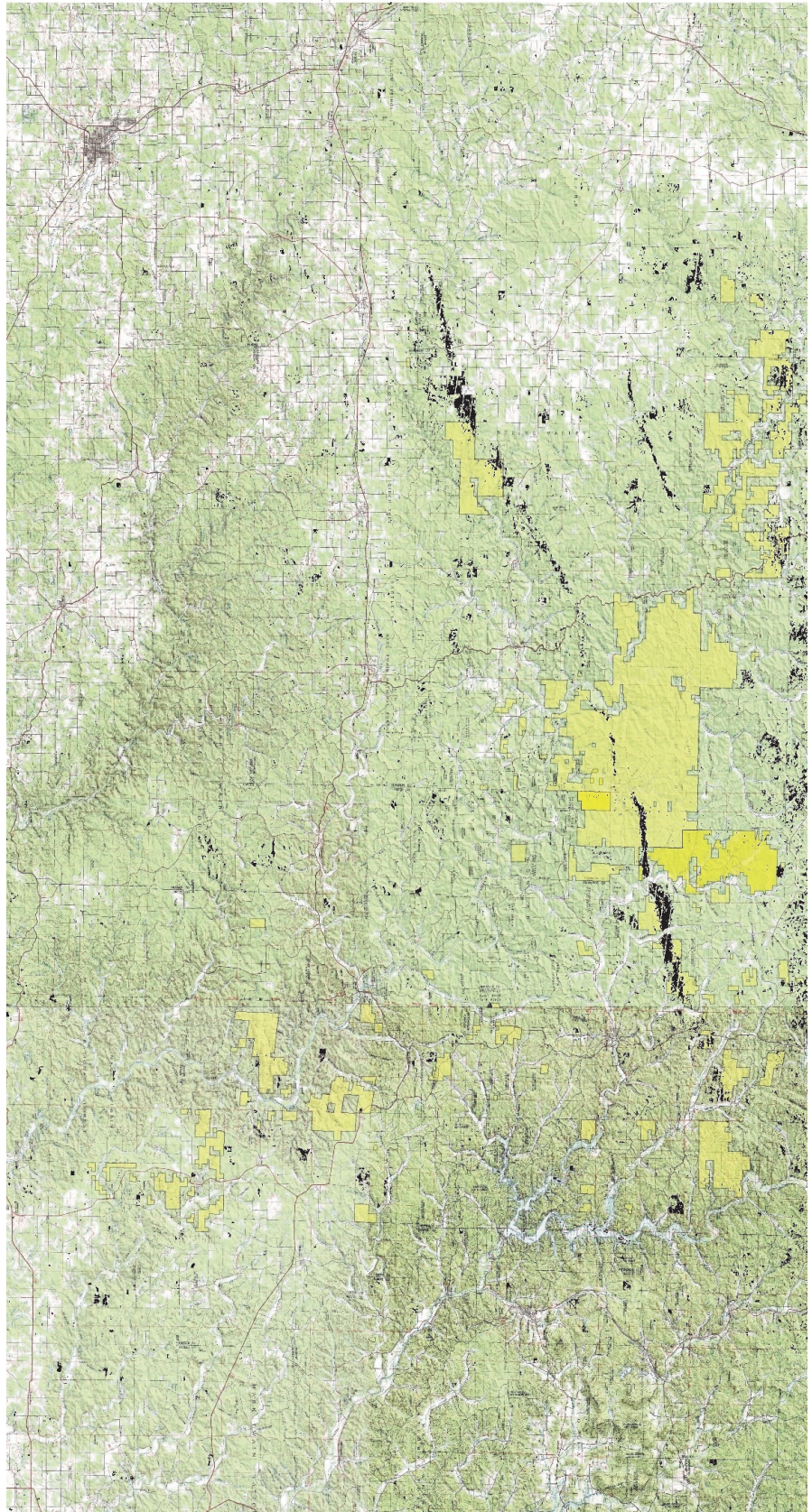
*Timber and Forestland are stated at cost, or if donated, at the approximate fair value at the date of donation, less accumulated depletion for timber previously harvested.

**Includes 1,047,807 of depletion from harvested timber, a non-cash expense.

The fiscal year of the L-A-D Foundation is July 1 to June 30. The summary financial information shown here has been taken from the IRS form 990 PF Annual Return of Private Foundation.

2010 Annual Report of the L-A-D Foundation

Appendices



Data used was provided by the USGS and illustrates canopy change where areas shown are most affected by tornado damage and straight line wind damage.

L-A-D FOUNDATION LANDS RECOGNIZED BY VARIOUS STATE OR NATIONAL PROGRAMS

<u>NAME</u>	<u>COUNTY</u>	<u>RECOGNITION, DATE, SIZE</u>
Ball Mill Resurgence	Perry	Missouri Natural Area ¹ , 1979, 19 acres
Clifty Creek	Maries	Missouri Natural Area, 1971, 230 acres
Current River	Shannon	SAF Natural Area ² , 1955 and Missouri Natural Area, 1977, 10 acres; Addition, Missouri Natural Area, 2005, 255 acres; total 265 acres.
Dillard Mill	Crawford	Missouri Historic Site ³ , 1977, 130 acres
Dripping Springs	Texas	Missouri Natural Area, 1973, 8 acres
Grand Gulf	Oregon	National Natural Landmark ⁴ , 1971 and Missouri State Park ³ , 1984, 159 acres Missouri Natural Area, 1986, 60-acre portion
Hickory Canyons	Ste. Genevieve	Missouri Natural Area, 1973, 420 acres; Addition, Missouri Natural Area, 1979, 530 acres; total 950 acres
Horseshoe Bend	Texas	Missouri Natural Area, 1973, 69 acres
Lily Pond	Reynolds	Missouri Natural Area, 1975, 8 acres
Piney River Narrows	Texas	Missouri Natural Area, 1971, 50 acres
Pioneer	Shannon	SAF Natural Area, 1964 and Missouri Natural Area, 1977, 20 acres
Rocky Hollow	Monroe	Missouri Natural Area, 1973, 191 acres National Register of Historic Places, 1974, 191 acres
Roger Pryor Pioneer Backcountry	Shannon	Lease to Missouri State Parks, 2005, 56,675 acres
Scenic Easements	Shannon, Carter	National Park Service, Ozark National Scenic Riverways, 1970, 951 acres
Triple Sink/ Sunklands ⁵	Shannon	Missouri Natural Area, 1980, 23 acres; Addition of 19 acres- included as part of Sunklands Natural Area in 1999, (total of 42 acres)

Pioneer Forest LLC Forest Reserves⁶

Bluff School, Medlock Cave	Shannon	Established, 1995, 51 acres
Fishtrap Hollow and Marshy Spring Hollow Fens	Shannon	Established, 1995, 45 acres
Laxton Hollow	Shannon	Established, 1995, 145 acres
Leatherwood Creek	Shannon	Established, 1995, 1003 acres
Old Schoolhouse Hollow Fens	Shannon	Established, 1995, 140 acres
Sinkhole Ponds Complex	Reynolds	Established, 1995, 45 acres
Sutton School Hollow Fens	Shannon	Established, 1995, 75 acres

¹The Missouri Natural Areas System began in 1971 with the first areas owned 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 Missouri Department of Natural Resources to review and approve natural areas throughout the state under a variety of public and private ownerships.

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

³State Historic Sites and State Parks are managed by the Division of State Parks, Missouri Department of Natural Resources.

⁴The National Natural Landmarks program is administered by the National Park Service. Grand Gulf is among fewer than 600 sites designated in the United States.

⁵Originally 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.

⁶The concept for Forest Reserves was discussed by Pioneer Forest staff in 1994; in 1995, the management plan for each of these areas was defined along with boundaries, and following Leo Drey's agreement and the endorsement of the Foundation Board, the program was adopted.

GLOSSARY OF TERMS

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

Advanced regeneration – Seedlings or saplings that develop or are present in the understory.

Age class – An aggregation of trees essentially 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 – The conditions of having a variety of biotic characteristics and traits (e.g., genus, species, and community types), life history stages, structural forms (e.g., stratification, zonation, and the physical structures of plants), biotic patterns (e.g., reproductive activity, food web, social, and interactive), and functions (e.g., nutrient cycling, hydrological cycling, and provision of habitat). Also termed “biodiversity.”

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

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.

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 left unmanaged or is managed to reduce the impact 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 is only 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 Swainsons 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.

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 coarse 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% 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% 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.

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

Forest – Generally defined as an area with over 60% canopy cover.

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.

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:

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 are in or 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.

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 of these characteristics 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 flowing stream that gradually gets smaller or disappears due to the loss of some or all of the flowage into below-ground channels or caverns.

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).

MBF – Thousand board feet.

MMBF – Million board feet.

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 ecosystems 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.

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 landscape – A landscape characterized by widely spaced trees with an understory of native grasses and shrubs. Savannas are suitable for wildlife species not generally found in closed-canopy landscapes.

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, that 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% 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% - 90% 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% 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, allowing 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.

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 – An index value obtained from the measure of a larger region divided by the measure of many small measuring surfaces.

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 bladdernut 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 each acre 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. 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.

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, dead and lying on the forest floor.

Woodland – Generally defined as an area with less than 60% canopy cover.

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

SEPTEMBER 2010. 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*.

Other publications and information about the Foundation or Pioneer Forest are available from the L-A-D Foundation, 705 Olive Street, Suite 724, St. Louis, Missouri 63101 or from Pioneer Forest, P.O. Box 497, Salem, Missouri 65560. Information is also available at www.ladfoundation.org or at www.pioneerforest.org.



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