

Pioneer FOREST

Beginning with a characteristically modest desire to harvest timber responsibly, while maintaining the scenic integrity of the Ozark forests he loves, he has created a domain that now embraces 160,000 acres of woodland He manages his land conservatively, with an emphasis on preservation and low-density recreation as well as "selective" logging; he forbids clearcutting on his Pioneer Forest.

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Pioneer Forest is part of the extensive oak, hickory, and pine forests of the Missouri Ozarks. Situated in an area of spectacular springs, clear rivers, towering bluffs, and numerous caves, these lands include significant portions of the watersheds of the Jacks Fork and Current rivers. Pioneer Forest lies in a remote region that is considered the heart of the Missouri Ozarks.

Since the 1950's, Pioneer Forest has been operated by Leo Drey, a businessman and conservationist from St. Louis. For nearly half a century, Pioneer Forest has restored these Ozark woodlands through conservative, natural forest management, and has preserved ecologically important areas and notable landscape features.

How Pioneer Forest Began

The history of Pioneer Forest actually begins nearly 100 years ago. Most of the Ozark area which is now part of the forest was owned by a variety of individuals and lumber companies. Companies such as the Current River Lumber Company, Bunker-Culler Trust Association, Current River Land and Cattle Company, Forked Leaf White Oak Lumber Company, and Missouri Lumber and Mining Company owned large tracts of Ozark land within the watersheds of the Current and Jacks Fork rivers.

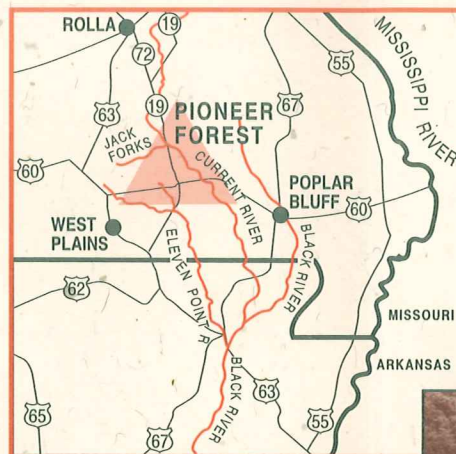
Much of the land was forested, with white oak and shortleaf pine as the predominant forest species, intermingled with other species of oak, hickory, gum, ash, and elm. Pine and white oak were of primary interest to these early lumber companies.

Pioneer Cooperage, of St. Louis, started a land

acquisition program during the early 1900's. Altogether the company accumulated about 90,000 acres in Shannon and Reynolds counties by the early 1940's. Shortly before it deeded its land to National Distillers Products Company in 1946, the company began a program of selective harvest, rather than the complete removal of trees which was being practiced elsewhere in the Ozarks. Supervised by professional foresters, E. W. Woods and Charles Kirk, this became a sustainable, efficient, and very effective method of forest management. In 1953, National Distillers decided to sell all its land holdings in the Ozarks.

Leo Drey had begun acquiring forest land in the early 1950's. He had purchased about 37,000 acres when the distillery's lands were put up for sale. In 1954, Drey purchased this large block of forest land—about 90,000 acres—along with office and warehouse buildings in Salem. This is the largest single land purchase for conservation by any organization or individual in Missouri history.

Leo Drey continued acquiring land in Missouri, most of it managed forest, he has also purchased other important lands for preservation. Altogether there are nearly 160,000 acres in this unique, privately-owned land base.



Current River as it flows through Pioneer Forest



Forest Management

Pioneer Forest is one of the nation's best examples of uneven-age management of a central hardwoods forest. This individual-tree management technique maintains a continuous and diverse natural forest on the land.

Harvests within the forest generally occur at 20-year intervals. Each

section of the forest is inspected and past harvest records are reviewed. Once the decision to harvest an area is made, each tree is assessed on site and individual trees are selected and marked for cutting based upon age, species diversity, spacing, tree quality, and forest canopy. During each harvest, care is taken while removing trees to minimize damage to the forest.



A forest scene immediately after a selective harvest

The ideal forest condition in the Ozarks is one that maintains trees in three to four different age classes, allowing sustained, intermittent harvest from all sizes of trees. Forests which are managed through even-age methods (clear-cutting) lack this forest structure. At Pioneer Forest the mix of age classes generally includes a seedling and sapling stage, an understory layer, and mature age classes in the forest canopy.

The closed canopy of the forest is broken during harvest by the gaps created when trees are removed. These gaps allow light penetration through the canopy to the forest floor and provide for regeneration. Our field work shows that shade intolerant oaks and hickories have increased; shade tolerant species such as black gum, maple, and dogwood have not increased significantly, after almost 50 years of such management.

This forest management system provides a dynamic opportunity for forest development and succession which are essential for the continuity of the forest. A naturally maintained forest will undergo a similar process,

but the age of a natural old-growth forest is greater, and these same changes of regeneration, replacement, and succession occur more slowly through natural selection, old age, disease, lightning, and fire. Our management style mimics these natural processes, and in both cases the presence of a natural, reoccurring forest on the land is continuous.

Preventing erosion is necessary to protect and improve the high quality of our Ozark streams. Our method of forest ecosystem management is protective of soils in a region where almost half of the forest, located within the watersheds of the Black, Current, and Jacks Fork rivers, contains hillsides which exceed a 20 percent slope.

Forest Research

Permanent research plots, one for each 320 acres of the forest, were established in 1952 to initiate a continuous forest inventory. Measurements from these one-fifth-acre plots are taken every five years with information recorded on species composition, diameter, height, and tree condition. Such data provide valuable information on the effect of our forest management program on species diversity, forest composition, and forest health, thereby enabling us to monitor changes taking place in the forest.

This nearly 50-year study is the longest-running and most extensive forest research effort in Missouri. We have found that

our harvest methods have caused both the number of trees as well as harvestable volume per acre to increase since each harvest only removes approximately 45% of an area's volume. The annual growth each year exceeds the

Forest inventory began on Pioneer Forest in 1952



volume cut or lost to natural causes.

Our experience has demonstrated that uneven-age management is the best way to improve the health of a forest ecosystem in the Midwest hardwood region. Because the forest canopy is never completely removed, a wide range of benefits such as continuous forest cover; snags for wildlife, den trees and cavity-nesting birds; and numerous recreational opportunities are always present throughout every area of Pioneer Forest.

Neighboring landowners can see evidence of the value of maintaining a continuous quality forest through selective harvest and the resulting opportunity to produce income from their own land at regular intervals. Our long-term work on Pioneer Forest demonstrates that landowners can harvest trees two to three times during their lifetime, and still maintain a continuous forest cover. Such landowners can then pass along a quality forest and good land stewardship practices to the next generation.

Other Aspects of Our Land Stewardship Efforts

When Leo Drey began acquiring forest land in the Ozarks, he also acquired other areas significant to Missouri and the Midwest, such as fens, springs, sinkholes, caves, glades, bluffs, and natural bridges; an important petroglyph site in north Missouri; a complex karst area featuring a collapsed cave system; several remote sandstone canyons; a protected headwater stream; and old-growth oak, eastern red cedar, and other hardwood forests.

Nine of these properties have been designated as Missouri Natural Areas in recognition of their significant biologic and geologic characteristics. One area, Grand Gulf, is a National Natural Landmark and is managed as a Missouri State Park. A second area, Dillard Mill State Historic Site, is also managed as a Missouri State Park, and two areas are registered in the Society of American Foresters' National Natural Areas Program as Research Natural Areas.

Perhaps even more important is the role of Pioneer Forest as a large conservatively managed landscape within the Ozark region. Pioneer Forest lands are extensive and

protect nearly complete watersheds of several streams that are tributaries to the Current and Jacks Fork rivers, which are both part of the first national rivers park. Pioneer Forest lands also buffer a 15-mile long section of the Current River. One area of Pioneer Forest extends for



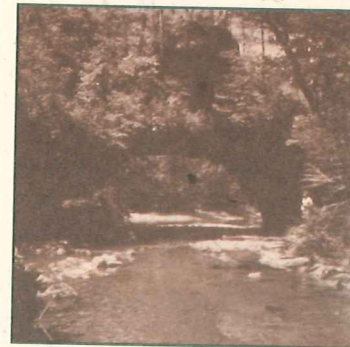
One of nearly 100 caves found on Pioneer Forest

nearly 100 square miles; this part of the forest is the largest contiguous piece of land in Missouri under one ownership.

Pioneer Forest offers a unique site for research and has been the subject of a number of individual and university studies on Missouri's natural history. Silviculturists for the adjacent national forest have used Pioneer Forest lands to aid in the development of techniques for uneven-age forest management on public lands.

Recreation on Pioneer Forest includes no restrictions on hunting and fishing to persons licensed by the Missouri Department of Conservation. Primitive roads are used for automobile drives through the forest, a traditional Ozark pastime. There are trails for hiking. Pioneer Forest includes a 13-mile section of the 500-mile-long Ozark Trail for either long-distance backpacking,

Natural Bridge on Clifty Creek



or for short strolls through such scenic areas as the Blair Creek Valley. Pioneer Forest is also used for camping, picnicking, and nature study.

Leo Drey is a recognized leader in the field of conservation and wise land use. As a tribute to his thoughtful, conservation-minded approach to the land, he has been honored by the American Motors Conservation Awards Program, Sierra Club, American Forest Products Industries, Conservation Federation of Missouri, American Forestry Association, U.S. Department of the Interior, American Rivers, Missouri Forest Industries Committee, U.S. Environmental Protection Agency, American Fisheries Society, Landscape Architecture Foundation, United Sportsmen League jointly with Hunting and Fishing Weekly, Northern Logger, Missouri Coalition for the Environment, Ozark Regional Land Trust, Garden

Dillard Mill, one of Missouri's best preserved water-powered mills.



Club of America, Ozark Fly Fishers, St. Louis Audubon Society and the Missouri House of Representatives.



Sierra Club volunteers constructed 13 miles of Ozark Trail through Pioneer Forest.

This brochure has been prepared by Pioneer Forest staff for educational purposes. For more information write:

Pioneer FOREST

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