

Trees Tell the Story



FIRE SHAPED THIS FOREST

Trees tell the story of fire in the forest. As trees put on new growth each year, their rings record details about the climate and fires that occurred. Scientists use tree rings to decode centuries of forest history.

Up the mountain slopes you will see ponderosa pine and Douglas-fir trees that have learned to live with fire. Tree rings from nearby reveal that fire crept low across the ground on south-facing hill sides, occasionally getting into the tree tops. This is nature's way of cleaning out overgrown brush and trees.

The thick bark and deep roots of ponderosa pine and Douglas-fir help the trees withstand the creeping ground fires. Ponderosa pine trees also shed their lowest branches, which helps prevent fire from creeping up into the tree's needles.

Water for people downstream

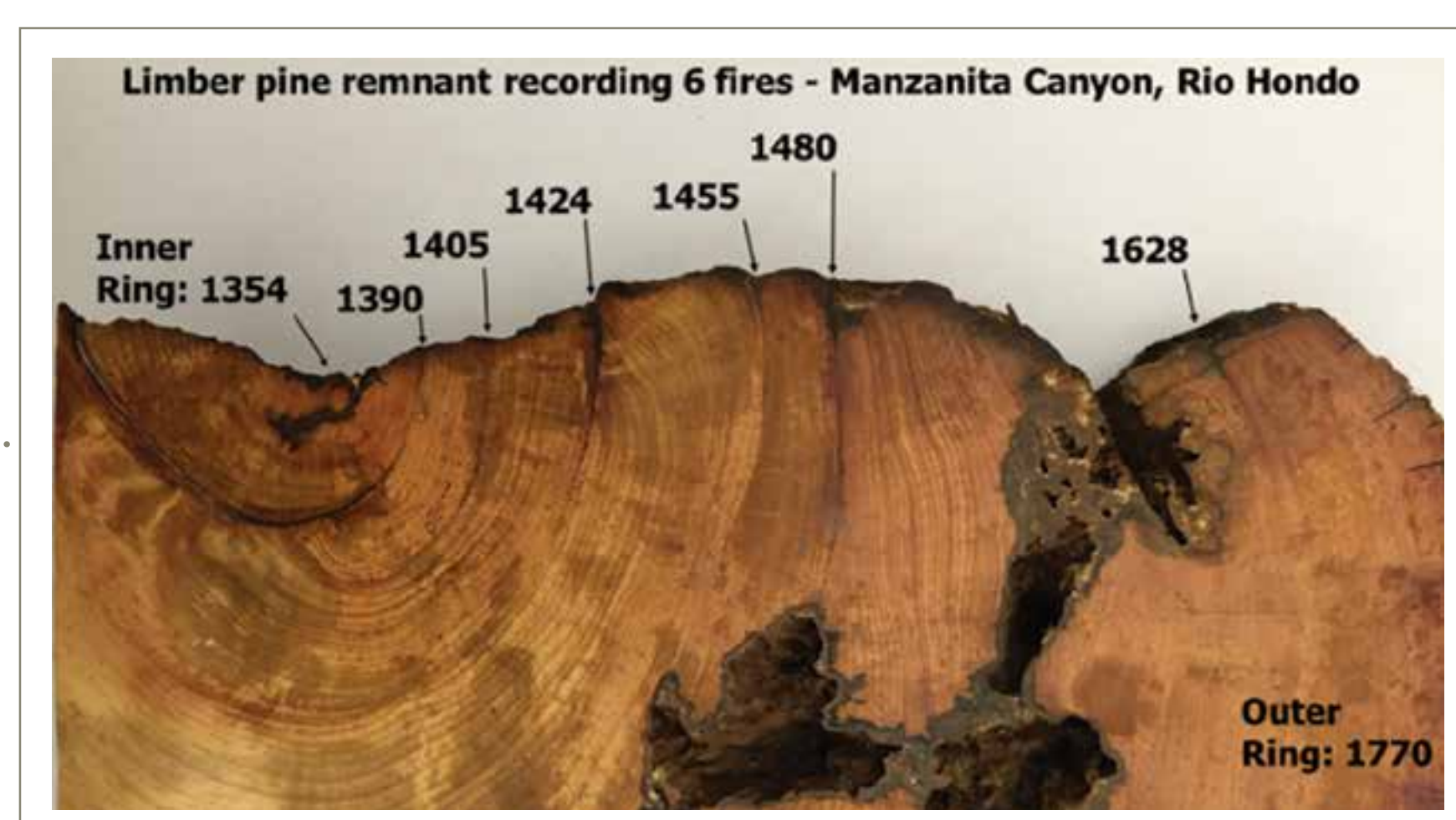
Water from the Rio Hondo is important to people downstream, just as it has been for centuries. Spanish settlers dug acequias (irrigation ditches) by hand to get water to their farms. The settlers grazed their sheep and cattle in the forests that were carpeted with grass after frequent fires.

The arrival of railroads meant access to markets and, by the 1880s, sheep and cattle outnumbered people 17 to one. Livestock ate the grass that had previously fueled fires. Nearby trees with fire scars reveal that the last fire was in 1860. Without fire to remove the young tree seedlings, trees flourished and created the overgrown forest you see today.

Fishing is a favorite pastime along the Rio Hondo, where anglers find rainbow and brown trout, and native Rio Grande cutthroat trout. A drop of water that enters the Rio Hondo could end up in the Rio Grande, where rafting is popular in spring and summer.



At left, the photo shows a forest as it might have looked in the 1800s. Thick bark on the trees protects them from wildfires that burn along the ground. At right, acequias, such as this one from the nearby Rio Lucero, carried water to farmers' fields. © U.S. Geological Survey; © Rothstein, Arthur, 1915-1985 Farm Security Administration



The photo above shows a cross-section from a fallen log found a few miles from here at 8,800 feet in Manzanita Canyon. The tree started growing in 1354 and recorded six fires before it died in 1770. © US Geological Survey



LEFT TO RIGHT The photo at left shows a low-intensity ground fire that is burning grass and tree seedlings, but not the larger trees. The photo at right shows a high-intensity crown fire that is burning tree tops and will kill most of the trees. © Collin Haffey; © Kari Greer National Interagency Fire Center

Restoring the forest and stream

Fire has not burned here for more than 100 years. Without nature's cleansing, seedlings of pine, fir and spruce took root and crowded out the leafy deciduous trees that grow along the stream. Then the fire danger increased, as each tree fuels the fire to burn hotter and faster.

The photos at right show how many trees there were in 2017. Imagine how fire might climb from the ground, burn into the small trees, and then through the treetops.

Arrows point to trees that foresters chose to leave in place. Often, after cutting out the pine, fir and spruce trees, foresters will use prescribed burning to mimic natural fire.

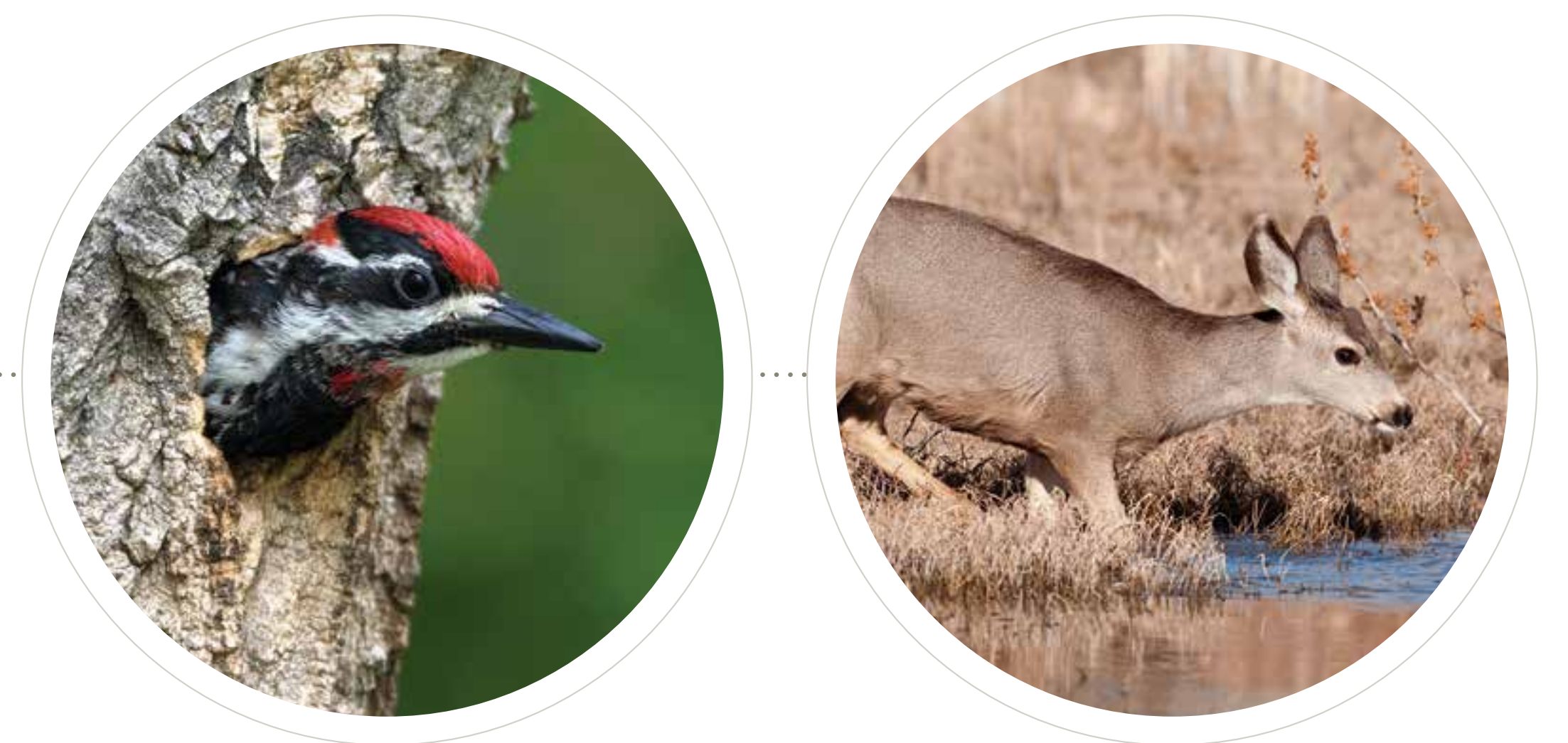
See if you can find some of the trees pictured in the photos. As time goes by, you may see even more leafy plant growth than was captured in these photos.



In the absence of fire this streamside forest has become overgrown. The conifer trees, (left) had better survival without fire, but they crowded out the deciduous trees and shrubs that are typical along streams. Narrow leaf cottonwood, (right) is thriving after the restoration thinning. © Peter Walker

A streamside home for animals

Water supports life, and this restored streamside forest is home to a variety of wildlife including Rocky Mountain elk, mule deer and black bear. The large deciduous and aspen trees are habitat for many birds, too, including red-naped sapsucker (pictured) and several flycatcher species. As trees fall over and become hideouts for small mammals, decaying logs and fungi serve as food for red-backed voles. These fallen logs also host a myriad of insects that, in turn, support hairy woodpeckers and several other birds, including some that nest in the still-standing dead fir and pine trees. Forest restoration should increase the number of small mammals and birds found here, improving habitat for hawks that hunt, like the northern goshawk.



LEFT TO RIGHT Red-naped sapsucker makes its home in a tree. Mule deer come to the Rio Hondo for water. © Alamy; © iStockphoto



How we work together

The Taos Valley Watershed Coalition is working to restore the Rio Hondo and other forest areas that supply water to people in the Taos Valley and the Rio Grande basin. The Coalition's goals are to reduce overgrown trees and brush that act as fuel for fires and to restore natural fire when and where it is safe to do so. Some of the partners include: Carson National Forest, The Nature Conservancy, Taos County, Taos Pueblo, Town of Taos, Taos Soil and Water Conservation District, Taos Ski Valley Inc., Trout Unlimited, Village of Taos Ski Valley, FireWise communities and others.

The Taos Valley is a focal area for the Rio Grande Water Fund: a public-private partnership with over 60 agencies, organizations and businesses participants. The Water Fund goal is to restore 600,000 acres of at-risk forests over 20 years to secure critical water sources for 1 million people from Taos to Albuquerque and beyond. We are grateful to the Taos Ski Valley Foundation for its support of the Rio Grande Water Fund.



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