

Why Manage Our Forests?

As a visitor to the Colorado State Forest, you've likely come here to enjoy its aesthetics, solitude and wild, undeveloped setting. You might wonder what's happening to the forestland when you see broad swaths of beetle-killed trees or clearings created by recent timber-harvesting operations. While changes like these may seem dramatic, these forests are dynamic, undergoing constant change, and forest management plays a critical role in the long-term health of the State Forest.

Lodgepole Pine Ecology: Disturbance-Driven Forests

About 50 percent of the forestland at the State Forest is composed of lodgepole pine trees. These trees tend to grow up together and be of about the same age (in an "even-aged stand"). When lodgepole pines grow old, they rely on a large-scale disturbance to regenerate a new forest. Disturbances can include wildfire, bark beetle epidemics or even harvesting that mimics natural disturbance. Lodgepole pines are specially adapted to take advantage of disturbance by regenerating prolifically shortly afterward. Thus lodgepole pines have serotinous cones that require a heat source, such as a wildfire or summer heat, to open and release the seeds, and young pines require the abundant sunlight of an open forest to mature.



Mountain Pine Beetle: Nature's Way

The lodgepole pine stands at the State Forest have become old and less resilient in recent decades, requiring a disturbance to stimulate the growth of new trees. As a result of more than a century of wildfire suppression, lodgepole pine forests in Colorado haven't been able to regenerate through natural disturbance brought on by fire. Additionally, periods of drought have stressed the pines. These factors together contributed to a recent mountain pine beetle epidemic in Colorado and the State Forest. The mountain pine beetle is a native insect to Colorado that typically infests trees older than 80 years. While the peak of this epidemic has passed, many of the gray, dead trees remain standing.

Forest Management: Finding a Balance

The Colorado State Forest Service harvests trees here for a variety of reasons. They pose a risk to visitors so removing them from nearby campgrounds, trails and critical infrastructure is a high priority.

- Harvesting dead standing timber while it still has commercial value supports local jobs and produces low-carbon-footprint wood products such as construction materials, firewood and wood pellets for stoves.
- Revenues from the sale of forest products on the State Forest support public schools in Colorado through trusts managed by the State Land Board.
- Removing dead trees reduces the fuel load available for potentially catastrophic wildfires.
- Active forest management fosters new lodgepole pine growth and provides long-term benefits for the forest, wildlife and visitors.



Strategies for Long-term Forest Resilience

Foresters at the Colorado State Forest Service manage the forests here for present and future generations, with all actions guided by a long-term management plan. While visiting the State Forest, you can observe this work: forest thinning to increase tree growth, piling branches and other forest materials for later removal to mitigate wildfire risk, and creating tree age and species diversity to form a mosaic across the landscape.

Special consideration is given to minimize any forest treatment's impact on the environment, including retaining patches of aspen for wildlife habitat, leaving organic matter on the ground to prevent erosion and retain soil moisture, minimizing the impacts of logging on watersheds through careful road placement, and post-harvest restoration such as leaving cones as a tree seed source on the ground and re-seeding openings with native grasses.

Benefits of Managing the Forest

- Enhanced biodiversity of plants and animals in the forest
- Improved forest health through increasing the age and species diversity of trees
- Reduced risk of catastrophic wildfires
- Improved habitat for wildlife
- Safer recreation for visitors
- Reduced carbon footprint by utilizing locally produced wood products
- Economic benefits including the creation of local jobs, production of wood products, and generation of revenues for Colorado public schools



What's Next for this Forest?

After a large disturbance such as wildfire, harvesting operations or insect epidemics, lodgepole pine forests begin to recover almost immediately. Typically, grasses and wildflowers emerge in the new forest openings within a year, and smaller trees within five years. Once established, lodgepole pines can grow a foot or more each year. Young trees are already flourishing in beetle-killed areas where timber harvests allow additional sunlight to reach the forest floor.

The life cycle of a forest is much longer than a human life, and we are witnessing only a small part of the grand scheme of this forest's life cycle. With careful management today, these forests will thrive long after we are gone.

About the Colorado State Forest

Established in 1938, the Colorado State Forest is a 71,000-acre property in north-central Colorado managed by the State Land Board (SLB). Here forestry, grazing, recreation and wildlife coexist on a working landscape that generates revenue for Colorado public schools. The CSFS manages the forest resources through an agreement with the SLB.

For More Information

To learn more about forest management at the Colorado State Forest, visit csfs.colostate.edu/districts/colorado-state-forest/, or contact CSFS_StateForest@mail.colostate.edu or 970-723-4505.

For information on recreation opportunities at the State Forest, contact state.forest@state.co.us or 970-723-8366.

