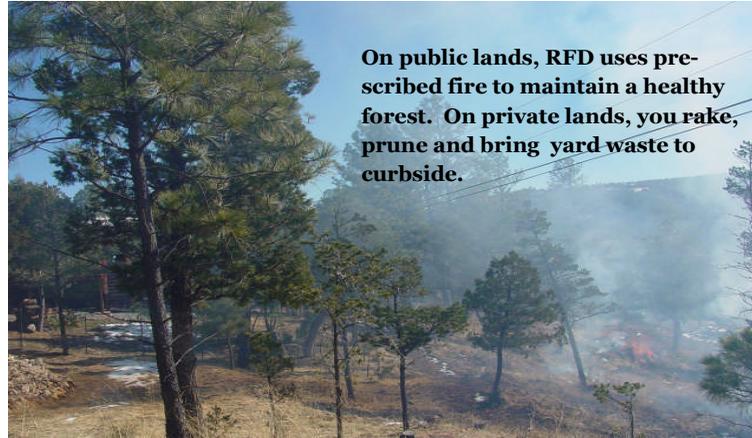


Different Forest Types (trees communities), Different Fire Regimes (frequency & intensity)

Fire ecologists tell us that fire regimes in southern New Mexico forests have changed and are different today than 100 years ago due to various human impacts. Not all forest types were affected the same way. The forests with historically frequent, low intensity fires were impacted most because of their dependence on fire to clean the forest.



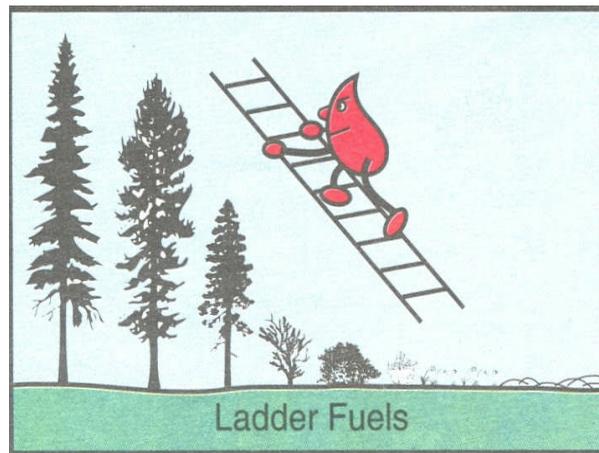
On public lands, RFD uses prescribed fire to maintain a healthy forest. On private lands, you rake, prune and bring yard waste to curbside.

Pinion-Juniper (<6500' elevation) Historically, fires would burn every 15 to 50 years. Pinion-juniper forests would burn less frequently because they did not have a grassy understory to help carry the fire. Fires created openings with patches of grass, shrubs and small bunches of pinion and juniper trees. Today, because of human impacts, dense stands of pinion and juniper are encroaching on meadows and burn much more intensely.

Ponderosa Pine (Ruidoso Area) Research indicates low-intensity fires occurred at least once a decade. These fires usually burned on the ground reducing seedlings but did not kill mature ponderosa pines. This high-frequency, low-intensity fire regime has been documented for ponderosa pine forests throughout the southwest. Crown fires (in the tree tops) were extremely rare since ground fuels were light and the crowns of trees were generally spaced widely apart. Today these ponderosa forests are more crowded, with tree crowns closer together or touching, increasing the probability of more lethal crown fires. In addition, grasses and shrubs are more prominent creating **ladder fuels** that allow fire to move vertically into the crowns.

In Ruidoso, yearly pine needle raking and pruning do the same “maintenance” on the forest floor as frequent, low intensity fires once did.

Mixed-Conifer (>7500' elevation) This is a complex forest with a complex fire regime. It has dry and wet extremes. The cool, moist mixed-conifer forest historically burned every 35 to 100+ years. Research suggests that suppression of fire has resulted in an increase of white fir in the understory, increasing the ability of wildfires to spread and intensify.



Ladder Fuels

For More Information Contact:
Village of Ruidoso Forestry (575) 257-5544
421 Wingfield Street, 8AM–5PM Mon-Fri
www.ruidoso-nm.gov

State of New Mexico Forestry (575)354-2231
www.nmforestry.com

Smokey Bear Ranger District (575)257-4095
www.fs.fed.us/r3

County of Lincoln (575) 258-9991
www.lincolncountynm.net

Village of Ruidoso Fire Department 257-4116
www.ruidoso-nm.gov/Fire Dept

Village of Ruidoso Solid Waste Department
(575)257-1502



Firewise www.firewise.org/



This brochure is produced by:
The Village of Ruidoso Forestry Department



Prescribed fire is used to simulate natural wildfires that removed built up ground fuels

Fire's Natural Role

Fire is not new to New Mexico forests. Research through tree-ring studies shows that fires reoccurred periodically for thousands of years and were a natural, healthy part of the ecosystem.

In this area fire occurred every 2 to 10 years and kept tree densities low and the forest floor clear of dangerous fuel build up. Fires started by frequent lightning strikes and burned as low intensity ground fire. Wildfire was our “maintenance man”.

This pattern was altered over the last 100 years by human activities such as logging, livestock grazing, commercial and home construction and general fire suppression. Activities resulted in trees growing too close together and grasses, that carried low intensity ground fire, being reduced.

This disruption to our fire adapted ecosystem, along with increased man-caused ignitions, has resulted in more destructive fires. They often develop into high intensity crown fires in the tree tops and are dangerous, difficult to manage and sometimes catastrophic.

Fire Behavior and your neck of the woods



Our Changing Forests:

In addition to over 100 years of human impacts, our forests are now facing drought and bark beetle infestation. These beetles have always been a part of the forest ecosystem and help mother nature clean up the forest. The effects of overcrowding and prolonged drought have weakened trees and increased beetle populations. Trees stressed from lack of water and nutrients produce a pheromone that attracts bark beetle. Once infested, beetles disrupt the water flow inside the tree causing quick mortality. New beetle generations occur every 4-6 weeks in summer. Drought and beetle-killed trees increasingly raise the fire danger in this region.

Specific beetles attack specific tree species. Most notable are ponderosa, pinion, and white fir. Keeping a variety of species on your property minimized devastation. Call Village Forestry for a free assessment.



Pitch tube is a tree's first line of defense against beetle

IPS beetle in Ponderosa pine



Fir engraver beetle tracks in White Fir

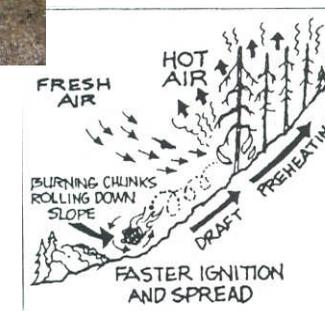
Topography, or the lay of the land, plays a big role in fire behavior. Homes situated on hill-sides, in canyons, and on ridge tops are particularly vulnerable. Fire travels faster uphill and afternoon winds travel upslope as hot air rises, pushing fire even faster. Homes built in steep terrain need larger areas of defensible space, particularly on the downhill side. Aspect, or the direction the slope faces, is also a factor. South-facing slopes tend to be hotter and drier, north-facing slopes cooler and wetter.

Weather elements that determine fire behavior are relative humidity (RH), temperature, and wind. Low RH and high temperatures decrease the amount of moisture in the vegetation and increase the chances of a fire starting. Once a fire is started, wind can push it, making it grow quickly out of control before firefighters can arrive on the scene. When developing defensible space, determine the predominate wind direction in the area and factor it into your plans.



Ladder fuel

Fuels, Slope & Weather



Fire Behavior is determined by: Fuels, Topography, and Weather

Fuels, or flammable vegetation, are arranged horizontally, vertically and come in several forms: trees, shrubs, and grasses. Vegetation that grows in continuous horizontal and vertical arrangements (for example, trees and brush next to each other) are the most hazardous, particularly when they occur on slopes. Heavy fuels such as brush and trees, produce a more intense and longer lasting fire than lighter fuels like grasses. Breaking the chain of continuous fuels up to and around a home will slow a fire and bringing it to the ground, where firefighters can stop it. In some cases, defensible space alone can deter fire even if firefighters are not present.

Call, click or come in to get a copy of the specifications in Section 42-80 to see what to do: 10 feet; 30 feet; and 60 feet from structures and on vacant lots.

Because fire is a natural part of the forest ecosystem, it will always be present in the **“wildland-urban interface”**. This term is used to describe communities like Ruidoso where homes are built in and around forested areas. Understanding fire behavior will help homeowners determine the best plan of action when creating **defensible space**. The best defensible space manages vegetation to allow fire to burn past a home, on the ground, without getting hot enough for long enough to ignite the structure. Specifications in Section 42-80 helps property owners achieve this goal.

Heat, Oxygen, Fuel – Basic Combustion

Fire needs heat, oxygen and fuel to burn. Take one of those elements away and the fire can not burn. Firefighters remove fuels by creating firelines and fuel breaks, and remove oxygen and heat with water and fire retardant. Homeowners can help by creating defensible space around their homes.