

TECHNIQUES AVAILABLE TO MANAGE VEGETATION FOR FIRE PROTECTION

Within the fire environment of fuels, weather and topography, the fuel component is the only one which can be modified in the attempt to reduce or eliminate the wildland fire threat. Changing the fuel characteristics can effectively reduce the fire hazard or the fire intensities to a point where the fire threat is manageable. Fuel treatment options range from elimination of all fuels to create a firebreak to reducing the fuel's quantity. These options will be effective in breaking up the continuous fuels and isolating fuels or your home or development.

1. Hand Clearing - The most common method for the homeowner. Debris must be removed from the site or piled for later burning under safe conditions with a burning permit. Common tools include rakes, axes, shovels, chain saws, pruning saws and the power-string trimmer.

2. Mechanical - A quick method to reduce or remove large amounts of flammable vegetation. Tools and machinery include tractors, mowers and chippers.

3. Grazing - A simple and often overlooked method. Grazing can be a useful method to reduce some grasses and shrubs thereby reducing fuels. Cattle, sheep, goats and other grazers can be employed depending on terrain and vegetation type.

4. Irrigation - During prolonged dry weather, homeowners should irrigate their landscape and surrounding vegetation to increase its live and dead fuel moisture content.

5. Chemical - The application of herbicides either to kill existing plants or to prevent the growth of undesirable vegetation.

6. Thinning - Thinning involves removing a portion of the trees in a given area while leaving others. Various spacing of leave trees can be used depending on objectives. Spacing will usually vary from 10 feet to 20 feet between leave tree crowns.

7. Pruning - Pruning is usually done at the same time as thinning. After the trees to be removed are thinned out, the remaining trees are pruned. Pruning can be used to reduce fuels by removing the lower portion of tree crowns. Both dead and live lower branches are removed during the pruning operation. This removes unwanted ladder fuels that can carry fire from the ground to the tree tops. Pruned trees should retain a minimum of 30% live crown after pruning. That means that at least 30% of the total tree height is composed of live branches.

8. Logging - Selective logging under carefully prescribed conditions will reduce the fuels on a site, and in some locales provide a profit from the

harvested trees. Depending on size class and stand conditions, different harvest methods should be used. Methods vary from removing all trees in a given area to removing only selected trees. A trained forester or silviculturist should be consulted to determine the appropriate harvest method. Logging will leave tops and other debris that must be piled and burned, chipped, or taken care of in other ways such as removing from the site.

9. Piling - Piling of residues created by thinning, pruning and/or logging is one way to dispose of the fuel that results from these operations. Piling can be done either by hand, or by machine if there is enough room to operate. Normally, unusable boles, limbs, etc., from thinning and pruning operations, can be bucked up into pieces small enough to hand pile. Unusable logging residue normally requires machine piling. Piles must be kept away from any live vegetation, if the piles are to be burned after they dry out. Small piles can be covered with inexpensive plastic or other material so that the piles can be burned safely during wet weather.

10. Chipping - Another method to reduce the slash is to chip the excess material. This operation leaves small, easily disposed, chips. There are several advantages to chipping. Chipping eliminates the need to burn which can be troublesome due to the chance for escaped fire and smoke dispersion problems. Chipping is normally less expensive than hauling the debris from the site. And, scattering the chips over the site can inhibit grass and shrub growth thus reducing the fine fuels that can carry fire when dry.

11. Prescribed Burning - Prescribed burning is the application of fire to natural vegetation over a broad area. This can be over several hundred acres or as small as a homeowners yard. Prescribed burning can be utilized to reduce the accumulation of flammable debris but must be accomplished under controlled conditions of weather and fuel moisture and must be carried out in compliance with local policies and regulations. Landowners should consult with a fire or fuels management specialist before planning a large prescribed burn.
*Combinations of all of the above treatments can be used effectively depending on vegetation, terrain, and desired objectives.