Bureau of Land Management Fire Cause & Fuels Reduction Glossary

Wildland Fire Cause Definitions

These definitions reflect the various factors contributing to wildland fire occurrences and help provide a better understanding of the potential risks associated with wildland fire management and wildfire prevention efforts.

Natural: Fires that start from natural events, mainly lightning strikes, but also include volcanic eruptions, sparks from falling rocks, coal seams, and spontaneous combustion. While these fires can help with natural processes, they can also be dangerous to buildings and people.

Recreation: Fires kindled for warmth, cooking, light, or religious and ceremonial purposes. Wildfires can occur if campfires or other recreational fires are not managed properly or fully extinguished.

Debris Burning: Fires that spread from burning waste materials or debris outdoors. This includes burning to clear land or dispose of rubbish, which can easily get out of control and lead to wildfires.

Equipment and Vehicles: Wildfires caused by the operation of machinery and vehicles in wildland areas. This includes fires from overheating engines, catalytic converters, or sparks generated by equipment. Activities such as logging, maintenance operations, and recreational vehicle use can unintentionally ignite vegetation if not properly regulated.

Smoking: Fires that occur due to smoking activities, including the careless disposal of materials like cigarette butts, matches, and pipes. If these items are not properly extinguished, they can easily start fires, especially in dry areas.

Fireworks: Any composition or device designed to create a visible or audible effect, including ground-based, aerial, and explosive fireworks. These can accidentally ignite wildland areas, especially if used carelessly.

Power Transmission & Railroads: Fires caused by activities related to railroad operations and power transmission. This includes sparks generated by trains or electrical faults in power lines that can ignite nearby materials.

Minors: Fires started by individuals aged 17 years or younger who engage in unsafe actions with fire, such as playing with matches or firecrackers, which can lead to wildfires.

Undetermined: Fires where the cause is unknown. This can happen if there wasn't an investigation, if the cause wasn't found, or if the area where the fire started was destroyed, making it hard to determine what happened.

Firearms and Explosives: Fires that result from the use of firearms, which are weapons that shoot projectiles and can produce hot materials or sparks. This category also includes explosives, which can ignite fires through flaming debris created during blasting activities.

Other Causes: Any wildfire that does not fit into the identified general or specific cause categories. This category captures any fire that cannot be classified under the other definitions provided.

Fuels Reduction Project Definitions

The following definitions describe terms associated with fuels reduction practices, which are crucial components of effective wildland fire management. These practices aim to reduce the accumulation of combustible materials in forested and wildland areas to mitigate the risk of catastrophic wildfires. From mechanical treatments like chipping and mastication to biological methods such as grazing and prescribed burning, each approach is designed to address specific vegetation management goals while enhancing ecosystem health. Understanding these terms fosters awareness of how various strategies contribute to fire fighter safety, protection of property, and more resilient landscapes.

Mechanical – Referring to any method or practice that uses machines or equipment to perform tasks related to vegetation management, including thinning, mulching, and biomass removal, aimed at reducing fuel loads and improving forest health.

> **Chipping –** A mechanical treatment process where woody debris, such as small trees or brush, is processed into wood chips. This method is commonly used for reducing fuel loads and creating mulch, which can also enhance soil condition.
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> **Crushing –** A method of reducing the volume of larger, woody materials by using heavy equipment to compress or flatten them. This technique is effective for decreasing hazardous fuels and promoting easier decomposition of organic material on the forest floor.
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> **Grazing –** The controlled use of livestock to consume vegetation, which can help manage fuel loads and promote desired plant species. Grazing management is a method applied to reduce the potential for wildfires by decreasing the amount of available fuel.
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> **Hand or Machine Pile –** Techniques involving the gathering and stacking of brush, small trees, and other combustible material into piles for subsequent burning or removal. Hand piles are constructed manually, while machine piles are formed using equipment, often in preparation for prescribed burning.

Lop and Scatter – A method of forest management where the tops and branches of felled trees are cut and left on the ground to decompose. This technique helps maintain soil nutrients and structure while reducing the density of hazardous fuels.

Mastication – A mechanical process where vegetation, including small trees and brush, is shredded and left on-site as mulch. This treatment reduces fuel loads, encourages soil moisture retention, and supports the regeneration of desired plant species.

Mowing – The act of cutting down herbaceous vegetation using specialized machinery. Mowing is employed to maintain clearings, reduce underbrush, and limit the spread of invasive species, ultimately serving as a fire safety measure.

Thinning – A forestry practice aimed at reducing tree density in a stand, which may involve the selective removal of some trees to decrease competition for resources among the remaining trees. Thinning can enhance growth, improve forest health, and reduce fire risk by creating a more open canopy and reducing fuel continuity.

Biomass Removal – The process of removing organic material (e.g., wood, foliage, and other plant matter) from a specific area, typically undertaken to reduce fire hazard, enhance ecosystem health, or support land management objectives. This can include the removal of dead, dying, or diseased trees and other vegetation.

Planned Ignition – The deliberate use of fire under specific conditions to achieve management objectives, particularly in fuels reduction treatments. This practice is typically part of a broader fire management strategy aimed at reducing wildfire hazards and restoring ecological functions.

Prescribed Fire (Rx) – Any fire ignited by management actions to meet specific objectives. Prescribed fires are planned and conducted under predetermined conditions to enhance ecological health, reduce surplus vegetation, and lower the risk of unmanageable wildfires.

Chemical – Referring to the use of herbicides or pesticides as part of integrated vegetation management to control undesirable plant species or promote the growth of desired species. Chemicals can be applied in various settings to manage fuels loads and improve forest health.

Biological – A term relating to the ecological processes involving biological organisms, particularly in the context of management strategies that use biological agents or practices to control or manipulate ecosystems, often for fire risk reduction or habitat improvement.

Seeding – The practice of planting seeds in an area to promote the growth of vegetation, which can stabilize soils and improve ecosystem health. Seeding is often implemented post-disturbance, such as after wildfire or other land rehabilitation efforts.

References:

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