

Building defensible space in your landscape

What's the science behind defensible space? Why does it work?

The concept of defensible space was developed by Forest Service fire scientist Jack Cohen in the late 1990s, following some breakthrough experimental research into how homes ignite during large wildfire events. Defensible space is essential to protect a structure during a wildland fire. It protects the home from igniting due to direct flame or radiant heat. Defensible space is located in the Home Ignition Zone (HIZ), which includes the home and an area surrounding the home within 100 feet.

There are three main ways homes ignite during a wildfire:

1. Embers

Embers are major culprits: Jack Cohen's work and further analysis and studies, including experiments sponsored by the insurance industry, show that not only should the radiant heat exposure be mitigated in the home ignition zone, but exposure to embers as well. In fact, all the research around home destruction and home survival in wildfires point to embers as the main way that the majority of homes ignite in wildfires. For that reason, NFPA recommends methods to prepare homes to withstand ember attack and minimize the likelihood of flames or surface fire touching the home or any attachments (fences, decks, porches) as the first place for homeowners to start working

to prepare their properties.

Homeowners can reduce the risk of ember ignition by doing a few small things around their home.

The first item to focus on is the "fine fuels" around your home. Those are items such as pine needles, leaves, and dry grasses directly adjacent (within 5 feet) or touching your home. Removing these fine fuels from vulnerable areas like the roof and gutters is especially critical to home survival during a wildfire.

The second item is removing flammable plant species from within 30 feet of your home. Plant species such as ornamental juniper, arborvitae, and bitterbrush are particularly flammable. They are also susceptible to ember intrusion and ignition which will ultimately impact the home they are adjacent to. For fire-resistant species, visit FireFree.org for a downloadable guide.

Things such as your patio furniture cushions, bark mulch touching your home's siding, or doormats can also provide a receptive ember bed during a wildfire. Consider moving your bark mulch away from your home at least far enough that there is no direct contact between your bark mulch & wood siding. Cushions and doormats can be stored away during long summer vacations and moved quickly during evacuation situations.

2. Radiant heat

Radiant heat is heat transmitted by

radiation as contrasted with that transmitted by conduction (direct flame contact). Commonly radiant heat is the same kind of heat we feel from the sunshine. When discussing radiant heat, it poses two main concerns for structural ignitability. Windows and siding are most likely to be ignited or impacted by radiant heat from fires near the home.

The radiant heat from flames that are within the first 5 feet of the home can break the glass in a window and penetrate into the interior of a home. Having a dual-pane, tempered glass window offers the best protection because tempered glass does a much better job resisting breakage and even if the outer pane of glass breaks, the inner pane may remain intact. Siding is an expensive element of any home, and many types of siding are combustible. If the siding on your home is combustible it is vulnerable to direct flame contact and radiant heat exposure, and therefore it is important to keep the area within five feet of your home free of combustible items, plants, and debris that could catch fire and bring flames dangerously close to the siding. Once ignited, flames from burning siding can encroach on windows and eaves – potentially endangering the entire house.

3. Direct flame

The overarching goal of defensible



Purple iceplant is a fire-resistant groundcover. Look for it at C&C Nursery in downtown Sisters.

space is to prevent direct flame contact from occurring. Once direct flame contact occurs, it is hard to prevent damage or the destruction of the home.

Zones

To prevent the above ignition sources from impacting the built environment, think in zones.

Zone 1 is the 0-5 feet adjacent to the home and its attachments. This is an area that encircles the structure and all its attachments (wooden decks, fences, and boardwalks) up to 5 feet. It should be comprised of noncombustible materials, such as pavers, concrete, gravel or bare dirt.

Zone 2 is 5 to 30 feet from the home. This area encircles the structure and all its attachments (wooden decks, fences, and boardwalks) for at least 30 feet on all sides. Note: the 30-foot number comes from the very minimum distance, on flat ground, that a wood wall can be separated from the

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Their trailer can haul pine needles, downed trees, limbs, and other yard debris. Anyone who has not yet cleaned up his or her property should contact Metolius Lawn Maintenance as soon as possible; fire season is only getting closer.

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