

living with **FIRE** : a guide for mississippi homeowners



More than 18 million acres of Mississippi are covered with forestland. About half of this contains pine or pine/hardwood mix. Located within these pine and pine/hardwood forests are many houses, subdivisions, and communities. As more people move to and build within these pine forests, the chances for losses from wildfire increase. While large wildfires are uncommon in Mississippi, the conditions for such fires to occur are present. Many homeowners living in these areas are unaware and unprepared for a wildfire. Since it is not a question of "if" but rather "when" a wildfire will occur, the likelihood of human and property loss is great and growing.

Being able to live safely with fire depends on things you do before a wildfire. These "pre-fire actions" will not fireproof your home or forests but can increase your safety and chances for surviving. This publication provides information on the fire environment in which we live as well as "pre-fire actions" you can take to protect your home and property from wildfire damage.

The Fire Environment

The fire environment can be defined by the surrounding conditions and influences that determine wildfire behavior. Firefighters recognize three parts of the fire environment: weather, topography, and fuels.

Weather includes wind, rain, temperature, relative humidity, and clouds. Weather directly affects wildfire by influencing how wet or dry a fuel is, whether a fire will start, and the speed and direction the fire moves.

Topography is the "lay of the land" and includes hills, gullies, flat areas, streams, lakes, and ponds. All of these will affect the amount and type of fuels present, as well as how fast and in what direction the fire spreads.

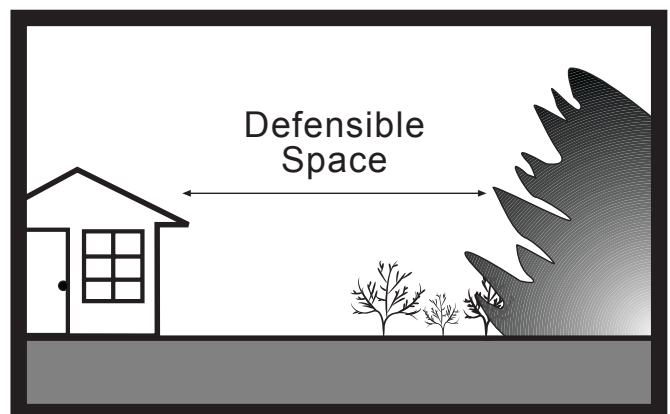
Fuels are anything that will burn, including trees, shrubs, grasses, and houses. Houses and other buildings, when involved with a wildfire, become a source of fuel. The amount, size, shape, distribution, and moisture content of fuels will affect fire behavior.

Together, the weather, topography, and fuel affect the likelihood of a fire's starting, the speed and direction it will travel, intensity at which it will burn, and the ability to control and put out the fire. You can not change weather nor topography, but you can control fuels. Many chances to reduce wildfire threat lie in proper management of fuels.

Defensible Space

Defensible space is the area between a house and an oncoming wildfire. You can change the plants in this space to reduce the wildfire threat and to help firefighters effectively defend your house. You do not need to have bare ground surrounding your home to provide for defensible space. Well maintained grass, shrubs, and trees can effectively reduce the wildfire threat, while maintaining the appearance of the home.

For the most part, you can create defensible space yourself. Watering your lawn, pruning shrubs and trees, selecting plants, and irrigation will help keep your plants green and healthy. Tools needed for these activities are some simple items found around most homes: saws, water hoses, rakes, pruning shears, and shovel.



Six Steps To Create An Effective Defensible Space*

Step 1: Determine the slope and vegetative cover of your land.

The amount of defensible space you need for your property will vary depending on the slope and vegetation present. The steeper the slope, the faster a fire will spread and the larger the defensible space you

need. Also, the vegetation present will affect how a fire will burn and the amount of defensible space you will need. Here are defensible space recommendations based on percent slopes and common vegetation types in Mississippi:

Defensible space recommendations (in feet) based on vegetation type and slope percent**

	Slope Percent	
Vegetation Type	Flat to Gently Sloping (0-20%)	Moderately Steep (21-40%)
Grass	30 Ft.	100 Ft.
Shrubs	100	200
Trees	30	100

**The recommendations listed above are based on suggestions made by firefighters experienced in protecting homes from wildfire. They are not requirements and do not take precedence over local ordinances.

Step 2: Remove dead vegetation.

Dead vegetation includes dead trees and branches lying on or close to the ground, dried grass, dropped leaves and needles, and firewood stacks. In most instances, dead vegetation should be removed from

defensible space areas. Here is a description of the types of dead vegetation you're likely to encounter and recommended actions:

Dead vegetation types and recommended practices for the creation of defensible space

Dead fuel type	Recommended practices
Standing dead tree	Remove all standing dead trees from within the defensible space area.
Down dead tree	Remove all down dead trees from within the defensible space if they have recently fallen and are not embedded into the ground. Downed trees that are embedded into the soil, which cannot be removed without soil disturbance, should be left in place. Remove all exposed branches from an embedded downed dead tree.
Dead shrubs	Remove all dead shrubs from the defensible space area.
Dried grasses	Once grasses have dried out (cured), remove from the defensible space area.
Dead needles, leaves, branches, and cones (on the ground)	Reduce thick layers of pine needles to a depth of two inches or less. Do not remove all needles. Take care not to disturb the "duff layer" (dark area at the ground surface where needles are decomposing) if present. Remove dead cones, twigs, leaves, and branches.
Dead needles, leaves, branches, and cones (other than on the ground)	Remove all dead leaves, branches, twigs, and needles still attached to living trees and shrubs to a height of 15 feet above the ground. Routinely remove all debris that accumulates on the roof and in rain gutters.
Firewood and other combustible debris	Locate firewood and other combustible debris (wood scraps, grass clippings, leaf piles, and such) at least 30 feet away, and uphill if possible, from the house.

Step 3: Break up continuous vegetation.

Sometimes wildland and landscaped plants grow as an uninterrupted layer instead of being patchy or widely spaced. The more continuous and dense the vegetation, the greater the wildfire threat. If this is true of your defensible space, you should “break it up” by making a separation between plants or small groups of plants.

Step 4: Remove “ladder fuels.”

Vegetation is often at varying heights, similar to the rungs of a ladder. This is common in loblolly pine plantations, with dead, lower branches draped with pine needles. Under these conditions, flames from fuels burning at ground level can be carried higher up the tree through these ladder fuels. The vegetation that lets fire move from lower areas to higher ones (from a surface fire to igniting the crown of the tree) are called “ladder fuels.” You can correct the ladder fuel problem by removing those ladder fuels.

Within a defensible space, a vertical separation of three times the height of the lower fuel layer is recommended. For example, if a shrub growing close to a pine tree is 3 feet tall, the recommended distance between the shrub and the lowest limbs on the tree would be 9 feet. You can get this by pruning lower tree branches.

Step 5: Maintain at least 30 feet around your house that is lean, clean, and green.

The area immediately next to your house is very important in creating an effective defensible space. It is also an area that you typically landscape. Within an area at least 30 feet from the house, the vegetation should be kept:

Lean – Small amounts of flammable vegetation.

Clean – No accumulation of dead vegetation or other flammable debris.

Green – Plants that are healthy and green during the fire season are less likely to burn.

Step 6: Maintain vegetation within your defensible space

Maintaining your defensible space is a continual process and key to keeping it effective. At least once a year, review these defensible space procedures and take appropriate actions.

*Adapted from Carree et al. 1998, and P. Slack

Other Ways To Protect Your Home

From Wildland Fire

Whether your home is old or you are building a new one, you should keep in mind these additional considerations:

The roof – Remove dead branches that overhang your roof. Remove any branches within 15 feet of your chimney. Clean all dead leaves and needles from your roof and gutters. Use non flammable roofing materials.

Construction – Build your home at least 30 feet away from the property line. Use fire resistant building materials. Limit the size and number of windows in your home that face large areas of vegetation. Install double or triple paned windows. Install sprinkler systems within the house. Do not use wooden shingles or siding on your home.

Yard – Stack wood piles at least 30 feet from all structures and clear away flammable vegetation. Locate propane tanks at least 30 feet away from all structures and keep 10 feet of clearance around them. Remove all combustible materials and other debris from your yard. Keep grass mowed and green.

Emergency water supply – Have enough water hoses in good condition to cover your entire property. Keep an emergency water supply that meets fire department standards. If your water comes from a well, consider an emergency generator to operate the pump during a power failure.

Access – Identify exit routes from your neighborhood. Build roads wide enough for two-way traffic and emergency vehicles. Make sure dead end roads and driveways have enough turn-around space for emergency vehicles. Clear flammable materials/debris at least 10 feet from all roads and driveways. Make sure your street is named or numbered and that street signs are visibly posted at all intersections. Make sure your house and street number are not duplicated anywhere within your county. Post your house address at the beginning of your driveway or on your house if your house is clearly visible from the road.

Outside – Designate an emergency meeting place in a safe area outside your home. Practice emergency drills. Keep electric service lines, fuse boxes, and circuit breakers maintained to code.

What To Do When a Wildfire Approaches

If your home is threatened by wildfire, you may be advised to evacuate by fire or law enforcement personnel. The reason for this is to protect your life.

However, you can stay on your property so long as you do not hinder fire fighting efforts.

Conclusions

Life in Southern forests should be enjoyable, however; it is not without danger. Even though wildfires are not common in Mississippi, they should be planned for and not unexpected or dismissed. Some counties may have ordinances addressing defensible space and other fire safe measures discussed in this

publication. Check with your local planning and zoning department for further information. Taking precautions to protect your property will increase your chances of escaping serious damage and death in the event of a wildfire.

For More Information

The following references were used in the development of this publication. They provide a wealth of information concerning ways to protect your home from wildfire.

Carree, Y., Schnepf, C, and W.M. Colt. 1998. Landscaping for wildfire protection. University of Idaho Forest, Wildlife and Range Experiment Station. Station Bulletin 67. 15p.

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