Is Your Home Firewise?

By *Gerald Steeley*, Wildland Urban Interface Specialist, Alabama Forestry Commission

Photo by J.W. Hybart III

Remember when folks either lived in town or out in the country? Things seemed much simpler then. Houses were mostly concentrated in the cities and towns, with the few homes scattered about the rural areas of the country. Back then, wildland fires were generally not considered much of a threat to homeowners. The city fire departments took care of house fires within their jurisdictions. Those in the rural areas were either put out by the state forestry agency, local citizens, or were allowed to burn themselves out. Farmers knew how to clear around their barns, fences, and homes, and how to use their plows to make fire breaks to protect themselves from woods and field fires.

Around the 1970s, the United States began to see evidence of a large migration of people from the urban areas to the rural areas. This migration resulted in vast areas of Alabama and other regions across the nation with homes in the interface – the area where fuel feeding a wildfire changes from natural (wildland) fuel to man-made (urban) fuel. In 1985 disastrous wildfires swept the country, destroying more than 1,400 homes and claiming 44 lives in the U.S. This disaster shocked fire officials into realizing that the expansion of people into suburban and rural areas seriously complicated the duties of both the urban and wildland firefighters.

This migration of homes into the woods and other wildlands made the fire problem worse in at least three ways:

1. Increased frequency of fires because more people means more fires – 93% of wildland fires in the South are caused by people.

2. Fires are more severe because the natural vegetation that contributes to privacy and scenic beauty provides a ready trail of fuel, leading any fire right up to the combustible fuels of the home itself.

3. It takes much more time to set up the complex logistics necessary to control a major situation that requires a multi-jurisdictional fire attack.

During extreme wildfire events, wildfires can spread out over several hundred

(Continued on page 24)

Burning embers can be carried more than a mile by strong winds.

Continuous fuels that lead right up to the house can put homes at risk.

Is Your Home Firewise?

(Continued from page 23)

or even thousands of acres, simultaneously exposing numerous structures to flames and firebrands. These events usually occur during periods of high winds and low humidity with dried fuels, and often in difficult terrain and drought conditions. Under such circumstances, it is difficult for firefighters to provide fire protection for each individual home when multiple structures are affected.

Homeowners must accept some responsibility for taking actions to protect their homes *before* a wildfire occurs. Understanding how homes ignite during wildland-urban fires provides the basis for appropriately assessing the risk factors involved. Around each home is an area called the "home ignition zone." This area, which includes the home and the radius surrounding the home within 100-200 feet, determines the home's ignition potential from a wildfire. Because this home ignition zone is controlled by the homeowner – not the fire services, only the homeowner has the authority and responsibility to take action to reduce the likelihood of a devastating fire. A homeowner may think that a garden hose will be sufficient to wet down the roof and surrounding area when a wildfire occurs, but he or she may not understand that in a raging fire a water hose is virtually ineffective. Steps must be taken before an incident occurs to defend a home from damage or destruction from wildfire.

For this reason a program called "Firewise" may help a landowner plan and execute a fire prevention plan around the home. Firewise is a cooperative effort among federal, state, and private agencies and organizations to promote fire safety in the wildland-urban interface. The Firewise goal is that homes should be designed, built, and maintained to withstand a wildfire without the intervention of the fire services.

During a wildland-urban fire, a home ignites from two possible sources: (1) directly from flames (radiation and convection heating), and/or (2) from firebrands (lofted embers) accumulating directly on the home. Highly ignitable homes can ignite during wildfires without fire spreading near the structure. This occurs when the intense heat from a forest fire creates strong winds that drop burning firebrands far in advance of the flames (1/2 mile or more). This blizzard of firebrands collects on and directly ignites flammable home materials, or ignites adjacent flammable materials that then ignite the house.

Wildfires do not spread by flowing over the landscape, like avalanches and tsunamis. Each location along the path of a wildfire must meet the requirements for combustion – that is, a sufficiency of fuel, heat, and oxygen (otherwise known as the fire triangle). In a fire situation the home is the fuel and the surrounding vegetation becomes the heat source. Oxygen is not a limitation with exterior ignitions.

We see many instances on the news each year of dozens of homes in a subdivision being destroyed and only a few escaping the catastrophe unscathed. The

Wildfire Risk Assessment for Southern Homeowners

This risk assessment is organized into two major components: *The Fuel Component* and *The Structure Component.* The fuel component assesses the vegetation around a home. The structure component identifies hazardous characteristics of a home's design and building materials. During a wildfire, the fuel and structure components work together to affect the home's survivability. That's why both components must be assessed to determine the wildfire risk of a particular home.

A. Fuel Component

Select the most appropriate point rating for each of the two fuel factors (natural plant community and defensible space) and multiply the points together to determine the fuel component score. Refer to plant community descriptions in Appendix A if you need clarification on which surrounds your home.

1. Ratings for the major plant communities of the southern United States:	Points
Very Low Fire Hazard Cultivated agricultural lands	0
Low Fire Hazard Hardwood forest (e.g., oaks, hickories, maples, poplars) Mature pine plantations that are open underneath trees (few shrubs) Seasonally flooded swamps (e.g., cypress or bay swamps)	1
Moderate Fire Hazard Pine savannas (low density pines with grasses underneath) Grasslands Seasonal marshes	3
High Fire Hazard Pine forests with shrubs <6 feet tall Young hardwood forests with dense shrubs Recently logged forests with downed woody debris Other plant communities dominated by shrubs <6 feet tall	4
Very High Fire Hazard Dense shrubs >6 feet tall; may or may not have trees above the shrubs	5
Total points for natural plant community around your house	____

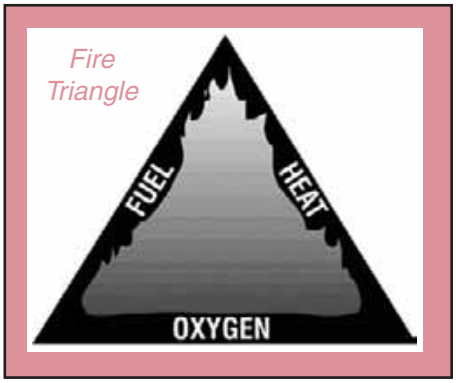
2. Defensible Space	Points
>100 feet of defensible space	1
60-100 feet of defensible space	1.5
30-60 feet of defensible space	2
<30 feet of defensible space	4
Total points for defensible space	____

A. Fuel Component Total: multiply points from 1 and 2: ___ (1) x ___ (2) = _____

reason is that the requirements for combustion – the fire triangle – were not met at the homes that remained undamaged. One or more elements of the fire triangle were not present. A California study shows that houses with nonflammable roofs and a vegetative clearance of 10 to 18 meters had an 86% survival rate. Raised homes (mobile homes and modular homes) without skirting are more vulnerable to wildfire because firebrands (hot embers) can be blown under the floor, increasing the possibility of ignition. Also, mobile home occupants are twice as likely to die from a fire as occupants of other one or two-family residences.

Saving homes from wildfires requires a fundamental change in our way of thinking. Landowners cannot depend on fire services to protect their homes in catastrophic fire situations where multiple structures are threatened. Each homeowner must take the responsibility to ensure that his or her property is defended in the event of a wildfire. Accompanying this article is a **Wildfire Risk Assessment** guide that you as a homeowner can conduct to determine the level of risk for loss to your home. After doing the assessment, if your rating falls in the high or very high risk category, you should take an active role in eliminating the contributing factors. Contact your county Alabama Forestry Commission office or local fire department, rangers, or firefighters to assist you in identifying practices that can be achieved on your property to lower your rating and make your home Firewise. You can also get information from the resources listed below.

Don't wait until you smell smoke to act. Begin now making your home Firewise.



B. Structure Component

Check only the highest rated factor in each list that describes a structural characteristic of your house or surrounding area. Then record the points from the highest rated factor that you checked as the subtotal for that group of factors (only one factor per group). If none of the listed factors are represented on your property, then your rating for that group will be zero.

1. Firebrand Ignition Factors (Check only the highest rated factor):	Points
Wood shingles or shakes on roof (Class C or not rated)	5
Wood deck	3
Open or combustible soffits	3
Open space under house without skirting	3
None of the above	0
Total points for Firebrand Ignition Factors (maximum 5 points)	____

2. Other Indirect Ignition Factors (Check only the highest rated factor):	Points
Slopes >30%	2
Wood fence (connected to house)	2
Adjacent house or outbuilding <50 ft. from house	1
Stacked firewood and/or propane tanks <30 ft. from house	1
None of the above	0
Total points for Indirect Ignition Factors (maximum 2 points)	____

3. Heat-Related or Direct Ignition Factors (Check only the highest rated factor): *Include these factors ONLY if you have <100 feet of defensible space*	Points
Wood siding	3
Vinyl siding or soffits	2
Single paned, non-tempered glass	2
None of the above	0
Total points for Heat-related Ignition Factors (maximum 3 points)	____

B. Structure Component Total; add points from 1-3: ___+___+___=____
(1) (2) (3)

Combine the Fuel and Structure Components to determine your overall wildfire risk rating.

Overall Wildfire Risk Rating:

A. Fuel Component Total _____ + B. Structure Component Total ____ = _____

Interpreting your overall risk rating:

< 5 = Low Risk 5-8 = Moderate Risk 9-13 = High Risk >13 = Very High Risk

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