Wildfire Series

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Protect Your Michigan Home from Wildfire

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As more and more people find opportunities to acquire their "little piece of heaven" in rural Michigan, the interaction between Michigan's wild lands and developed areas (often called the wildland-urban interface) increases. One characteristic of these wild lands has always been fire — wildfires have shaped the landscape's vegetation since long before European settlement. The potential for loss of life and property from wildfire exists wherever homes and structures are built in these areas.

Though most communities maintain effective fire prevention personnel and systems, they may not have enough firefighters or emergency vehicles to reach a threatened home in time to prevent damage, especially if the fire is large. Individual homeowners can take steps to reduce this threat. In fact, research has shown that the condition of the home and its immediate surroundings determines the home's survival. As the owner of this property, you can legally and effectively act to help your home survive a threatening wildfire.

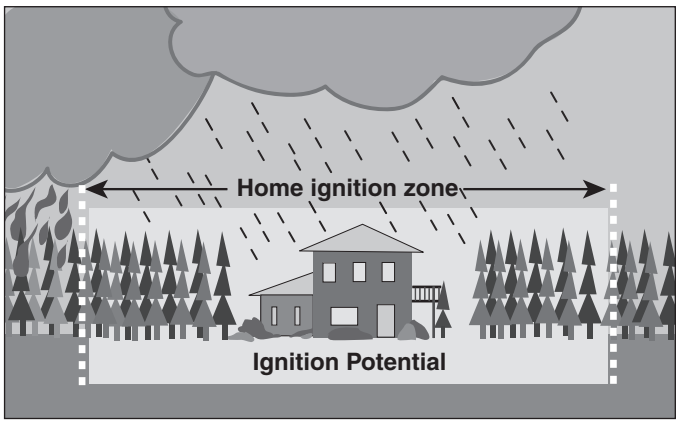

Figure 1. The home ignition zone.

Create fuel breaks

Most people have a mental picture of a wildfire sweeping across the landscape like a tidal wave, but this is not how wildfires burn. A wildfire burns only where the three requirements for combustion are met. Oxygen is abundant outdoors, so this means that a fire will burn only where heat and fuel are sufficient. If either of these is lacking, the fire will not burn. You have many opportunities to reduce fuel and provide heat barriers that will help protect your home. As little as 33 feet (often referred to as the "home ignition zone", Figure 1), can be enough distance to prevent a wildfire's radiant heat from igniting your home.

The most important line of defense is a 3-foot-wide ring around your home, attached garage, and any attached porches or decks in which there is no burnable vegetation or ground cover. It is not only the flames from a wildfire that can ignite your home — it is also (and perhaps more importantly) the "ember blizzard" that is usually associated with a wildfire. These burning embers, blown by the wind ahead of the main fire, can land in and ignite dead leaves, wood chips and other flammable material next to the structure.

Figure 2. Flammable mulches and evergreen shrubs can burn intensely.

So, how should you manage this zone immediately adjacent to your home?

- Plant only deciduous shrubs and ground covers within this area. Evergreen shrubs this close to buildings can be dangerous because they ignite easily and burn so intensely (Figure 2).
- Use inorganic mulches (rocks, terra cotta, lava rock, etc.) rather than shredded bark, wood chips and other flammable materials.
- Fall and spring maintenance are critically important in this zone. Clean up any dead leaves and pine needles from this zone, paying special attention to areas under decks, porches or wooden walkways. Burning embers can collect there and ignite dead leaves and needles.
- If water is in short supply during dry periods, concentrate watering on any plantings in this zone next to the structure. Keeping this area green and moist makes a very effective fuel break.

Between 3 feet and 30 feet from any structure, maintain widely scattered trees. If evergreen trees are included, maintain enough space between individual trees or small clumps of trees so that the crowns do not touch adjacent trees. Prune the lower branches of evergreen trees, removing all up to 6 to 8 feet above the ground. Keep dead leaves and needles cleaned up.

Keep all grass mowed. A good alternative to high-maintenance lawns is herbaceous ground covers. Many ground cover species require less water and growth control than lawns. Look for native ground covers such as bunchberry (*Cornus canadensis*) rather than nonnative species that can become invasive (such as periwinkle [*Vinca minor*] or English ivy [*Hedera helix*]).

Beyond 30 feet from any structure, thin evergreen trees so that their crowns don't touch. Do this out to 100 feet or as far as the lot extends. If homes are close together, you may need to work cooperatively with neighbors to thin trees in this area. Also remove brush and small evergreen trees (those less than 6 feet tall). A wildfire can use these trees and shrubs to climb into surrounding treetops. Prune the remaining trees so branches are at least 6 to 8 feet above the ground. This will provide additional protection from the possibility of a ground fire reaching into the treetops. If possible, mow this area in late fall.

Provide regular landscape maintenance

Keep dead leaves, pine needles and other flammable debris cleaned up. Pay particular attention to the areas on and under porches, decks and wooden walkways to keep these areas free of dead materials. Many homes were lost in the 1990 Stephan Bridge Road Fire near Grayling because long, dead grass and dead leaves were allowed to remain against structures. Some spring cleanup would have saved many of these homes.

Keep woodpiles at least 25 feet from any structure and from fuel tanks. Avoid piling fuelwood on porches or decks. Once a woodpile begins burning, it is very difficult to extinguish. The intense heat produced is sufficient to ignite a structure or cause LPG tanks to explode.

Provide access for emergency equipment

Be sure to provide adequate access for firetrucks and other emergency vehicles. Narrow two-tracks may be adequate for cars, but large firefighting equipment needs room to maneuver. Most emergency vehicles require a road clearance of 12 feet across and 15 feet high. Road grades should not exceed a rise of 5 feet for every 100 feet of road. Also, provide enough space for firetrucks to turn around. Firefighters won't enter an area where they could become trapped.

A locked gate, chain or other obstruction across your driveway can cause access problems. There may not be time to break it down in an emergency, and firefighters might be forced to pass by your home and go on to the next one simply because they couldn't get past the gate. Place any gate at least 30 feet from the road right-of-way, and hang gates so they open inward, allowing an emergency vehicle to stop and open it without blocking the road. Gates should be 2 feet wider than the driveway.

If your driveway crosses a bridge, make sure it is strong enough to support a large firetruck (approximately 40,000 lbs.). If the bridge isn't strong enough, firefighters won't be able to get close enough to protect your home.

To make it easier for emergency personnel to find your home, make sure your house number is visible from the road. If your home cannot be seen from the road, mark your driveway clearly — using fireproof material — with the house number. This saves valuable time in any emergency, not just wildfires.

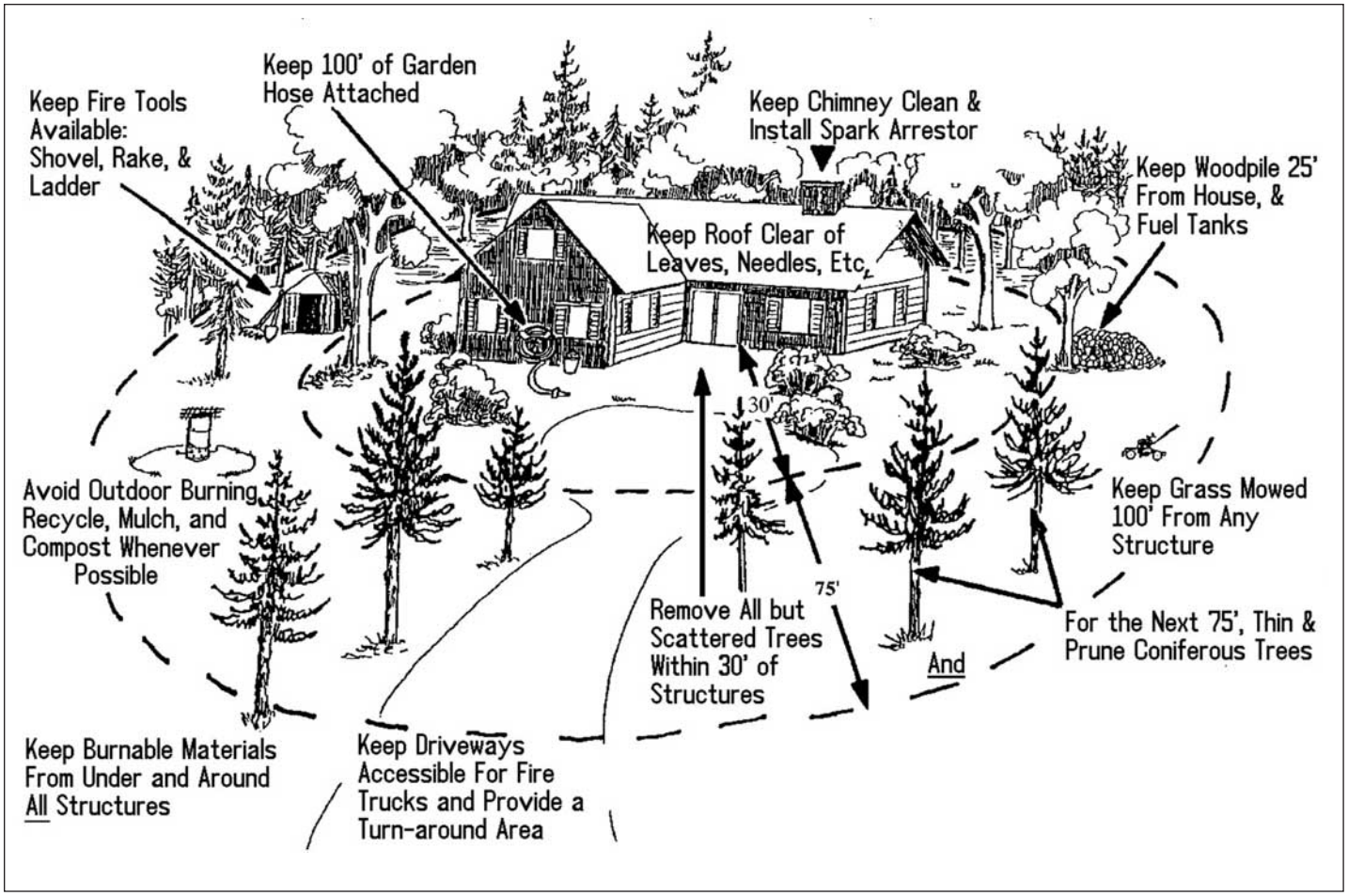

Figure 3. Structural and vegetative protection from wildfire damage

Provide structural barriers against sparks

Finally, eliminate any openings in your home where flying sparks or embers could enter. Enclose open eaves, and use metal screening on soffit and gable vents. Use fire-resistant skirting around the base of a mobile home, porches, and decks to prevent the buildup of dried leaves and debris that could ignite and spread fire to your home. Do not use flammable curtains, and keep the garage door securely shut.

Keep your roof and gutters clear of leaves, twigs and pine needles so that flying sparks cannot set your roof or eaves on fire. If you burn wood for heat, install a spark arrester on your chimney.

The roof is the single most important feature of the home in preventing home ignitions. Studies have shown that homes with non-combustible roofs and minimal clearance from flammable vegetation generally survive a wildfire. Homes with combustible (wood shake) roofs generally do not survive, regardless of what landscaping measures have been put in place.

Wood shakes have not been a common roofing material in Michigan, although they are becoming more popular. Wood shake roofs are very dangerous because they cannot be made fire resistant-any ember that lands on a shake roof will set it on fire. Though fire-resistant materials can be sprayed on wood shake roofs, they are not as effective in our moist climate and must be reapplied annually.

As a resident of rural Michigan, you can save your property and even lives from wildfire by becoming more aware of potential hazards around your home. This awareness, coupled with precautionary activities, will give you a vital protective advantage before a wildfire starts.

References

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