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# HOME HAZARD

## ASSESSMENT GUIDE

ASSESSING WILDFIRE RISK IN HOME IGNITION ZONES IN THE WUI

# HOW TO START?

This guide provides homeowners with tools to assess your home's wildfire risk and prioritizes actions you can take to reduce that risk. The assessment worksheet included with this guide is intended to help you understand your risk and where vulnerabilities on your property may lie. Every home is different in terms of wildfire risk and hazards. The goal for this worksheet is not to get a hazard rating of zero, but simply to address certain vulnerabilities that present a wildfire risk to your home. Where you choose to reduce risk on your property is specific to your property's unique features. Start by inquiring with your local fire department about wildfire risk in your area. Your community may have a Community Wildfire Protection Plan (CWPP) which will provide you with a CWPP ranking and recommendations for reducing risk in your community.



## COMMUNITY FIRE SAFETY BEGINS WITH YOUR HOUSE.

### HOW DO HOMES IGNITE?

Ember showers tend to be the greatest threat to homes from wildfire. Embers can ignite exterior and interior home components from miles away, as well as vegetation and flammable items near the home. Direct flame contact with the house occurs when flammable items touching the house catch on fire, or when embers start a fire on the structure and create direct contact. Radiant heat exposure occurs from heat radiating off a nearby structure or burning tree and can ignite objects inside the home.

### RISK REDUCTION VS. RESTORATION

Fire mitigation, or creating defensible space around your home is a risk reduction strategy that aims to reduce the likelihood of home loss or damage from wildfire. Risk reduction actions are taken close to a structure in "home ignition zones" to protect the home. The further you get from a house, the more you can start to manage for forest restoration and ecological health instead of for risk reduction. Forest restoration involves actions taken to maintain or establish a healthy resilient forest.



HOMES CAN IGNITE FROM EMBERS, RADIANT HEAT OR DIRECT FLAME CONTACT.



# SITE HAZARDS

## BEFORE YOU BEGIN

Familiarize yourself with the home ignition zones. A home ignition zone is the house itself and everything around it up to 100+ ft or more if in a high-risk area or on a slope.

## ACCESS & VISIBILITY

When assessing your access and visibility, it is important to look at your driveway and the entrance to the community.

- Is it gated?
- Who has access to the open the gate in an emergency?
- Is it wide enough for a first responder vehicle?
- What is the road grade?
- Is your address visible from both directions?

Steep driveways can be a problem for emergency

vehicles. Make sure your address is well marked with reflective numbers and remove any low branches that hang over the driveway. Widening areas of your driveway or creating a turnaround spot may help an emergency vehicle access your home.

## VEGETATION & TREES

Vegetation within 100 ft. of the home, or more if on a slope, should be thinned to disrupt fuel continuity in order to keep approaching fire on the ground and out of the tree tops. Prepare your home to withstand a fire even if no one is there to defend it. The closer you are to the house (zones 1 and 2), the more you should think about which trees to remove.

## HOME IGNITION ZONES

### ZONE 1

0-5 feet. Keep this area free from flammables, like wood piles. Fire-resistant and high moisture plants and non-flammable mulches are preferable for landscaping in this zone. Be mindful to keep flammables off decks and fences.

### ZONE 2

5-30 feet. Remove all but scattered vegetation and trees, keep grasses mowed within 30 feet of the home, and space tree crowns approximately 10-20 feet apart. Remove short vegetation from under large trees (ladder fuels), as well as low hanging branches.

### ZONE 3

30-100 feet. Clusters of trees should be kept separated (to avoid crown spread), wood piles and flammables such as fuel tanks and sheds should be kept in this zone or farther out. Remove ladder fuels from underneath the larger trees.

### ZONE 4

100+ feet. This zone should be thinned to a healthy level and managed for ecosystem health



# SITE HAZARDS

For larger, heavily wooded areas, thinning can be done beyond the defensible space zone in the interest of keeping the forest healthy.

Some homeowners choose to hire a contractor who specializes in thinning on private property for fire mitigation and home wildfire risk reduction. Your contractor can help you decide which trees to remove and which to leave. Your contractor will also make recommendations specific to your property about what to do with the debris and cuttings. Some properties in NM benefit from lop and scatter of slash for erosion control and to encourage grass growth.

What to do with slash:

- Chip (your county or fire dept. may have a chipping day)
- Firewood
- Lop and Scatter (spread branches and debris evenly over the ground)

## FUELS

Keep ladder fuels away from your home. Ladder fuels are low limbs, underbrush and vines that will carry fire from the ground to the tree canopy, or the siding and roof of your home. Ground fuels are debris,

pine needles, dried leaves, mulch, grass, weeds, shrubs or anything that will carry fire across the ground. Clear ground fuels from within 3ft of your house and rake away dried needles and leaves. A 3 ft strip of gravel around your home will break up fuel continuity.

## FLAMMABLE MATERIALS

Flammable materials that may be present on your property include, propane tanks, gas grills, detached structures, firewood, construction debris, decks, outdoor furniture, coyote fencing, and brush piles. All detached structures have the same risk as homes and must be mitigated the same way. Propane tanks need to be at least thirty feet from the home with at least 10 feet of cleared area around them. Burying tanks is optimal. Woodpiles are common during the winter months and most folks place them near the home for easy access. This is fine in the winter, but once the snow melts, the piles need to be moved 30+ feet away from the home.

Taking precautions against a wildfire on your property will create a safer environment for the whole community.





# STRUCTURE HAZARDS

## WHAT'S UP WITH YOUR ROOF?

In New Mexico, many roofs are made from rolled roofing covered in gravel and tar. Regardless of what material your roof is made of, avoid these things on roofs:

- Needle/leaf debris in gutters, roof angles, or corners of a flat roof
- Gaps between the decking and covering of roof edges
- Open eaves (as opposed to boxed) and unscreened vents.
- Tree limbs overhanging the roof
- Open skylights or plastic skylights
- Missing flashing
- Vinyl gutters

## CHECK YOUR SIDING

Adobe, concrete block and brick siding are fire resistant as long as there are no gaps to allow embers in. Vinyl siding can melt and expose underlying sheathing which is often not fire resistant. Large logs used in log homes can be relatively hard to ignite, as long as the gaps in between logs are sealed with chinking

to prevent embers from entering the structure.

## WINDOWS & DOORS

Windows and doors need to be able to resist an ember shower, radiant heat, and flame contact. Double pane windows and tempered glass hold up better than single pane. Windows with metal screens can delay embers entering the interior should a window break.

## FIREPROOF FOUNDATION?

Concrete or slab foundations are inherently fire resistant (as long as the vents are screened). Other types of foundations, like those on mobile homes, are more vulnerable to fire. Mobile home are generally elevated with skirting that surrounds the crawlspace. Often that skirting is vinyl, which will melt, exposing the insulation and floor of the home. Mitigating vinyl skirting involves replacing it with metal, and making sure the vents in the skirting are screened and free of debris.

## PRIORITY ACTIONS

- Cover vents or openings in roofs with 1/8" metal screening
- Replace Vinyl gutters with metal gutters
- Chinking is a flexible material used to seal gaps in logs. Chinking can reduce a logs vulnerability to embers.
- Fiber cement board "hardy board" can look like regular wood siding but it is much more fire resistant.
- Provide an adequate combustible-free zone around the home to protect siding from ignition.
- In the event of an evacuation, CLOSE the windows, remove curtains and move furniture away from windows.
- Remove wood piles and sweep needle/leaf debris from decks
- Remove any vegetation or other flammable material from underneath the deck. Screen the space under decks.

# STRUCTURE HAZARDS

**IT IS OFTEN THE SMALL, EASY THINGS THAT HOMEOWNERS CAN DO THAT MAKE A HUGE DIFFERENCE IN MITIGATING RISK.**

## BE WARY OF FUEL TRAPS

Fuel traps are areas where leaves/debris can accumulate. Homeowners need to be vigilant in clearing wind-blown, dry debris from foundation corners, cracks and gaps in the foundation and siding, window wells, under steps and decks, and anywhere else where debris can accumulate.

## DON'T FORGET FENCES & DECKS

Decks are often highly vulnerable areas of a home. Decks are often constructed of wood, attached to the home and sometimes connected to flammable siding. The spaces under elevated decks are often used as storage for wood and construction debris. Other flammables such as propane grills and outdoor furniture are often on top of decks adding to the vulnerability. Ways to mitigate your deck's risk:

- Remove wood piles during fire season.
- Keep needle/leaf debris swept off the deck.
- Prevent any vegetation from growing under the deck.
- Screening from the bottom of the deck to the ground can help keep embers from under the deck.
- If residents are absent, remove flammable seat cushions, furniture, and propane bottles from the deck.

**TIP: Clear dry debris, leaves and pine needles from your deck, bottom of fence, roof and foundation corners!**



Wooden fences provide a direct path for heat and flame contact to the structure. Dry debris collects against them and the fence itself is often dried out and cracked, providing pockets where embers can collect and ignite. Clear dead vegetation from the bottom of fences and consider switching to an adobe wall or metal fence.



# HAZARD REDUCTION

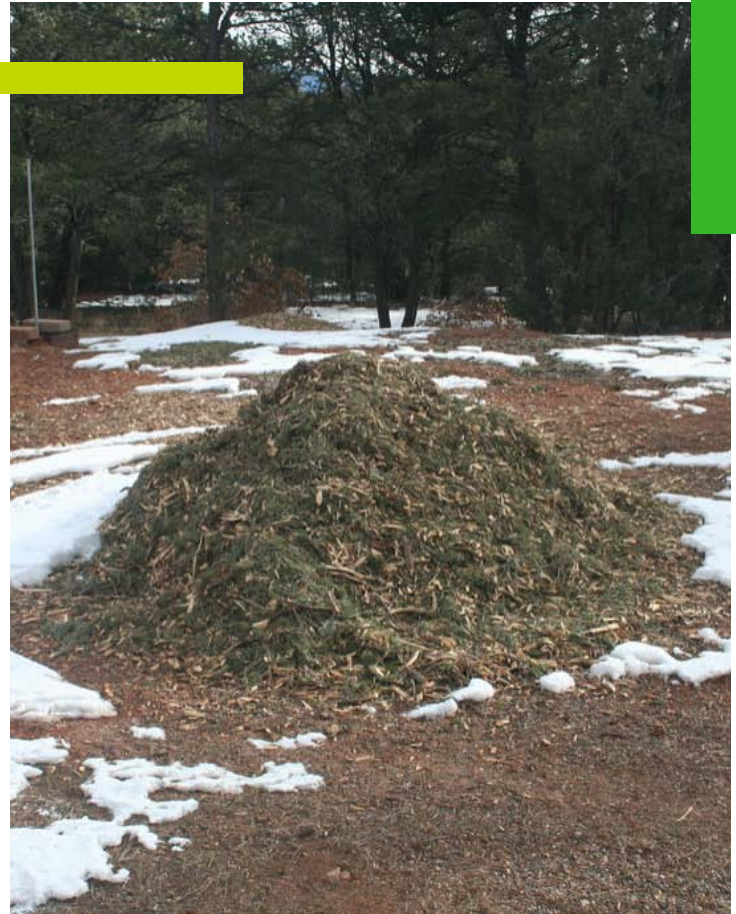
## AIM TO BE "FIREWISE"

Communities that have taken measures to become more resistant to wildfire can be recognized by applying to the National Firewise Program. The Firewise Program minimizes the risk of home ignition by:

- landscaping around residential structures
- thinning trees and brush
- choosing fire resistant plants
- selecting ignition resistant building materials
- working together with local fire department to reduce their risk.

A Firewise community develops and implements a mitigation plan in their neighborhood. Aim to be Firewise and lower your hazard rating with these few simple hazard reduction techniques.:

- Remove ladder fuels within 30 ft of the house.
- Mow and water grass near the house.
- Rake leaves and needles.
- Place 3 ft of gravel or non-flammable material around the house.
- Regularly clean the roof and gutters
- Use non-flammable deck skirting and screen the deck to the ground.



## REDUCE THE HAZARD TO YOUR HOME THROUGH A FEW SIMPLE ACTIONS



## FIRE ADAPTED VS. FIREWISE

Fire Adapted Communities is a collaborative approach to reducing wildfire risks throughout an entire community. It is an effort that involves wildfire officials, community planners, residents,

business owners, emergency responders, insurance representatives and land managers to participate in wildfire preparedness. Firewise is a key component and provides the framework to help residents reduce the risk of home loss or damage from wildfire.



# RESOURCES



**Forest Stewards  
Guild**  
*putting the forest first*

NATIONAL OFFICE  
612 W. Main St., Suite 300  
Madison, WI 53703

SOUTHWEST OFFICE  
2019 Galisteo St., Suite N7  
Santa Fe, NM 87505

[www.forestguild.org](http://www.forestguild.org)

Greater Santa Fe Fireshed Coalition |  
[www.santafefireshed.org](http://www.santafefireshed.org)  
Firewise | [www.firewise.org](http://www.firewise.org)  
Ready Set Go! | [www.wildlandandfirersg.org](http://www.wildlandandfirersg.org)  
US fire prevention | [www.fs.fed.us/fire/prev\\_ed/](http://www.fs.fed.us/fire/prev_ed/)  
Fire Adapted NM | [www.fireadaptednm.org](http://www.fireadaptednm.org)  
FAC Network | [www.fireadaptednetwork.org](http://www.fireadaptednetwork.org)  
NM State Forestry | [www.emnrd.state.nm.us/SFD](http://www.emnrd.state.nm.us/SFD)  
Forest Stewards Guild | [www.forestguild.org](http://www.forestguild.org)

The Forest Stewards Guild practices and promotes ecologically, economically, and socially responsible forestry as a means of sustaining the integrity of forest ecosystems and the human communities dependent on them. The Southwest Region of the Forest Stewards Guild promotes excellence in forest stewardship by working with partners, youth, forest workers, wildland fire professionals, and landowners to promote a sustainable forest-based economy and resilient forests, communities, and watersheds.

This guide, along with the included assessment worksheet is intended to help you understand risk and vulnerabilities on your property. Further action is required to mitigate the wildfire risk on your property. By taking the actions recommended by this guide you may reduce vulnerabilities to wildfire on your property.





# HOME HAZARD ASSESSMENT WORKSHEET

This worksheet is to be used in conjunction with the Home Hazard Assessment Guide to determine your home's risk to wildfire. Together, this worksheet and guide will help you decide where actions can be taken to mitigate vulnerabilities so that the home will have a better chance at surviving a wildfire. If an item is left **unchecked**, mitigation may be required. Use the notes section to write about required actions.

## SITE HAZARDS

<b>Assessment Item</b>	<b>Mitigation Recommendations Notes</b>
<b>ACCESS and VISIBILITY</b> <input type="checkbox"/> Driveway has adequate turnaround for emergency vehicles <input type="checkbox"/> Driveway width is more than 12 feet <input type="checkbox"/> No bridges exist, *if a bridge does exist, ensure that it allows emergency vehicles to pass <input type="checkbox"/> No overhead branches 14 feet above driveway <input type="checkbox"/> Road grade level or less than 10% <input type="checkbox"/> No gate or no locking gate <input type="checkbox"/> Address is visible from the road	Can emergency personnel access your home?
<b>TREES and LADDER FUELS</b> <input type="checkbox"/> No trees within 30 ft of structure <input type="checkbox"/> Trees within 30 ft of structure are spaced apart and without low hanging limbs <input type="checkbox"/> No low limbs, underbrush or vines within 30 ft of home <input type="checkbox"/> No ground fuels touching or within 3 ft of home, including ornamentals, shrubs and leaves	Can fire spread from trees to aerial fuels?
<b>GROUND COVER and SLOPE</b> <input type="checkbox"/> Sand, gravel or other non-combustible material <input type="checkbox"/> Slope of the property is gradual, 0-10% *Steep slopes may require a larger mitigation zone - 50ft. **Mitigation may be required if the ground cover within 30 ft of the home consists of grass, weeds, herbaceous understory, shrubs or leaf litter. ***It is recommended to have 3 ft of gravel adjacent to and surrounding the structure	Steep slopes and combustible groundcover = fire hazard
<b>FLAMMABLE MATERIALS and OTHER HAZARDS</b> * Flammable materials include gas cans, grills, pesticides, etc. <input type="checkbox"/> No flammable materials are on the property <input type="checkbox"/> Flammable materials such as gas cans, lawnmowers and grills are stored 30 ft from the home when the homeowner is not present <input type="checkbox"/> There are no outbuildings or propane tanks within 30 ft of the structure <input type="checkbox"/> If outbuildings are present within 30 ft of the structure, the outbuilding is being mitigated for, and priority actions are applied to both the home and outbuilding <input type="checkbox"/> Wood piles and other flammable materials are not stored near the propane tank	Where are highly flammable materials stored?

# STRUCTURE HAZARDS

<b>Assessment Item</b>	<b>Mitigation Recommendations</b>
<b>ROOFING MATERIALS and VENTS AND EAVES</b> <input type="checkbox"/> The roof is made of metal, slate, tile, tar/gravel, or class A shingles (*shingles must be flat with no gaps; clear leaf litter or pine needle accumulation) <input type="checkbox"/> No tree limbs are overhanging the roof <input type="checkbox"/> Gutters, corners and crevices are cleared of leaf litter <input type="checkbox"/> Vents are enclosed with 1/8-inch metal screens	Is the roof non-combustible?
<b>FOUNDATION</b> <input type="checkbox"/> Enclosed foundation such as concrete, metal or adobe <input type="checkbox"/> If not enclosed, open-air foundation is enclosed with wood or vinyl sheeting <input type="checkbox"/> Crawl space, attics, vents and soffits are enclosed with 1/8 wire mesh or sheeting <input type="checkbox"/> Small spaces have been cleared of leaf litter and needles <input type="checkbox"/> No flammable materials next to or under the structure	Is there flammable material adjacent or under structure?
<b>EXTERIOR WALLS and WINDOWS</b> <input type="checkbox"/> Exterior walls are non-combustible material such as brick, stone, metal or adobe <input type="checkbox"/> Sealed with chinking if exterior walls are large logs (see pg. 4 in guide) <input type="checkbox"/> No combustible materials near or on the structure where walls meet roof, ground or decking surfaces <input type="checkbox"/> Windows are double-pane and tempered glass * Metal window screens can resist an ember shower better than plastic screens can.	Is the predominant wall covering combustible?
<b>ATTACHMENTS: DECKS, FENCES, PORTALS, ETC.</b> <input type="checkbox"/> Decks, overhangs, portals, fences that join the structure, trellises and other attachments have been treated as part of the structure itself and cleared of leaf litter and debris <input type="checkbox"/> Debris, leaf litter and flammable material is kept away from, and off the structure attachments <input type="checkbox"/> Flammable outdoor furniture cushions are removed from the deck or portal when residents are absent or evacuated	Attachments must be treated like the structure itself

## HAZARD REDUCTION

### ACTIONS YOU CAN TAKE TODAY

- Do not store wood piles under, or on the deck during fire season
- Mow and water grass within 30 ft of the structure
- Rake leaf and needle litter within 30 ft of the structure
- Install 3 ft of gravel or non-flammable material around the structure
- Regularly clean roof and gutters
- Remove ladder fuels within 30 ft of the structure
- Use non-flammable deck skirting or screening to prevent litter from accumulating under the deck