

~ WILDFIRE RISK ASSESSMENT ~

How does your home rate?

This assessment, which you can do yourself, is intended to reveal your home's vulnerabilities to wildfire, and to help you decide which things to do to improve its ability to survive.

Your home's potential for catching on fire is determined mainly by its characteristics in relation to (1) burning embers flying through the air, and (2) the flammable items within 100 feet of your home.

For each item below, circle the number across from the description that's most like your situation, or estimate a score in between. Be honest!

Situations/conditions/characteristics regarding your home and its surroundings that are ranked "0" are excellent and indicate there's low potential that your home would ignite (catch on fire) from that situation/condition. Situations that rank high should be your top priorities for making improvements.

This assessment has two parts:

Part 1: "Helping Your Home Survive": This is about your home's ability to survive a fire, with no one there to protect it. This is crucial, because *in extreme wildfires sometimes firefighters cannot be present*. This part of the assessment starts with the condition of your home itself, and then proceeds to the conditions surrounding your home, so it has several sections. It has a scoring total at the end, on page 4.

Part 2: "Helping Firefighters Help You": This part gives advice on things to do before a fire arrives, specifically to increase firefighters' ability to protect your home if they are able to be present.

This assessment was created in 2010 by a Fire Safe Council in California with the assistance of Jack Cohen, a research physical scientist (now retired) with the U.S. Forest Service whose work on how homes ignite in wildfires is central to the national Firewise program (see www.firewise.org).

~ PART 1: HELPING YOUR HOME SURVIVE ~

BUILDING MATERIALS AND CONSTRUCTION

Your home can survive a wildfire without firefighters' intervention -- IF it is built and maintained to resist being ignited by both (1) burning embers entering into your house and/or accumulating on it or near it, and (2) radiant heat from nearby flames. The largest cause of homes destroyed in wildfires is "little things" -- burning embers flying through the air and directly igniting the home and/or igniting fires in the immediate surroundings that spread to the home.

My Roof *The roof is the most vulnerable part of a house, so it is top priority!*

I have a fire-resistant roof covering in excellent shape (composition shingles, metal, ceramic tile, slate etc.)	0
I have a ceramic tile roof covering with gaps between tiles and with open ends (Note: rounded Spanish tiles that are not sealed, and have open ends where birds' nests and debris collect, are very vulnerable to embers)	40
My roof has rain gutters full of dead leaves and pine needles (bad news!)	70

My roof has flammable protrusions such as chimney boxes, dormers, roof offsets, etc., which are full of dead leaves and pine needles	70
My home has a flammable wood shake roof covering <i>(these roofs have the most extreme potential for ignition by burning embers)</i>	100

My Walls, Eaves, Deck/Porch, and Vents *Burning embers can penetrate vents that are damaged or have screen openings too large. Screens on all vents should be made of metal and have mesh openings of 1/8" or less. Attic vents are especially vulnerable: burning embers can get inside the attic and start fires that cause the home to burn down from the inside out. Embers can also penetrate gaps in siding, junctions between the deck/porch and walls, and facing boards.*

My home has fire-resistant siding, eaves, and deck; and all vents are covered with metal mesh with openings of 1/8" or less <i>(excellent!)</i>	0
My home has a flammable deck and siding, but the undersides of my deck and porch are enclosed so burning embers cannot get underneath	10
My home is made of fire resistant materials, but vents are not properly covered	40
My home is made of combustible materials, and vents are not properly covered	50
My home has a flammable deck next to flammable siding, and the deck often contains deposits of dead leaves and pine needles	70
My home has a flammable deck and siding; and the area under the deck is open and contains stored and/or deposited flammable materials	70

Presence of flammable items on my deck and porch *These innocent little things are often where flying burning embers land. They can start fires that quickly spread and catch decks, walls, and homes on fire.*

I keep my deck/porch free of wooden planter boxes, flammable decorations and doormats, lawn furniture with cushions, newspapers, towels, etc.	0
There are some of these flammable items on my deck	30
Many of these flammable items are on my deck all summer	50

Location of large fire hazards, including other buildings *In a wildfire, burning buildings produce embers which can quickly catch other buildings on fire. Note: Anything flammable that is attached to the house — fences, decks, boardwalks, outbuildings, etc. — should be considered part of the house and given the same consideration as the house. Circle ALL that apply to your home.*

All firewood, lumber, fuel tanks, chemicals, equipment, wood fences, sheds, and other fire hazards are at least 30 feet from my home <i>(excellent!)</i>	0
There's a wooden fence attached to my house	20
There are old sheds, barns, and other buildings within 30 feet of my home	30
Firewood, lumber, or tanks are adjacent or under an opening in home or deck	70

My Windows *Radiant heat is absorbed by window glass. With sufficient heating, a window can thermally break and subsequently collapse. Without metal screens, a collapsed window pane forms an opening that allows burning embers to enter, causing the home to burn down from the inside out.*

Plate glass requires much less heating than tempered glass to break. (Tempered glass is much safer and is labeled as such in one of the corners.) The larger and thinner the plate glass panes, the more likely they are to collapse after breaking. Be sure to keep flammable items, and therefore flames, away from your windows to reduce the heat that could result in windows breaking and collapsing (see next section).

All my windows and glass doors have double-paned or tempered glass	0
I have large single-paned plate glass windows facing wildland areas or other flammable objects such as shrubs or other buildings	20

FLAMMABLE VEGETATION AND OTHER ITEMS NEAR MY HOME

Removing dead grass, weeds, brush, dead tree branches, and other flammable items from near homes is crucial to keeping homes safe. Contrary to popular opinion, homes ignite more frequently from small fires near the surface (in grass, weeds, and brush) than they do from high-intensity flames in the treetops. Photos of homes which burned to the ground often show green trees still standing near the homes!

Removing vegetation does not mean you need to cut down mature trees, remove all plants, and create a moonscape! It means reducing the amount of flammable material near your home so that fire/heat intensity is reduced and fire will not spread to your home or its flammable attachments. (Again, any flammable attachment to your home, such as a fence, is considered part of your home for these purposes.)

It's important to separate flammable items from each other in two ways:

1. Horizontally: Keep clumps of plants, bushes, and other items horizontally separated enough from each other so if one clump is on fire, its heat and flames won't catch the next one on fire. For example, canopies (tops) of coniferous trees (firs, pines, etc.), individually or in clumps of 3 or less, should be separated by 20 feet or more. Canopies of flammable shrubs should be separated by 10 feet or more.

2. Vertically: Keep fire from burning up into canopies of trees and shrubs by preventing fire from spreading vertically. This can be done by (a) pruning lower branches and (b) removing most flammable vegetation beneath the trees or shrubs, out to at least the width of their canopy. Dead vegetation should be removed from shrubs. Note: Decorative junipers are especially flammable.

This section is divided into distances from the home: Within 5 feet, 5-30 feet, and 30-100 feet.

Presence of **all** flammable items (plants, dead leaves, mulch, etc.) **within 5 feet** of my house's foundation

I keep <u>everything</u> that's flammable cleared, raked, and moved away (<i>crucial!</i>)	0
Mowed dead grass and flammable mulch is right next to flammable wall siding	50
There's unmowed dead grass, dead plants, mulch, and flammable materials that could burn with flames touching fire-resistant walls <i>without</i> windows	60
There's unmowed dead grass, dead plants, mulch, and flammable materials that could burn with flames touching flammable walls <i>with</i> windows	100

Condition of **vegetation within 5-30 feet** of my house

I have removed dead vegetation from under and within my shrubs and trees, with special attention to flammable shrubs and trees (e.g., junipers, conifers, and native chaparral). My conifers have 20 feet between their canopies (and outside branches), and branches are pruned up to 8 feet above the ground. Dead grass is no more than 4" tall. (<i>Great job!</i>)	0
There's unmowed dead grass and accumulated dead vegetation, but trees and shrubs are scattered with greater than 20 feet between their canopies	30
There's unmowed dead grass and accumulated dead vegetation with continuous shrub and tree canopies	70

Condition of trees more than 30 feet and up to 100 feet from my home

Flammable trees have at least 15 feet between canopies and branches are pruned up at least 8 feet above the ground. There are no heavy dead branches and dead shrubs. Shrubs have at least 10 feet between canopies	0
I've done some thinning, pruning, and heavy dead vegetation removal	30
There are continuous flammable shrubs and trees in this area	60

TOPOGRAPHY/TERRAIN NEAR MY HOME

Fire burns more intensely uphill than downhill, because heat rises. All else being the same, items on a steeper slope will burn more intensely. Narrow canyons and gullies can also channel the wind, resulting in higher intensity burning. This will likely increase your home's exposure to burning embers.

My home's location relative to slopes covered with flammable vegetation (if applicable)

My home is set back more than 100' from a steep upslope	0
My home is set 30-100' back from a steep upslope	10
My home is located on, or right on the edge of, a steep upslope	30

Other terrain features that can increase a wildfire's intensity (circle all that apply)

My home is on top of a hill	10
My home is in a narrow canyon	20
My home is at the top of a canyon or gully	20

TOTAL POINTS FOR PART 1, "HELPING YOUR HOME SURVIVE": _____

~ PART 2: HELPING FIREFIGHTERS HELP YOU ~

During a wildfire, vehicles will be leaving -- and fire engines will be attempting to enter -- areas on the same road(s). Will you be able to evacuate safely if necessary?

Will fire engines be able to get to your home? Fire engines may be 28' long, 10' wide, and 15' tall. Will they have room to park, and will firefighters have room to work, once they get there?

Options below are ranked from 0 to 20. Options with a score of 0 are ideal. Options with a score of 20 would probably prevent fire engines from getting to your home at all. Work to improve these – or learn how to survive without evacuating. If you face these situations (and if you cannot change them), consult with your local fire department and/or your state forestry/fire department for advice on what you should do before and during a fire to enhance your safety.

NOTE: Scores in this section are given ONLY to help you understand (1) your evacuation situation and (2) what firefighters need to help you. They do not relate directly to how your home will survive a wildfire if no one is present to defend it. They should not be counted in your final score.

Number of Access Routes to my home

There are two or more roads in and out of my area	0
I live on a long dead-end road	15

Width of Roads to my home

The roads are all two lanes -- 18 or more feet wide	0
The roads are 10 to 18 feet wide	10
Some roads (and/or my driveway) are less than 10 feet wide	20

Existence of Turnouts for Passing on single-lane roads (if applicable)

Turnouts are located every 400 feet, and they are at least 10' wide x 80' long	0
There are some turnouts, but not this often and not this long	10
There are long narrow sections with no turnouts at all	20

Radius of Turns and Curves on Roads and Driveway to my home

All turns and curves have at least a 50-foot radius	0
Some turns and curves are tighter -- too tight for a fire engine to make at all	20

Vertical Clearance above Roads and Driveways

There's at least 15 feet of vertical clearance	0
There's 13-15' of vertical clearance	10
There's less than 13' of vertical clearance	20

Bridges on Roads or Driveways *A fire engine full of water can weigh 30,000+ pounds. If a bridge collapses, firefighters could be killed – and evacuation routes cut off. If you are not sure about your bridge's strength, consult a structural engineer.*

All bridges can hold 40,000 pounds, <u>and</u> signs are posted that say so	0
Our bridge(s) can't hold that much weight (<i>please post this fact</i>)	20

Room for Fire Engines to Maneuver near my home

There's a circular driveway or large open area (40' x 40') near my home	0
There's a place to turn around that's at least 40' long and 15' wide	5
There's no place for fire engines to turn around near my home	20

In a large wildfire, firefighters from other counties or states may arrive. They will not know your neighborhood. If they are given your address number, will they be able to quickly find your home, especially under duress and in the darkness that is caused by massive amounts of smoke?

Road and Street Signs

Road signs are present at all intersections, have reflective letters at least 3 inches tall, and are clearly visible in the dark in headlights (great!)	0
Signs are hard to read, or are missing from some intersections	15
There are no road or street signs in my area	20

My House Number Sign

My number sign is posted at the road, with reflective numbers at least 3" tall on a contrasting background, visible from 100' away in both directions	0
My sign is present but doesn't meet the above requirements	10
There's no number sign for my house posted at the road	15

Water Supply Most wildland fire engines carry 500 gallons or less of water. Having water that firefighters can find and tap into is critical in rural areas. Tanks/hydrants must have a discharge with a male National Hose pipe thread fitting either 1½" or 2½" in diameter (confirm this with your fire department). It is also critical to direct firefighters to the water's location; see the second option below.

A pressurized fire department hydrant is within 1,000' of my house	0
I have a fire department fitting on a standpipe/hydrant, or on my water tank, providing at least 500 gallons of water – <u>and</u> I have a blue reflectorized dot posted at my driveway's entrance, with a sign pointing to where that water supply and fitting are located (<i>firefighters will love you!</i>)	0
There's a pond, pool, or stream near my home, where a fire engine could safely park within 10 feet of the water's surface and pump from it -- and I've posted signs that point to its location	0
There's no water supply nearby that can be accessed for firefighting	15

INTERPRETING YOUR HOME'S WILDFIRE RISK SCORE

(Use the score from Part 1 on page 4; do not include scores in Part 2)

Researcher Jack Cohen provided this scoring, based on his 30+ years of experiments and research into how homes ignite in wildfires. These scores are estimates. A low score does not guarantee that your home will be safe, and a high score does not mean your home will certainly burn down. Again, these scores reflect your home's ability to survive a wildfire with no one present to defend it.

Up to 35 points	= Low Risk
35 to 60 points	= Moderate Risk
65 to 95 points	= High Risk
100 points or more	= Extreme Risk

Concerned about your score? See where your points are highest. Start with your home and work outward. Metal vent screens with openings of 1/8" or less are crucial. Keeping the space within 5 feet of your home, and your roof edges/offsets and gutters, completely clean of flammable items is also crucial.

Do what you can, one step at a time. Every action you take will increase your home's ability to survive!

ON-LINE SOURCES OF MORE INFORMATION (as of May 2022)

Firewise USA: www.firewise.org

Insurance Institute for Business and Home Safety: <https://disastersafety.org/wildfire/wildfire-ready>

University of California Cooperative Extension: <https://ucanr.edu/sites/fire/Prepare/Building/>

University of Nevada Cooperative Extension Living With Fire Program's "Be Ember Aware" brochure:
https://naes.agnt.unr.edu/PMS/Pubs/1510_2005_89.pdf

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