

CONSIDER THE EMBER

David Ryder/Reuters

How defensible space might save your home – and keep your insurance

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This month kicks off the unofficial beginning of New Mexico's fire season. Formerly confined to May and June, wildfire potential has spread into a long-running season that extends through September and beyond. Over the last five years, nearly 5,000 wildfires have burned over 1.5 million acres across state and private land, and the ongoing implications for homeowners have become increasingly immense. With landowner concerns about insurance and fire risk, the Insurance Institute for Business & Home Safety offers a new path towards home mitigation.

In 1997, a research project in an experimental forest helped make a new discovery about how homes burn during wildfires.

Jack Cohen, a scientist with the U.S. Forest Service, conducted a series of outdoor experiments setting fire to blocks of forested land at various distances from wooden test structures. He was studying how these structures would burn when confronted with an actual forest fire.

What he found [ran contrary to the popular notion of fire](#) as a wave of flame, crashing against homes, buffeted by high winds. Cohen found the cause of home ignitions was something altogether different: embers.

These burning fragments – pieces of bark, pine needles or charred wood – can loft a mile or more ahead of the fire's front. Like tiny flaming arrows, embers can land in your home's gutters, lodge in ventilation openings, or ignite

leaves or shrubs next to the walls of your home.

Wildfires themselves weren't a problem that could be solved. But by focusing on the potential for structure risk from embers, Cohen's "[home ignition problem](#)" could be.

Ember risk and the built environment

Fast-forward to today, where embers are the leading cause of home ignition during wildfire, not direct flame.

"What often starts a fire in the built environment is ember transport from a wildfire" says Matt Hurteau, professor of biology at the University of New Mexico. "Firebrands get picked up by a smoke column, and they're deposited as smoldering material onto structures. If the structures are receptive – meaning there's exposed wood or ventilation – then the combustion starts to occur. That's when the situation changes from wildland fire into a structure fire."

As many as 90% of homes destroyed in the wildland-urban interface are ignited by embers, not direct flame.

Hurteau has been with UNM since 2015. Originally from the northeast, he became interested in fire and forestry science while living in Arizona in the 1990s. There, he saw the effects of dry conditions and wind-driven fires firsthand.

"Especially in environments where the houses are close together – once one building starts burning, the likelihood that the one next to it catches fire is pretty high," Hurteau says.

But scientists aren't the only people who understand the risks of ember wash: Insurance companies understand them all too well.

Increasingly, insurance companies' risk modeling has led them to be hesitant to write or renew policies throughout the wildfire-prone West. Since 2021, insurance companies in New Mexico have [declined to renew](#) more than 10,000 homeowner policies.



Brian van der Brug/LA Times

In 2025, New Mexico was second highest in the nation for uninsured properties at 13%.

“Rates are going up for a multitude of reasons” says Melissa Robertson, property and casualty Bureau chief for the New Mexico Office of the Superintendent of Insurance (OSI). “Number one is that companies are required by statute to ensure for replacement cost. And the inflation of materials is really what is driving those rate increases.”

Robertson has worked for 25 years in combination with the insurance field and with OSI, which advocates on behalf of residents regarding insurance matters.

“Companies are looking at which areas have not been mitigated, which areas have the highest propensity for catastrophic loss,” Robertson says. “So they’re having to calculate those factors into the premiums.”

Even though rates have recently been stabilizing due to inflation stabilization, catastrophic risk to homes is still the forefront of premium pricing consideration.

For Robertson, like Hurteau, defensible space is not a nice-to-have for WUI landowners: It’s a must-have.

gets lodged somewhere. Replace that wood shake roof with metal or tile. Install fine-mesh vent covers of 1/8 inch or less to block embers. Enclose eaves and soffits. Use non-combustible materials on your deck and siding areas, and keep your underdecks clear of debris.

Done in concert, you put into practice the concept Cohen was researching. Defensible space slows the fire’s approach, and hardening your home makes it less likely to ignite. But the science doesn’t stop there.

Turns out Cohen’s research was of great interest to the insurance industry who, after all, doesn’t want a home to burn any more than you or I do.

The Insurance Institute for Business & Home Safety (IBHS) [continued this work](#) by simulating ember showers under controlled conditions. Their testing confirmed what Cohen found: Homes ignite because they have vulnerabilities that allow embers to start small fires that become big fires.

The practical takeaway here is notable: When embers are the real threat, then that 5-foot zone around your house, along with the house itself, matters more than the distant forest.



Defensible space and home hardening

The concept of defensible space, like its sister term home hardening, is easy enough to grasp.

Defensible space starts in all the places embers can lodge around the walls of your home. The 5-foot area immediately surrounding your home should be totally non-combustible: no mulch, no shrubs pressed against the foundation or walls, no firewood stacked by the door. In addition, a class-A roof is also a critical piece of the puzzle due to its being heat-resistant.

As you increase the distance from your home, the tactics change, but the result is the same: You reduce undergrowth to help slow the fire’s spread and intensity.

Home hardening means making [modifications](#) to your home that make it less likely to ignite when an ember

Certification pathways

While not able to solve all the problems of insurance and wildfire risk, it makes sense that the insurance industry would incentivize property owners who’ve taken defined steps to protect their homes.

The Wildfire Prepared Home program [lets homeowners earn a designation](#) by completing a defined set of mitigation actions. This IBHS program launched in California in 2022 and has since expanded to Oregon, Nevada and New Mexico.

“Homeowners, insurers, communities and policymakers share a clear goal of reducing wildfire risk and limiting the damage wildfires can cause to homes and neighborhoods,” says Steve Hawks, senior director for wildfire at IBHS. “Wildfire Prepared Home translates that goal into science-based actions that meaningfully reduce



risk and improve both a home’s survivability and the homeowner’s ability to have informed, productive conversations with insurers about coverage and insurability.”

IBHS’s program works on two levels:

1. **Wildfire Prepared Home** requires a Class-A roof, a 5-foot noncombustible safety zone around your home, along with preparing your home’s exterior (roof, gutters, vents), and maintaining decks, porches and yards to prevent ember ignition.
2. **Wildfire Prepared Home Plus** adds more protective layers: covered gutters, enclosed eaves, upgraded doors and dual-paned tempered glass windows, noncombustible siding, and sheds or outbuildings moved at least 30 feet from the main structure.

The process is homeowner driven. You work through a checklist of mitigation standards IBHS provides [in a homeowner guide](#), document your work with photos, pay a \$125 application fee, and submit everything for review. If your home qualifies, you get a certificate that’s good for three years.

Even better news right now is that the certification fee for any homeowner in New Mexico has been cut to only \$25.

“We’re excited to offer this discounted rate not just to FAIR plan customers but to all homeowners in New Mexico,” Robertson says. “This is a result of OSI and State Fire Marshal’s Office becoming certified inspectors for the Wildfire Prepared Home program in New Mexico.”

Residents on the New Mexico F.A.I.R. plan – the [insurance of last resort](#) – can apply for a grant program through OSI to mitigate home hardening costs that might come with retrofitting their home to meet IBHS standards.

“It’s a last resort; you don’t want to be on the F.A.I.R. plan if you can help it,” Robertson says. “The open market should be your goal as a homeowner because you can get a lot more options for coverage and ultimately better coverage.”

Robertson’s team at OSI has begun the Wildfire Prepared grant program pilot project in the Wimsatt area, as well as other places in New Mexico where there are both F.A.I.R. Plan customers and high wildfire risk.

“Reducing a home’s vulnerability to wildfire through proven mitigation standards improves its survivability, and survivable homes are fundamentally more insurable.”

Steve Hawks, senior director for wildfire, Insurance Institute for Business & Home Safety

“We’ve been doing town halls since last year to educate residents about the benefits of this grant program, and of mitigation in general. We’ve been putting on a bit of a road show, traveling to Taos, Las Vegas, Silver City and Tijeras so that people know the IBHS program exists.”

New Mexico's 2025 Wildfire Prepared Act explicitly aligned state home mitigation standards with IBHS criteria. That signal from the Legislature suggests certification could become increasingly valuable as the insurance market continues to evaluate property risk.

For homeowners struggling to maintain insurance, the Wildfire Prepared Home designation may help. While not a silver bullet that will guarantee a policy isn’t dropped, the program aims to provide direct evidence to insurance companies that mitigation efforts were taken to meet the standards insurance companies want to see.

“Wildfires are testing homes in ways many communities haven’t experienced before,” said Hawks. “Reducing a home’s vulnerability to wildfire through proven mitigation standards improves its survivability, and survivable homes are fundamentally more insurable.”

The continuing legacy of Firewise

Even though IBHS is a new player in the New Mexico insurance landscape, legacy programs like the National Fire Prevention Association’s [Firewise USA](#) aren’t redundant or competitive – they’re complementary.

Firewise, administered by the National Fire Protection Association, provides a framework for neighbors to organize together. Communities that complete a six-step process – forming a board, assessing risk, developing an action plan, hosting educational events and documenting annual work – can become nationally recognized Firewise USA sites.



Montana Department of Natural Resources and Conservation



Elaine Thompson/AP

Instead of parcel-level fuel reductions, Firewise aims for prevention at the community level. Neighborhoods, HOAs and even small towns can spread out into their community by organizing chipper days or sharing tools and resources to help with fuels reduction. The kind of activity that shouldn't go unnoticed by insurance providers. However, this creates a big distinction between the ultimate goals of Firewise and IBHS.

"Firewise was not created for insurance," says Megan Fitzgerald McGowan, Firewise USA program manager. "Our customers are homeowners, and the supervisors of this program work for land management agencies, but we are advocates in the insurance space trying to help share the science and the good work that individuals and communities are doing to lower their risk."

Over and over, Fitzgerald-McGowan has seen this conversation about insurability through Firewise end up on her doorstep. "We're happy to share the space, especially with IBHS, who does have that direct contact with insurance companies, and to let our communities know that this is another tool in the toolbox."

Another difference in the two programs is that residents using Firewise gets to pick and choose what mitigation efforts they engage in. Wildfire Prepared homes don't get to choose – they have to adhere to IBHS standards.

Individual home hardening makes a home more survivable. Community action reduces the overall threat and creates safer conditions for firefighters. In the end, both efforts matter.

"The community aspect of these efforts allows homeowners to be accountable to each other," says Fitzgerald-McGowan. "Neighbors influence each other's safety, and by joining in a program to increase that shared safety, they're committing to both the work and that accountability."

If you live in a Firewise community, you may have completed some if not all of the parcel-level mitigations required to achieve an IBHS Wildfire Prepared Home designation. If you're interested in IBHS certification, why not reach out to your neighbors and think about starting a Firewise USA community to further build resilience?

Living in the WUI

There's no way to speak lightly about New Mexico's current situation. Wildfires are burning hotter and more often. Premiums are climbing. Homes that have stood for decades are now deemed uninsurable.

But the research tells a more hopeful story. Homes burn for specific, identifiable reasons. Embers find vulnerabilities. Small fires become big fires. And those vulnerabilities can be fixed.

"Honestly, the attention we pay to vegetation is important," says Hurteau. "But what's just as and maybe more important is looking at your roof material. Is it dry and rotted up there? Are there places that could trap an ember? How are your vents covered? You have to consider the standards and whether your home is meeting those standards against flammability."

The 2024 South Fork and Salt fires in Ruidoso destroyed more than 1,400 structures. But some homes in the burn perimeter survived. They shared common traits: cleared vegetation around the structure, Class A roofing, screened vents, maintained yards. The fire and its embers that blew through that area found nothing to ignite.

A good outcome is more achievable than most homeowners realize. The work isn't free, and it's not always simple. But it's doable.

For those of us who live in the wildland-urban interface, drawn to it by the visual beauty of forested and rural landscapes, that mitigation work is becoming essential.

Whatever course you decide to take – [on your own, or with your community](#) – the benefits are simple. Taking action now could make all the difference between a home that survives and one that doesn't.

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DEFENSIBLE SPACE: WHERE TO BEGIN?

Elaine Thompson/AP



Here's a practical roadmap to beginning your defensible space and home hardening journey.

Start with the immediate or “zero” zone (0-5 feet)

Walk around your house and look for ember traps. Dry leaves in corners. Mulch against the foundation. Firewood stacked by the garage. The juniper you've been meaning to trim or cut down entirely. Clear the first 5 feet of anything that's combustible, including trash cans, deck chairs, and stuff stored under decks and porches. **This is the single most impactful thing most homeowners can do.**



Deal with your roof and vents

Keep your roof and gutters clear of debris. If you have a wood shake roof, upgrading to a Class-A roof should be high on your list. If that's not in the budget right now, at least screen your attic and eave vents and chimney and stove openings with 1/8-inch metal mesh. That's where embers get in.



Create breaks in vegetation (5-100 feet)

In the intermediate zone, focus on spacing. Remove ladder fuels—the stuff that lets fire climb from the ground into tree canopies. Prune lower branches. Put distance between shrubs.



Request a home hazard assessment

Many local fire departments offer free or low-cost wildfire risk assessments. A trained assessor will walk your property, identify vulnerabilities, and give you specific recommendations. Call your local fire department to ask.



Consider certification

If you're doing the work anyway, or if insurance is keeping you up at night, [look into the IBHS program](#). The application process guides you through the steps, and the certificate might help at renewal time. Visit: wildfireprepared.org

Talk to your neighbors. Wildfire doesn't care about property lines. Community organizing through Firewise or similar programs creates shared accountability and collective protection.