



Photo by Victoria Palacios



# BURNING Question

**Santa Cruz Mountains residents are navigating the challenges of how to build back stronger following the destructive CZU fire**

By **KATIE RODRIGUEZ**

## **Fires in the American West have changed dramatically.**

Since 2000, California has experienced 18 of the top 20 most-destructive fires recorded in the state's history. Six of those 20 fires occurred in the past year. Today, the state holds the unfortunate position of leading the U.S for the greatest number of fires, the most destructive fires (and, therefore, the most costly), and the highest number of properties at risk of wildfire damage.

One of California's most destructive fires to date was the CZU Lightning Complex fire, which tore through Santa Cruz and San Mateo counties after being sparked by lightning during an August thunderstorm last year. Swift winds brought by a shift in weather patterns converged smaller fires that then sprawled through the Santa Cruz Mountains, burning 86,509 acres, flattening 1,490 buildings and costing more than \$68 million to fight.

While the mountain region has much to offer (including a better chance at more space from neighbors, more vegetation and wildlife, and more home for less money), many residents are beginning to ask: What is

the human and economic cost of living in an area with increasingly destructive wildfires, and what does that mean for the future of having a home here?

"We were very sheltered from wildfire issues," says Roxanne Beltran, a professor in the Ecology and Evolutionary Biology department at UCSC, whose home burnt down in the CZU fire. "You hear stories about how people have to evacuate, but then their house makes it through the fire intact. We didn't take fire danger as seriously as we should have until we didn't have a home to return to."

Now, mountain residents like Beltran are facing the challenges of trying to adapt to climate change – an issue that a growing number of people will have to confront. With urban areas becoming too expensive for many to afford, more people are being driven to seek housing in fire-prone regions known as the Wildland Urban Interface, or WUI. These areas on the fringes of cities extend deeper into surrounding forested areas. One study found that from 1990 to 2010, 25 million people in the U.S. moved into such areas. In California, more than 2



million homes are in high or very high fire-hazard severity zones, according to Verisk's Wildfire Risk Analysis Report.

One major hurdle people often face in high-risk fire areas is higher premiums for homeowners insurance, as well as difficulties receiving a full payout from those policies to cover the expenses of rebuilding after a fire. While, in theory, securing insurance would ensure that the damage to a home is repaired, there are often vast discrepancies when it comes to how much it costs to rebuild.

"Our initial offer from the insurance company was about half of our policy limit, and therefore even less than half of what it would cost to rebuild the house, so that sends you into panic mode," says Beltran's partner and Año Nuevo Natural Reserve Manager Patrick Robinson. "We're still paying a mortgage on a house that doesn't exist."

Time, research and money for consultations, lawyers or adjusters are resources that many people don't have, but need, to see a full payout of their insurance policy. Even so, the true cost to build a completely fire-hardened home – retrofitted in ways that prepare it to be more fire resistant – can be more expensive than the aid a homeowner receives.

However, there are organizations like United Policyholders, a nonprofit that specializes in providing free assistance to disaster victims and assists with things like navigating insurance claims, seeking out preliminary information about rebuilding, and connecting homeowners with businesses to help rebuild.

"United Policyholders has been one of the most beneficial



Previous Page and Above: Property clearing and rebuilding process off Braemoor Drive. Photos by Trevor Jones

resources,” shares Beltran. “It’s a volunteer group of people who went through the [rebuilding] process and realized how terrible it was, and have now donated their time to put together materials and webinars.”

While California fire codes mandate that people choosing to rebuild or remodel their homes replace materials with noncombustible ones, the spectrum of home-hardening options can vary drastically — and

can have a price difference of tens of thousands of dollars.

“I think one of the biggest struggles for us — and I’m sure this is the same across the board for disaster victims — is there’s often a tradeoff between cost and fire proofness,” Beltran says.

In areas like the WUI where fire risk is at an all-time high, even the best preparation is not a guaranteed defense of a home against a raging wildfire. But simple changes to a home can turn

out to be a very effective way of better withstanding fires.

“There are loads of materials available and tons of technologies that are appropriate for building in the wildland urban interface that people just aren’t using,” shares Trevor Jones, a Bonny Doon resident, designer and general contractor.

Jones breaks down the array of options, including using technical materials or using natural materials. Using natural materials



Top right photo: The Mandan Indigenous communities of the Great Plains of North Dakota built lodges with mud, grass, or other natural-material roofs, which inspired the modern idea of the “earth shelter.”

## “Earth sheltering with a steel frame and a turf roof? That’s a really hard house to burn.”

—Trevor Jones, Bonny Doon resident, designer and general contractor



includes incorporating straw bale within the walls of a home; using rammed earth materials, a mixture of clay, soil, and gravel; or using pisé, a slightly more complex version of rammed earth that incorporates cement.

Technical materials include incorporating certain types of wood, either thermally treated or prefabricated mass timber; using steel structural insulated panels; or using hardie, a fiber cement product.

Jones also offers a third, more aggressive option — and, in his opinion, the most fire-proof: Earth sheltering, which involves building a home either partially or entirely underground. “Earth sheltering with a steel frame and a turf roof? That’s a really hard house to burn,” Jones says.

Things like wood shingles on roofs, single-paned windows, thin wood decks, sidings, vents, and any open cracks in the house are all red flags when it comes to resisting

wildfires. White picket fences? Jones calls them a thing of the past.

“We’re entering into an era as human beings that’s going to be dominated by change,” Jones says. “The builds in the WUI are something that should reflect the environment and the reality — the cultural, climate, and technological reality — as opposed to this nostalgic picture of what American homes should look like.”

While the ways to harden a

**Previous page top left, bottom: Baldwin O'bryan Architects** - Baldwin O'Bryan Architects is a firm based in Sydney, Australia focusing on structures for bushfire-prone landscapes. In addition to wildfire safety, they are more resistant to storms, flooding, and hail, and these structures have more efficient temperature control, efficient use of land, privacy, and better protection from noise pollution.

home with fire-resistant materials are not always cheap, there are some less costly ways to provide a buffer. Clearing pine needles, dry leaves and other debris from the gutters, roofs and undersides of patios are perhaps the easiest things to do. Defensible space, whether that's in the form of a 5-foot, 30-foot, or 100-foot perimeter surrounding the house, is integral for not giving ground fires the chance to crawl to a home.

For decades, fire suppression has been a popular tool to fight fires. Fearing that fires would grow out of control and threaten more populated areas, firefighters implemented a "search and destroy" plan of

attack to squander any chance for a smoldering fire to grow.

Today, that practice is fading thanks to growing research by fire scientists supporting the idea that prescribed burns are an essential tool for fire prevention – a tactic that has been practiced by Indigenous people for centuries. The idea is that small, controlled fires can help prevent clusters of trees from growing, ridding an area of forest debris and helping the area absorb more water by burning the plants that would suck up precious groundwater.

"There are several indications that fire can be healthy for the

environment," says Rob Oatey, division chief of the Santa Cruz Fire Department. "Back in the day, we did a tremendous job at suppressing fires, [but in doing so] we were allowing fuels to grow, collect and then die." Drought conditions have created an accumulation of dead fuel that is susceptible to even the smallest ember or spark, he adds.

"It's not a matter of if it'll happen again, it's just a matter of when," Oatey says. "Of course, no one likes to hear that. But one of my goals through outreach and education is to not have people be afraid, but more so be prepared." 🌀

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Surfer: Tyler Quinn  
 photo: @diegokatzakian

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