
Fire Triangle
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Fuel


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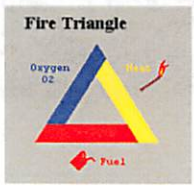
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Asheville Citizen Times 12/12/16 Did Sevier County's lax building codes help fire spread?
Jim Gaines, james.gaines@knoxvillebiz.com 6:42 a.m. EST December 11, 2016

Several Sevier County commissioners said last week they doubted any construction standards would have mitigated loss from a fire as big and fast-moving as the one that devastated Gatlinburg, killing 14 people and damaging or destroying more than 2,400 structures.
But research says the choice of materials, distance from trees, and accessibility to firefighters can greatly increase survival of people and buildings. Most of those are not mandated in Sevier County, though some are recommended.
"Something like this, I don't know what kind of building codes you could have that would have helped," Commissioner Phil King said. Commissioners Gary Cole and Michael Maddron echoed the sentiment. "This is a tragedy of epic proportions," Cole said. "As far as I'm concerned, this was a once-in-a-lifetime event that I honestly think wouldn't ever be replicated in my lifetime."

The risk to houses from forest fires was once considered mostly a "California problem," Jack Cohen wrote in a 2000 article for the Journal of Forestry. But it grew rapidly nationwide in the 1990s, according to Cohen, a research scientist for the U.S. Forest Service.
When a house survives a forest fire virtually undamaged, that is often portrayed as a "miracle," but in fact it's almost always a direct result of the house's construction and its immediate surroundings, Cohen said. "The key to reducing WUI home fire losses is to reduce home ignitability," he wrote. Houses with nonflammable roofs, such as corrugated metal, survive forest fires 70 percent of the time; while houses with wood-shingled or other flammable roofs only survive 19 percent of the time, Cohen found.

The key to preventing wooden walls from catching fire is keeping trees and flammable brush beyond a certain distance, he said. The hot front of a wildfire usually takes only a minute or so to sweep over an area, he found. But if the fire front is kept about 130 feet away from walls, by cutting back trees and brush, it would take at least 10 minutes for the house's walls to ignite from the heat, according to his research.

Guest columnist: You can't prevent fires - but you can plan for them
John Ross GUEST COLUMNIST 7:29 a.m. EST December 12, 2016

In comparison, the Party Rock fire above Lake Lure was just a mere warning. As I explore the region to gather information for a new book, I see real estate development after development reaching toward the tops of our forested ridges, just as they did in Gatlinburg. When more than 15 wildfires were burning in southwest North Carolina, friends living in mountain-side condo communities were advised to be ready to evacuate. It can happen here.
This poses vexing questions, not just for city and county planners, but for us as well. Should we accept mountainside developments anywhere bulldozers can climb? The populations of Buncombe and surrounding counties are among the most rapidly growing in the state. How

much growth is enough? What is the appropriate balance between development and land placed in conservation easement?

Asheville is reshaping its comprehensive plans, and I hope Buncombe County will likewise begin reviewing its long-term sustainability plan. Condo communities that stair-step up steep slopes would do well to adopt strict burn regulations instead of waiting for county and state agencies to impose them. In a similar vein, residents of mountainside communities should be briefed annually on evacuation procedures including when and where to go and what to take.

Aside from Smokey Bear's dictum: "Only you can prevent forest fires," there's little we can do to thwart a conflagration like the Gatlinburg fire. But we don't have to build communities in places that are likely to go up in smoke.

John Ross is a writer of books on natural history and strategic communications consultant living in Asheville.

Notes from Jack Cohen, USFS Research Scientist; Backyards and Beyond Conference 2015

1. If it doesn't affect the ignitability of the structure, it doesn't matter.
2. Ignition of structures is determined by local conditions, often at a scale of less than a few tens of feet.
3. Reducing home ignitability is the key.
4. Wildland Urban Interface (WUI) fire occurs when the fuel changes from wildland vegetation to urban fuel.
5. High intensity crown fires do not spread through developments – too many fuel breaks.
6. Firebrands (embers) easily travel half a mile or more.
7. The community burns independently of the wildfire.
8. WUI residential destruction is a home ignition problem, not a wildfire control or structure protection problem.