Study: Location of home a key indicator to risk of wildfire

By Bettina Boxall, Los Angeles Times

The expression “location, location, location” doesn’t apply just to buying real estate; it can also determine whether a house burns down in a wildfire.

Researchers who studied data on more than 5,500 buildings damaged or destroyed in Southern California fires during the last decade found the most vulnerable structures were in certain places and certain arrangements.

The results, recently published in the online journal PlosOne.org, have important implications for wildfire protection policies in the Southland, which focus on brush clearance and fireproof construction. That is not enough, say the authors, who argue there are some places where homes simply shouldn’t be built.

“We’re finding that geography is most important—where is the house located and where are [houses] placed on the landscape,” said the paper’s lead author, research scientist Alexandra Syphard of the Conservation Biology Institute.

Syphard and her coauthors from the U.S. Geological Survey and the University of Wisconsin gathered data on 700,000 addresses in the Santa Monica Mountains and part of San Diego County. They then mapped the structures that had burned in those areas between 2001 and 2010, a time of devastating wildfires in the region.

Buildings on steep slopes, in Santa Ana wind corridors and in low-density developments intermingled with wild lands were the most likely to have burned. Nearby vegetation was not a big factor in home destruction.

“If you want to predict whether or not a home will be lost in a fire, going out and looking at the surrounding fuels is not going to tell you nearly as much as looking at the location and the frequency of fires in that location in the past,” said coauthor Jon Keeley, a USGS research scientist and chaparral expert.

Comparing the state’s fire hazard maps with their own results, the researchers also concluded that on a local community scale, the state maps were not very good at identifying the most vulnerable areas.

The state maps estimate fire risk based on wild land fuel distribution, assuming that the denser and older the brush, the greater the threat. Because most of the Santa Monicas are covered with coastal scrub and chaparral, the state maps put most of the range in the medium- or high-risk category.

But during the study period, home loss was concentrated in only a portion of the Santa Monicas: in the Malibu area, which sits in the path of hot, dry Santa Ana winds that carry embers for miles.

Looking at vegetation growing within roughly half a mile of structures, the authors concluded that the exotic grasses that often sprout in areas cleared of brush could be more of a fire hazard than the brush. “We ironically found that homes that were surrounded mostly by grass actually ended up burning more than homes with higher fuel volumes like shrubs,” Syphard said.

Read the whole story