

WILDFIRE RISK AND THE HOUSING MARKET



Do homeowners understand the risk?

Between 1985 and 1994, wildfires in the U.S. destroyed an average of 900 homes per year. However, in 2003 the number rose to nearly 4,000 homes. These losses have increased awareness of the dangers of wildfire and have strongly influenced public policy. However, there has been little research examining how homeowners perceive the risk of wildfire to their homes, and whether these perceptions influence the housing market.



Concerned about the lack of public awareness of wildfire risk, the Colorado Springs Fire Department undertook a unique project to rate the wildfire risk of 35,000 parcels in that city's wildland urban interface. For each parcel, an overall risk rating was calculated (low, medium, high, very high, or extreme). On July 1, 2002, the fire department posted the wildfire risk ratings on the web (<http://csfd.springsgov.com/>). Homeowners can now look up the risk rating of their house, as well as information on how to reduce their wildfire risk. Since it was launched, the website has received an average of 5,000 hits a month.



Several factors contribute to a home's wildfire risk, including its construction materials, proximity to dangerous topography, vegetation density, and average slope in the surrounding area.



The impact of risk on housing price

We used the data collected by the Colorado Springs Fire Department as well as data on 9,903 house sales, to examine the effect on housing prices of overall wildfire risk ratings and the underlying variables that go into the risk calculations. We found that before the risk ratings were posted, houses with a higher risk rating had higher sales prices. This result may seem counterintuitive, but consider that wildfire risk can be correlated with positive amenity values. For ex-



ample, a house on top of a ridge has better views, but it also has a greater risk from wildfire. After the wildfire risk ratings became available, we found that wildfire risk and housing prices were no longer positively correlated. Analysis of the variables used to calculate wildfire risk ratings revealed that the change in homeowner views of wildfire risk were largely do to a change in tastes for wood roofs and siding. For example, before wildfire risk ratings were released, a wood roof added nearly \$12,000 to the price of a house, whereas after wildfire risk ratings were made available, houses with wood roofs sold for \$5,000 less than houses with less flammable roofs.

The effectiveness of the educational campaign

Our results show that the fire department's efforts were successful at increasing homeowner awareness of wildfire risk. We believe the project has been effective, because it provides information specific to each homeowner's property rather than providing broader-scale information.

EXCERPT FROM THE COLORADO SPRINGS FIRE DEPARTMENT WILDFIRE MITIGATION PLAN (2001):

In general, the public does not perceive a risk from fire in the wildland urban interface. Further, property owners believe that insurance companies or disaster assistance will always be there to cover losses. . . The effects of public education efforts have not been significant when compared to the need. Unless a catastrophic event occurs, wildland/urban interface protection issues generate little interest.



This study was a cooperative effort between the Colorado Springs Fire Department, and the USDA Forest Service's PNW, Rocky Mountain, and Southern Research Stations.

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