



THE INCREASING RISK OF WILDFIRE AND INSURANCE IMPLICATIONS

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◆ INTRODUCTION

Wildfire is an essential, often beneficial natural process as it helps regenerate the forest, revitalize the watershed and renew the soil. However, wildfire can also be a frightening and horrific natural peril threatening human lives and property. The wildfires which ravaged large swaths of northern and southern California in 2017 were the deadliest and most destructive fires in the state's history. According to the latest estimates, these California wildfires killed at least 46 people, damaged or completely destroyed nearly 16,000 homes and more than 700 businesses, and caused more than \$10 billion in insured damages.^{1,2}

Beyond the tragedy of the thousands of stories of personal loss, there is a general recognition of the exceedingly high social and economic consequences of wildfires and the need to devise appropriate strategies to manage the risk and protect people and their homes. Available and affordable insurance coverage for wildfire risk is at the core of an effective risk management strategy along with private and public risk mitigation efforts.

◆ THE STATE OF WILDFIRE RISK

Human settlement in close proximity with forested lands and peoples' interaction with forests has transformed wildfire from a natural process into a socioecological process with profound implications for the surrounding communities. The absence of low-severity fires, which had maintained the health of forests for millennia, partly as a result of decades of total fire suppression policy, has contributed to the large accumulation of deadwood, cones, needles, and overgrowth of brush and grass, providing the perfect biomass fuel to feed massive high-severity wildfires.³

The increased intensity and frequency of wildfires is also associated with changing climatic conditions and particularly with the dry west and southwest parts of the country and continuous development bringing an influx of people living along the wildland-urban interface (WUI). The WUI is described by the International Association of Fire Chiefs as "areas where homes are built near or among lands prone to wildland fire,"⁴ and as such it is an area of heightened wildfire risk and a key part of current decision-making around wildfires. The National Fire Protection Association (NFPA) defines the WUI more broadly as a set of conditions—including types of vegetation and structures in the area and their proximity to each other, weather and climate patterns, and general topography of the land—increasing communities' vulnerability to wildfire.⁵

While the climate in states such as Arizona, California, Colorado, New Mexico and Texas is favorable to wildfires, they should not be considered a problem exclusive to those states. Across the country, it is estimated 30% to 40% of the population lives in WUI areas, and more than one-third of all new houses built since 2000 are also in designated WUI zones.⁶

As an increasing number of people are drawn to these areas, attracted by the natural setting providing spectacular views, clean air, less congestion, and more affordable properties, the WUI continues to grow nationally. As more houses and businesses are built in the expanding WUI, the risk of wildfires will keep rising, resulting in higher costs for property owners, insurers, emergency responders and government agencies.⁷

A 2007 study showed the WUI had increased by 52% from 1970 to 2000 and estimated by 2030, the WUI area would total approximately 197,000 square miles or 126 million acres, with the largest expansion taking place in the intermountain west states.⁸ A more recent study by the Forest Service estimated the WUI has actually already surpassed that number standing, as of 2010, at about 298,000 square miles (191 million acres) or nearly 10% of the entire area of the conterminous U.S. This WUI area includes about 44 million houses, equivalent to one in every three houses in the country, and is home to about 99 million people, or about one-third of all people in the U.S.⁹

To more accurately assess the degree of risk of wildfire to a WUI area and the threat to the population, a study by the Forest Service classified residential population densities and burn probabilities into three risk categories: low, medium and high. By incorporating risk-based information into WUI mapping products, this study aids the development of tools to identify high risk communities, thereby prioritizing areas for risk mitigation efforts to reduce the likelihood of residential disasters. The study found about 40 million people or 13% of the country's total population are at risk to wildfire.¹⁰

The states with the largest WUI areas are Georgia, North Carolina, Pennsylvania and Texas, with each having about 15,000 to 20,000 square miles (10 to 13 million acres) of WUI. The states with the greatest number of houses inside the WUI are California (4.5 million) and Texas (3.2 million), followed by Florida, North Carolina and Pennsylvania (2 million to 2.6 million). States with the greatest number of people living in the WUI are California (11.2 million) and Texas

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(8 million), followed by Florida, Georgia and North Carolina, with 4.6 million to 5.3 million people living in WUI areas.¹¹

The importance of assessing and mapping wildfire risk becomes evident by the fact 96% of the homes endangered by the catastrophic Thomas fire which hit Southern California in December 2017 were located in areas of high or extreme wildfire risk, according to Verisk.¹² This kind of information is critical in wildfire risk management and can help support community planning efforts and sound policy decision making.

Verisk wildfire risk analysis has found in the 13 most wildfire-prone states, approximately 4.5 million homes are at high or extreme risk from wildfire, and another 6.7 million homes are in areas of moderate risk (Figure 1.) The housing numbers are based on data from the 2010 U.S. Census, and Verisk assesses wildfire risk at the address level using advanced remote sensing and digital mapping technology to determine the impact of three contributing factors: fuel, slope and access.¹³

California tops the list with a little more than 2 million homes or 15% of all homes in the state at high or extreme risk zones. An additional 12% of California homes are at moderate risk from wildfire. The percentages of homes at high or extreme risk from wildfire across the 13 states range from 27.6% in Montana to 5.4% in Washington (Figure 1.)

In the last 10 years, wildfires have increased dramatically in the U.S. According to Verisk, between 1970 and 1999, wildfires burned on average about 3 million acres each year. In the 2000s, the average increased to approximately 6.8 million acres, and since 2010, the average has surpassed 7 million acres a year. Across the top 13 states in terms of wildfire risk, 3.9 million acres were burned in 2016. Oklahoma topped the list with about 768,000 acres, California was second with 561,000 acres, followed by Idaho, Texas and Arizona, which averaged 342,000 acres burned (Figure 2 on the following page.)

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FIGURE 1: HOMES AT WILDFIRE RISK BY STATE

State	Housing Units	Homes at High or Extreme Risk from Wildfire	Homes at Moderate Risk from Wildfire	Percentage of Homes at High or Extreme Risk from Wildfire	Percentage of Homes at Moderate Risk from Wildfire
California	13,680,100 ¹⁴	2,044,800	1,667,100	14.95%	12.19%
Texas	9,977,400	715,300	2,331,100	7.17%	23.36%
Colorado	2,212,900	366,200	308,000	16.55%	13.92%
Arizona	2,844,500	234,600	477,600	8.25%	16.79%
Idaho	667,800	171,200	124,900	25.64%	18.70%
Washington	2,885,700	154,900	439,700	5.37%	15.24%
Oklahoma	1,664,400	152,900	342,100	9.19%	20.55%
Oregon	1,675,600	148,800	354,600	8.88%	21.16%
Utah	979,700	133,100	136,800	13.59%	13.96%
Montana	482,800	133,000	121,100	27.55%	25.08%
New Mexico	901,400	127,700	217,600	14.17%	24.14%
Nevada	1,173,800	63,500	120,900	5.41%	10.30%
Wyoming	261,900	35,500	71,100	13.55%	27.15%
Aggregate	39,408,000	4,481,500	6,712,600	11.37%	17.03%

Source: Verisk.

FIGURE 2: ACRES BURNED IN 2016 BY STATE

State	Number of Acres Burned in 2016
Oklahoma	767,800
California	560,800
Idaho	361,600
Texas	356,700
Arizona	308,200
Washington	293,700
Nevada	265,200
Oregon	219,500
Wyoming	218,100
New Mexico	212,400
Colorado	129,500
Montana	114,600
Utah	101,100
Aggregate	3,909,200

Source: Verisk, National Interagency Fire Center.

In 2017, with California experiencing the worst wildfire season in its modern history with devastating fires in Northern and Southern California, the number of acres burned in the U.S. came close to breaking a record. Although the numbers are still preliminary and the final numbers could be even higher, about 9.8 million acres were burned across the contiguous 48 states, the second highest since reliable records have been kept. Moreover, this is 49% higher than the average over the last 10 years.¹⁵

Given the rising costs associated with wildfire suppression and defending residential areas, a number of initiatives and solutions to reduce fire risk have been explored, including information and education campaigns about mitigation strategies for homeowners and business owners, reducing forest fuels, and improving land-use planning and zoning to control development in wildfire-prone areas. Home insurance is a key component in risk management strategies, which could incentivize risk mitigation, discourage residential overgrowth in WUI zones and reduce firefighting costs.¹⁶

This process requires the direct and full involvement of the public sector of all government levels and private industry. A close working relationship is needed between the owners and operators of critical infrastructure and emergency response systems and the insurance industry in order to devise better strategies and improve resilience. Risk mitigation, insurance and fire suppression should be treated as

complements rather than substitutes for meaningful land-use reforms and restrictions, building code updates, and responsible forest management.

At the same time, the wide availability and pricing reflecting risk mitigation or the lack of mitigation for homeowners insurance are very important for encouraging effective mitigation. Properly designed pricing and policy options recognizing community-wide and individual efforts can encourage WUI area homeowners to undertake wildfire risk mitigation actions. Incentivizing individuals would not only reduce risk to a single homeowner, but to the entire community as well.

A concern among many wildfire risk experts is insurance may become increasingly unavailable—and far more expensive when it is available—in the WUI zones following large and hugely expensive fires, transferring an enormous burden to state governments. Some suggest homeowners in those fire-prone areas should be compelled to assume a more equitable share of the fire suppression efforts through an insurance mechanism designed to ensure costs reflect actual wildfire risk.

The mechanism they advocate for is a federally-run program inspired by the National Flood Insurance Program (NFIP) and administered by the Federal Emergency Management Agency (FEMA).¹⁷ Using the lessons learned by the strengths and weaknesses of the NFIP, a National Wildfire Insurance Program (NWIP) would not offer any form of subsidies. However, charging actuarially sound premiums would shift wildfire suppression costs to those who benefit the most and successfully disincentivize the overdevelopment of the WUI areas.¹⁸ On the other hand, most insurance professionals would probably rate the chance of success for such a venture as minimal and offering no advantage over existing residual markets.

◆ **THE CALIFORNIA EXPERIENCE**

Following last year’s devastating fires, insurance availability and affordability has become a key issue of the policy debate in California. In fact, the California Department of Insurance (CDI) had already observed a significant rise in insurer-initiated non-renewals of policies in parts of the state with the highest percentage of homes located in high-risk fire-prone areas during the two-year period since the 2015 wildfires. Many homeowners have complained to the CDI insurance coverage has become exceedingly difficult to obtain, and when available it is typically priced above what is affordable for many of them.¹⁹

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Insurers, at least in principle, promote the idea of mitigation and risk-based insurance premiums and caution policies would not be renewed in the event of homeowner noncompliance with the insurer's mitigation requirements. However, there are reasonable concerns expressed by the CDI and other state agencies regarding insurer wildfire risk models used to rate homes and price homeowners insurance policies. The main concern is the models are not accurate and do not take into account mitigation done by homeowners such as home fortification and/or community efforts such as use of firebreaks and more stringent building codes. Moreover, insurers' models lack for the most part sufficient claims data to support the differences in rate in their filings for rate segmentation.²⁰

Although the CDI is exhausting all possible measures within its statutory authority to address the problems, it lacks the authority to mandate all needed requirements to fully resolve the existing concerns. For this reason, the CDI has proposed a legislative effort to develop the necessary set of solutions.

The California Legislature should provide legislation requiring insurers to: 1) offer homeowners insurance in the WUI if the homeowner takes specific mitigation measures, but also allow insurers to decline coverage and instead make available a "difference in conditions"²¹ policy or a "premises liability"²² policy; 2) offer mitigation premium credit to those homeowners who conduct proper risk mitigation; 3) get regulatory approval for their wildfire risk models used in rating or underwriting; 4) allow homeowners to appeal a rating score or other determined factor; and 5) stabilize the rating structure to ensure homeowners insurance rates and premiums are adequate, but not excessive, for the true wildfire risk.

New legislation touching on these issues was introduced on Jan. 4, 2018, to protect homeowners from losing their insurance coverage. The Wildfire Safety and Recovery Act (SB-824) by State Senator Ricardo Lara (D-Bell Gardens) would prohibit insurers from cancelling or non-renewing homeowners insurance after a wildfire disaster. The bill requires insurers to offer discounts to homeowners who take measures to reduce the risk of wildfire loss. Furthermore, in the interest of ensuring stability in the insurance market at a time of increasing uncertainty, the proposed bill would require the CDI to review and approve an insurer's decision to reduce the number of policies it has in a given geographical area.²³

To address the aftermath of wildfires and in order to ease the recovery process for wildfire survivors, a number of additional bills based on CDI proposals were introduced in the California Legislature in January 2018 amending or adding sections to the Insurance Code and include: 1) SB-894 to allow insureds who have suffered losses relating to a declared state of emergency to combine policy limits for primary dwelling, other structures, contents and additional living expenses, and use the combined amount for any of the covered purposes. Also, the bill would require insurers to offer to renew the policy for at least the next two annual renewal periods or 24 months, whichever is greater;²⁴ 2) SB-897 to require insurers to cover all reasonable expenses incurred by the insured in order to maintain a comparable standard of living and would provide a list of expenses that shall be covered.

The bill also allows insureds the option to receive up to 80% of their contents claim coverage without having to list out the items they lost;²⁵ 3) AB-1797 to require insurers to conduct a Replacement Cost Estimate for new homeowners insurance policies and at each annual renewal;²⁶ 4) AB-1772 to extend the time homeowners have to rebuild, from two years to three years;²⁷ 5) AB-1875 to require insurers to offer policies with replacement cost coverage of no less than 50% above the policy limits for the primary residence;²⁸ 6) AB-1800 provides that tall building coverage on the policy is available toward the replacement costs at another location;²⁹ 7) AB-1799 provides the claimant with a full copy of the homeowners insurance after a covered loss;³⁰ and 8) AB-1923 provides for a consolidated debris removal process.³¹

California homeowners may also have some protection against rate spikes by an initiated state statute approved by state voters in 1988 as Proposition 103, which limits insurers' ability to use the entirety of the prior year's catastrophe losses associated with an event, such as the 2017 wildfires, to model next year's rates. (These losses go into a rate-loading formula using at least 20 years of catastrophe data.)³²

While the legislative action proposed and supported by the CDI will certainly not completely resolve all WUI-related insurance issues, it provides a number of immediate solutions to alleviate the current situation and provide a modicum of protection and relief to affected homeowners. These efforts may help stabilize the insurance market and incentivize WUI homeowners to be more engaged in mitigation efforts.

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◆ CONCLUSION

The lessons learned by California and the actions taken by the CDI are extremely useful for policymakers in devising risk management policies to secure the economic and social well-being of all citizens and the stability of the insurance market. As wildfire risk continues to increase, all stakeholders—including federal, state and local governments; insurance regulators; fire protection agencies; insurers; and homeowners—should work in tandem to develop solutions to remove any obstacles to the implementation of sound risk management.

California Insurance Commissioner Dave Jones has stated “it is time to revamp land use decision-making so local governments bear liability and have to incorporate the costs of their decisions to put homes and businesses into high-risk fire areas.”

Without focused action, the issues of unavailability and unaffordability of insurance in fire-prone areas will only get worse. Active engagement and action by government officials at all levels—along with forestry and resource management experts, fire-fighting professionals, builders, landowners and general citizenry—is needed to address what is truly a national issue.

Endnotes

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- ¹² www.insurancejournal.com/news/west/2017/12/13/473909.htm

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- ¹³ www.verisk.com/insurance/campaigns/location-fireline-state-risk-report/
- ¹⁴ These numbers are offered for comparison purposes in this exhibit as they may include some commercial structures. Estimates from the California Department of Finance put the number of housing units of four units or less as close to 11 million.
- ¹⁵ <http://wildfiretoday.com/tag/statistics/>
- ¹⁶ Headwaters Economics, 2016. “Do Insurance Policies and Rates Influence Home Development on Fire-Prone Lands,” June 2016.
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- ²¹ Difference in conditions policy is a residential property insurance policy covering all risks currently offered by the insurer except for the coverages and perils offered by a basic property insurance policy issued by the California FAIR Plan Association pursuant to Insurance Code sections 10090–10100.2
- ²² Premises liability policy is one that covers bodily injury and property damage suffered by others in connection with the property, including personal liability coverage and medical-payment coverage.
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- ³² www.cnn.com/2018/01/18/after-wildfires-it-gets-tougher-to-insure-a-home-in-california.html

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