POLICY BRIEF

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The Role of Public Policies in Encouraging Housing Development in High Fire Hazard Areas

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Introduction

In California, housing development continues to increase in areas at high risk for wildfire (Figure 1). As of 2010, there were 4.46 million homes in California in the Wildland-Urban Interface (WUI), a 34% increase since 1990.[1] The WUI refers to areas where houses meet or intermingle with wildland vegetation.[2] Development within and expansion of the WUI increases the likelihood of wildfires by increasing human ignitions and the losses from wildfires by putting houses at greater risk.

The WUI continues to increase despite the threat of wildfire, in part because people value the amenities gained from living close to wildlands. Although there are clear benefits to homeowners from WUI development, there are also costs associated with increased exposure to wildfire risk. In many cases, these costs are not borne by the homeowner but rather by the broader public, most of whom live outside of the WUI. Shifting the burden of wildfire risk to non-WUI residents is effectively a subsidy for WUI development that can result in excessive housing losses from wildfire and expenditures on fire fighting.[3,4]

There are policies at the federal, state, and local level that influence decisions about development in the WUI. These policies can be categorized in terms of whether they:

- Encourage WUI development and expansion by shifting the cost burden of wildfire risk to people living outside of the WUI[5], and
- Discourage WUI development by ensuring that costs associated with wildfire risk are paid by homeowners in the WUI.

The purpose of this policy brief is to evaluate a key set of public policies in California in terms of the incentives they create for WUI development.

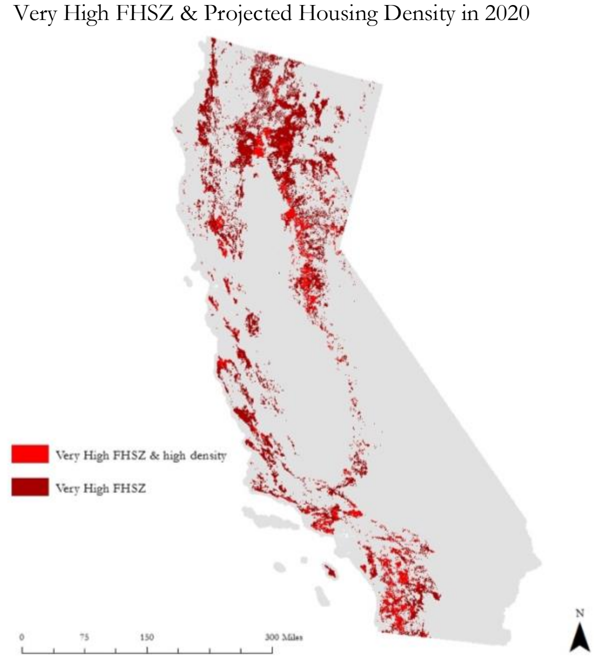

Figure 1. Areas in California that are 1) projected to have housing densities greater than 6.18 units/km² in 2020 and rated Very High Fire Hazard Severity Zone (FHSZ), and 2) projected to have housing densities less than 6.18 units/km² in 2020 and rated Very High FHSZ. (CAL FIRE FHSZ & Helmers, D.P., SILVIS Lab)

Policies That Encourage WUI Development

Fire Prevention and Suppression

Within California, the State Board of Forestry designates privately held land as either State Responsibility Area (SRA) or Local Responsibility

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Area (LRA), which determines responsibility for fire prevention and suppression in those areas. For the most part, the California Department of Forestry and Fire Protection (CAL FIRE) is responsible for fire prevention and suppression in the SRA while the LRA is the responsibility of city and county fire departments or fire prevention districts.[6,7]

Although the majority of CAL FIRE's fire prevention and suppression efforts directly benefit homeowners in the SRA where the wildfire risk is high, those services are paid for by everybody in California. Depending on the fiscal year, approximately 85-90% of the funding for CAL FIRE comes from the State's General Fund and Reimbursements. Although CAL FIRE responds to other emergencies, such as automobile accidents, their primary function is to fight wildland fires within the SRA. Because CAL FIRE's budget largely comes from taxpayers living outside of the WUI, CAL FIRE's fire-fighting efforts are effectively a subsidy that lowers the costs of WUI development.

In addition to fire suppression, CAL FIRE funds fuels management programs designed to reduce wildfire hazard and severity. The Vegetation Management Program[8] and the California Forest Improvement Program[9] are cost-share programs that cover part of the cost of fuels management projects on private land. Additional funds for fuels management are available through the Fire Prevention Grant Program.[10] Like fire suppression, these programs shift part of the cost of managing fire hazards from WUI homeowners to non-WUI residents, thereby encouraging development in the WUI.

Fire Insurance

Most homeowners in California obtain home insurance through the private market. The California Department of Insurance sets limits on rates that private insurers can charge for auto, homeowners, and casualty insurance.[11] Studies of insurance markets find that rate caps have the effect of not only lowering premiums, but also reducing the number of policies that are offered.[12] Because they face high risk from wildfire, some homeowners in the WUI are unable to obtain insurance through the private market. If there were no rate limits, private insurers could raise premiums to compensate for the higher risk. However, with rate caps in place, insurers choose instead not to insure high-risk properties.

The lack of insurance, or very expensive insurance, would signal to homebuilders that development in the WUI carries significant risk from wildfire. However, in California this signal is dampened by the California Fair Access to Insurance Requirements (FAIR) Plan. The FAIR Plan is an insurance pool created in 1968 to "assure the availability of basic property insurance to people who own insurable property in the State of California and who, beyond their control, have been unable to obtain insurance in the voluntary market."[13,14] Every insurer licensed to write property insurance in the State of California is required to participate in the FAIR Plan.[15] FAIR Plan insurance is more expensive than a typical homeowners policy and is limited in what it covers, but it provides homeowners in the WUI an insurer of last resort.[16] The alternative of no insurance or insurance rates determined by the private market would likely raise the costs of WUI development, and therefore discourage it.[17]

Local Land-Use Planning and Federal Funds

There are also local policies that encourage development in the WUI by reducing the exposure of homeowners to wildfire risk. By state law, local general plans must include implementation measures for the protection of communities from wildfires in the SRA and areas of the LRA categorized Very High Fire Hazard Severity Zone by CAL FIRE.[18,19] If communities adopt a Local Hazard Mitigation Plan (LHMP), local agencies become eligible for Federal Emergency Management Agency (FEMA) funding after a federally-declared disaster. The FEMA funds can be used to implement mitigation measures that reduce the loss of life and property from future disasters.[20] Additionally, a Community Wildfire Protection Plan (CWPP)[21] can be created by local governments to determine how additional federal funds can be distributed for fuel-reduction projects on non-federal land and identify fire hazard reduction strategies for at-risk communities.[22,23] Communities that adopt the plans reduce the cost of living in the WUI by gaining access to federal funding for risk mitigation projects. Since the

grants come from the federal government, homeowners in the WUI bear only a small share of the risk reduction costs.

Policies That Discourage WUI Development

Fire Prevention and Suppression

While a majority of CAL FIRE's funding comes from the State's General Fund and Reimbursements, a portion also comes directly from individuals living in the WUI. The third largest source of funding for CAL FIRE is the SRA Fire Prevention Fee (FPF). The SRA FPF is a fee of $153.33 per habitable structure per year levied on all habitable structures within the SRA.[24] However, after the 2017-2018 fiscal year, the fee will be suspended until 2031.[25,26] This fee represents a source of funding for CAL FIRE that comes directly from those who rely on CAL FIRE's wildfire prevention and suppression efforts, requiring WUI homeowners to bear part of the cost of reducing their wildfire risk exposure.

Although local planning activities, such as the development of LHMPs and CWPPs, can encourage development in the WUI, the Wildland Fire Suppression Assessment District (District) in Santa Barbara does the opposite. The District, covering about 3,300 homes, provides fire prevention services to homeowners to reduce the severity and damage of wildfires.[27] Rather than applying for state and federal grants, the District is funded by an annual special assessment fee that averages $65 per property per year.[28] Although unique to Santa Barbara, the assessment fee is an example of a policy that requires property owners to pay directly for reduced wildfire risk exposure.

Building and Fire Codes

In order to reduce the impact of wildfires, structures in the WUI are subject to more stringent building and fire codes.[29,30] These codes increase the cost of building and maintaining homes in the WUI by an average of $1,800 per home.[31] Structures in the WUI are also required to maintain defensible space[32] and homeowners must disclose the possibility of a natural hazard at the time of a property sale[33]. Building code and defensible space requirements discourage development in the WUI by requiring homeowners to bear the cost of reducing their exposure to wildfire risks. Disclosure requirements have the potential to reduce home values in WUI, thereby reducing development incentives.[34,35]

Summary and Recommendation

Key public policies at federal, state, and local levels shift the cost burden of wildfire risk away from WUI homeowners to non-WUI residents. Subsidizing development in high fire hazard areas encourages development in the WUI, which can result in excessive housing losses and expenditures on fire suppression. Climate change has increased fire activity in the western U.S.,[36] and is likely to raise future costs of WUI development. There are some policies in California, including the SRA Fire Prevention Fee and building codes, that make homeowners in the WUI bear some of the costs associated with wildfire risk, and thus have the potential to discourage development in the WUI.

We recommend that 1) policies in California be re-evaluated from the perspective of whether they encourage WUI development and thereby magnify wildfire risks and associated public expenditures and 2) consideration be given to new or re-formulated policies that ensure homeowners in the WUI bear some of the cost associated with living in areas at high risk for wildfire.

Endnotes

1. "New analyses reveal WUI growth in the U.S." U.S. Department of Agriculture, Forest Service, Northern Research Station. https://www.nrs.fs.fed.us/data/wui/. Accessed 7/31/2018.
2. The wildland-urban interface is defined as the area where houses meet or intermingle with undeveloped wildland vegetation." Intermix WUI contains areas that intermingle with wildland while interface WUI merely abuts wildland vegetation. For more details, see Radeloff, V.C., et al. 2005. The Wildland-Urban Interface in the United States. Ecological Applications 15(3):799-805.
3. "Frequently Asked Questions: Questions About Designations of Very High Fire Hazard Severity Zones in Local Responsibility Areas". http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_faqs#desig01. Accessed July 2018.

4. Subsidies for development in the WUI can result in "too much" development in the sense that the costs of development, including losses from wildfire and public expenditures on fire-fighting, outweigh the benefits.
5. Of course, there are many government programs that are funded by all taxpayers but provide direct benefits to a smaller group of people (e.g., K-12 education). The typical rationale for such programs is that they generate substantial *indirect* benefits for everybody. In the case of WUI development, it is not clear what indirect benefits are generated for the broader public.
6. "Fire Prevention". http://calfire.ca.gov/fire_prevention/fire_prevention. Accessed July 2018.
7. Some exceptions exist where CAL FIRE is contracted to protect areas within an LRA. Alternatively, six counties have contracts with CAL FIRE to provide fire protection for SRAs that lie within their county jurisdiction while CAL FIRE provides the funding for wages, lookouts, firefighting facility maintenance, and fire prevention.
8. Vegetation Management Program (VMP) is a cost-sharing program that focuses on the use of prescribed fire and mechanical means to reduce wildland fuel hazards exclusively on SRA lands. VMP allows private landowners to enter into a contract with CAL FIRE, where CAL FIRE determines the suitability of and implements projects. Liability for prescribed burns rests with CAL FIRE rather than the private owner.
9. California Forest Improvement Program (CFIP) is a cost-sharing program but only applies to public or private ownership of forest land between 20 and 50,000 acres.
10. Fire Prevention Grant Program (FPGP) is funded through the Greenhouse Gas Reduction Fund and administered by CAL FIRE, who implements projects that not only reduce the risk of wildland fires to habitable structures but also sequesters carbon in forests and minimizes emissions from wildfires.
11. "Information Sheet: Proposition 103 Intervenor Process". http://www.insurance.ca.gov/01-consumers/150-other-prog/01-intervenor/info.cfm. Accessed July 2018.
12. Grabowski, H. et al., Price and Availability Tradeoffs of Automobile Insurance Regulation. The Journal of Risk and Insurance. 1989. 56. 275. DOI:10.2307/252989
13. California FAIR Plan Property Insurance. http://www.insurance.ca.gov/01-consumers/150-other-prog/01-intervenor/info.cfm. Accessed July 2018.
14. The FAIR Plan was adopted before insurance rate caps were in place under Proposition 103 because some property owners were unable to obtain insurance at all due to the high-risk of their properties.
15. Ibid.
16. Even with the FAIR Plan in place, California Department of Insurance (CDI) is working to make it easier to obtain fire insurance within the WUI. Based on research performed by CDI, premiums and wildfire surcharges have increased significantly in the WUI and most insurers do not take into consideration wildfire mitigation when writing policies. CDI has already made a number of changes to the FAIR Plan in order to improve the availability of fire insurance: 1) ensuring plans cover debris removal and the replacement cost for contents of a home, 2) removing the rule requiring proof of being turned down by three private insurers before going to the FAIR Plan, and 3) requiring a searchable database of registered brokers authorized to sell FAIR Plan policies.
17. Although a formal analysis is needed, FAIR Plan rates are likely to be below the rate determined by the private market in the absence of rate caps. If the private insurers were willing to offer policies at lower rates, that would push homeowners into the private market and there would be no FAIR Plan enrollment.
18. Senate Bill 1241 and Government Code Section 65302
19. CAL FIRE created Fire Hazard Severity Zone (FHSZ) maps of the entire State (SRA and LRA) that categorize areas as Moderate, High, or Very High fire hazard due to a wildfire.
20. Hazard Mitigation Grant Program Fact Sheet. Governor's Office of Emergency Services. http://www.caloes.ca.gov/HazardMitigationSite/Documents/007-Hazard%20Mitigation%20Grant%20Program%20Fact%20Sheet_April%202018.pdf. Accessed July 2018.
21. For example, within Santa Barbara County, there are two approved CWPPs (Mission Canyon and Goleta), a draft CWPP (Montecito), and a fourth that is in the early stages of development (San Marcos Pass/Eastern Goleta Valley Mountainous Area). These CWPPs will allow communities to access funds that otherwise would not be available through a number of grant opportunities.
22. *Fire Hazard Planning: General Plan Technical Advice Series*. Governor's Office of Planning and Research.

May 2015. http://opr.ca.gov/docs/Final_6.26.15.pdf. Accessed July 2018.
23. "Community Wildfire Protection Plan". http://www.sbcfire.com/Community-Wildfire-Protection-Plan-for-Eastern-Goleta-Valley-Mountainous-Areas/. Accessed July 2018.
24. "About the Fire Prevention Fee". http://www.fire.ca.gov/firepreventionfee/. Accessed July 2018.
25. Ibid.
26. Funding from the SRA FPF will be covered by revenue from the State's cap-and-trade program once the fee is removed.
27. The services include defensible space evaluations, vegetation road clearance, an annual chipping program, and overall vegetation management.
28. Assessing the Effectiveness of Fire Management Strategies in the Wildland Urban Interface: A City of Santa Barbara Case Study. Bren School of Environmental Science and Management. April 2016. http://www.esm.ucsb.edu/research/2016Group_Projects/documents/FINALREPORT-1signaturesredacted.pdf. Accessed July 2018.
29. California Building Code Chapter 7A: Materials and Construction Methods for Exterior Wildfire Exposure; California Fire Code Chapters 47: Requirements for Wildland-Urban Interface Fire Area
30. The Fire Hazard Severity Zone (FHSZ) rating determined by CAL FIRE is important for understanding where Chapter 7A building codes and Chapter 47 fire codes are required for new construction: 1) Moderate, High, and Very High FHSZs in the SRA, 2) Very High FHSZs in the LRA, and 3) Wildland-Urban Interface Fire Area, which is "a geographical area identified by the State as a 'Fire Hazard Severity Zone'" and any additional areas determined by local authorities.
31. "Communicating Fire Hazard Severity Zones and Wildland-Urban Interface Building Standards". CAL FIRE Communications Office. http://www.fire.ca.gov/fire_prevention/wildland_teamdocs/downloads/Communication_Presentation_Print_Version.pdf. Accessed July 2018.
32. Government Code Section 51182
33. Government Code Section 51183.5. For more information, Government Code Sections 51175-51183 define the roles and responsibilities of LRA Very High FHSZ adoption.
34. Pope, J.C., Do Seller Disclosures Affect Property Values? Buyer Information and the Hedonic Model. Land Economics. November 1, 2008 vol. 84 no. 4 551-572, DOI: 10.3368/le.84.4.551
35. The impact of these price signals (i.e. SRA FPF, assessment fees, and higher building costs) on development is likely to vary based on location. While $1,800 may be significant for someone building a home in an area where the average home value is $300,000, it is less likely to matter for someone building in locations where median home values exceed $1 million (e.g., Santa Barbara). Similarly, the impact of a given assessment fee on development in the WUI will likely depend on the relative wealth of the community.
36. Westerling, A. L., Hidalgo, H. G., Cayan, D. R., & Swetnam, T. W. (2006). Warming and earlier spring increase western US forest wildfire activity. *Science*, *313*(5789), 940-943.

Recommended Reading

Moritz, M.A. & Knowles, S.G. Coexisting with Wildfire: Promoting the right kind of fire – and smarter development – is safer and more cost-effective than fighting a losing battle. American Scientist, Vol. 104. 2016.

Moritz, M.A. et al. Learning to coexist with wildfire. Nature Vol. 515. November 2014. doi:10.1038/Nature13946.