



Research Brief for Resource Managers

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Land Use Planning to Reduce WUI Fire Risk in France and California

Kocher, Susan and Van Butsic. Governance of Land Use Planning to Reduce Fire Risk to Homes Mediterranean France and California. Land 2017, 6(2), 24; doi:10.3390/land6020024. <http://www.mdpi.com/2073-445X/6/2/24/htm>

Though wildfire is a natural part of forested Mediterranean systems, it is also a constant threat to homes and lives. Land use planning can be used to reduce exposure of homes to wildfire. Policies doing this in southern France and California are compared in this paper. Authors reviewed land use and fire related documents in both locations and interviewed local key informants for insight on how policies are implemented.

Results: Both Southern France and California have large amounts of housing in the Wildland Urban Interface where local vegetation is highly dense and fire adapted. However, the amount of land burned in California recently is 50 fold more and the number of houses burned is exponentially more than in France (see Table 1).

Table 1	S. France	California
Population-millions 2013	8.8	39
Area-km ²	155,540	423,971
Density-persons/km ²	57	97
Annual Area Burned-km ²	40	2126
Largest Fires-km ² 2003	614	1106
Largest Structure Loss	<10/year	3280 1991 Oakland hills fire

Land use planning in France: The national government creates a unified land use planning framework for the entire country, which consists of 101 departments. Local jurisdictions develop local land use plans with technical input and

Management Implications

- Currently far fewer structures burn due to wildfire in France than in California.
- In France, national and regional governments mandate local fire risk prevention plans that prohibit new development in high risk areas AND impose mitigation measures on existing development.
- In California, state agencies recommend mitigation measures for existing development, but local jurisdictions are not required to adopt them. State WUI building codes are required only for new development in high risk areas.
- California communities could improve wildfire risk mitigation by implementing the suggestions in this brief (page 2).

expertise from national and departmental governments. Departments may mandate development of wildfire risk prevention plans by local jurisdictions with high fire hazard. Plans must consider ways for local jurisdictions to reduce fire hazard such as construction of new access roads for fire and rescue vehicles and ongoing fuels clearance along roads for fire suppression. Local jurisdictions must adopt these risk reduction plans as an overlay to their local plans.

These fire risk prevention plans affect homeowners in high hazard zones by prohibiting subdivisions and construction of additions. Homeowners may be required to upgrade roads, create defensible space, and renovate their

existing homes by installing new shutters, gutters, and building materials within five years at a potential cost of up to 10% of the property value.

Exceptionally, the government can expropriate property if displacing people whose life is threatened by a risk proves to be the only solution at an acceptable cost.

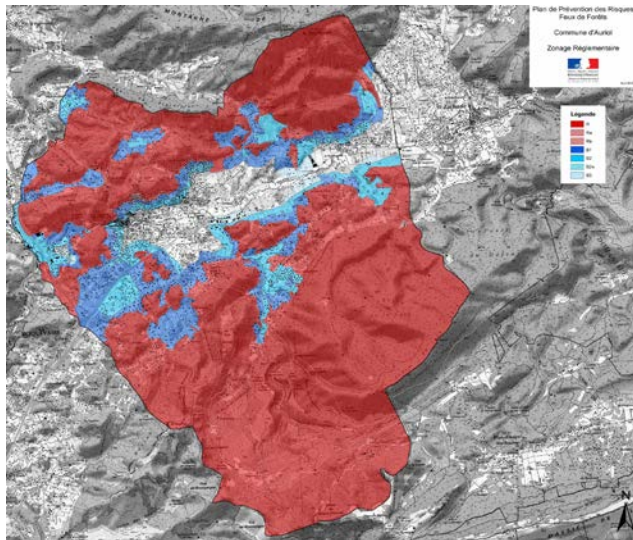


Figure 1. Overlay of wildfire hazard zoning developed in the Aurial community of Mediterranean France. No new construction is allowed in the red zone due to wildfire hazard.

Plans go through extensive vetting with local elected officials, agencies, and citizens. Local officials may request reclassification of high risk areas if they agree to install needed infrastructure at their own cost, such as roads, fire hydrants, and fuels reduction.

Land use planning in California: The United States has a federal government system in which each state has its own jurisdiction over land use planning. In California, planning is guided primarily by general plans prepared at the local level. State laws provide guidelines and minimum standards for general plans. Finally, the federal government manages wildfire risk on federal lands and provides funding for community based fire risk reduction projects.

CalFire, the state agency responsible for wildfire response in California, provides fire information utilized in local plans including a system of fire hazard zoning. In very high fire hazard areas, applications for new subdivisions must include detailed fire risk assessments and specific findings before they are allowed, and new home

construction must adhere to WUI building codes which require use of ignition resistant coverings for exterior walls, doors, decking and vents, as well as glazed windows. There are no requirements imposed on existing structures in these zones.

Since 2012, CalFire has been mandated to review local plans and make recommendations for wildfire risk mitigations. However local jurisdictions are not required to adopt these as long as they document their reasons for not doing so.

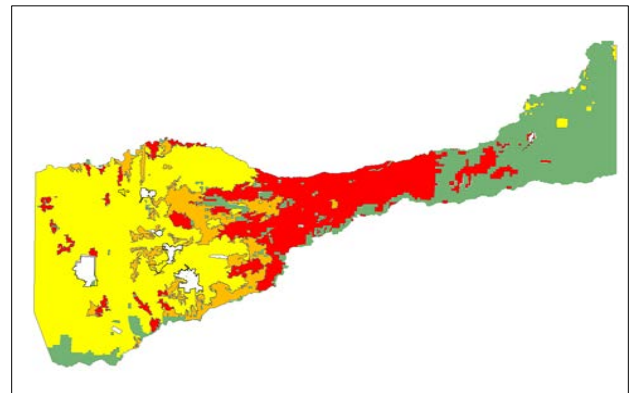


Figure 2. Overlay of wildfire hazard zones developed by CAL FIRE for use by Amador County. The red zone has very high fire hazard.

It is not known how much the centralized planning process in France results in the very low number of homes destroyed by fire there. Additional factors no doubt include less fire exposure, less use of combustible building materials, climate variability, vegetation and fuel characteristics, and wildfire suppression tactics.

However, California communities could still learn from France land use planning by (1) centralizing data across levels of government to aid decision making (2) involving fire professionals earlier and more thoroughly in the planning process (3) increasing communication and collaboration between local, state, and federal agencies (4) strengthening land use planning requirements within general plans in fire prone areas.