

A Model for Improving Community Preparedness for Wildfire

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Anecdotal evidence and research leading to the development of programs such as Firewise, FireSafe, and FireFree suggest that there are steps that communities can take to reduce their risk from wildfire. Reducing wildfire risk is a focus in communities across the country. Even in areas not traditionally considered at high fire risk, storm events, changing climate, and pest/disease outbreaks have focused attention on the potential for catastrophic fire. In addition, in areas where fire is viewed as a natural part of the ecosystem, the fact that more and more people choose these places to live means that there is a greater potential for significant fire impacts (fig. 1).



Figure 1.—More people are choosing to live at the wildland-urban interface, increasing the potential impact of wildfire

We initiated a study of communities who are taking steps to increase their preparedness for wildfire. We are seeking answers to two questions:

1. What steps has the community taken to increase wildfire preparedness?
2. What social resources/conditions have been necessary to support these steps?

Our desired outcome is to increase wildfire preparedness by suggesting actions a community can take given its social and landscape characteristics.

We have developed a model to help us understand wildfire preparedness (fig. 2). Actions to increase wildfire preparedness are affected by decisions made by individuals and the community. Individuals have resources that influence and are used to implement decisions regarding the siting of structures, building materials, landscaping, access, and other factors that impact wildfire preparedness (fig. 3). Com-

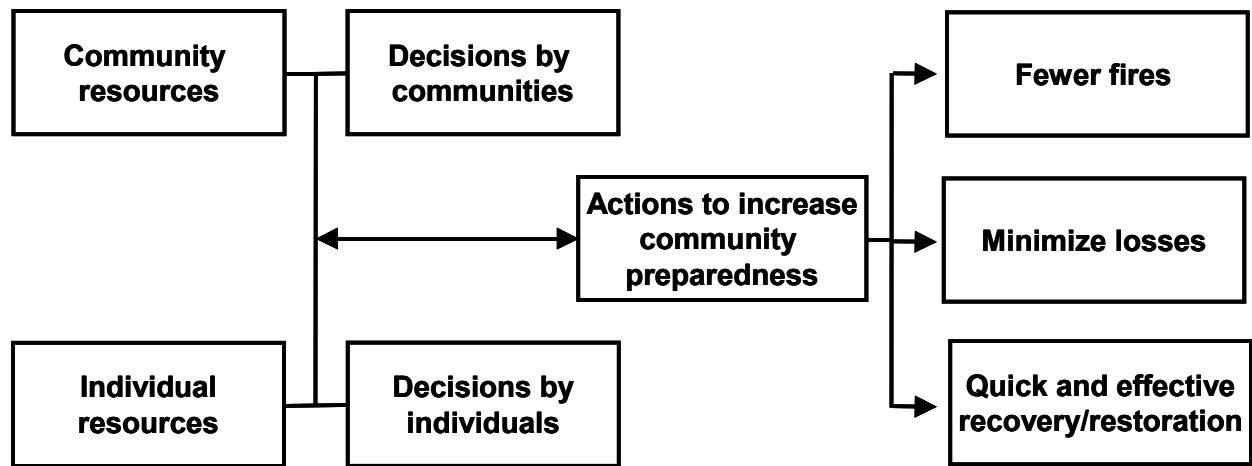


Figure 2.—*Model for understanding community preparedness for wildfire*

munities also have resources that influence and are used to implement their decisions relating to zoning, planning, education, and other activities that impact wildfire preparedness (fig. 4). Agencies within these communities have resources that influence and are used to implement their decisions relating to the purchase and availability of equipment and gear, scheduling and conduct of training, and implementation of protocols. Decisions made at both the individual and community level come together in a set of actions aimed at increasing wildfire preparedness. As a result of these actions, we anticipate that communities will minimize their losses from wildfire, and that recovery or restoration following a fire will be quick and effective. We could even argue that prepared communities will experience fewer fires. Many preparedness activities are aimed at reducing the fuel load in and around communities, lessening the chance that a lightning strike or other ignition source will find the fuel it needs to grow into a significant fire. In this study, we are interested in the actions taken by communities to increase wildfire preparedness and the social resources or conditions necessary to implement and support these actions.



Figure 3.—*Individuals can decrease their wildfire risk by the building materials and landscaping they choose*



Figure 4.—*By sponsoring activities such as clean-up days, communities can encourage landowners to take steps to increase wildfire preparedness*

We conducted three pilot studies to test our model. Pilot studies were in northern Minnesota on the Gunflint Trail; Bend, Oregon; and Waldo, Florida. Based on what we have learned from the pilot case studies, we have begun to focus on five community resources or characteristics that are critical to wildfire preparedness:

- **Social Capital.** We are defining social capital as the community characteristics that contribute to collective social action. Communities that are described as having social capital would have strong leadership within the community, networks to encourage coordination and cooperation, and the ability to mobilize resources.
- **Human Capital.** We define human capital as the knowledge and skills an individual obtains through education and training.
- **Cultural Capital.** Like human capital, cultural capital includes knowledge and skills of individuals, but it's knowledge and skills people possess because of their heritage, experience, and place attachment.
- **Agency Involvement.** Agency involvement could mean one agency working alone, a couple agencies working separately but towards a common goal, or multiple agencies truly integrating their activities. Regardless of the approach, agency involvement was important in affording the local community access to the myriad of public programs providing funding and materials for wildfire preparedness. Agencies also provide expertise and skills to the community to aid in wildfire preparedness.
- **Landscape.** Vegetation and topography that have a huge influence on fire frequency and risk, but there are also social aspects to landscape. For example, land ownership is a social characteristic of landscape that affects wildfire preparedness.

We expanded our wildfire preparedness model to include the necessary social foundation discussed above: social capital, human capital, cultural capital, agency involvement, and landscape (fig. 5). We will test the model in at least 15 communities nationwide.

Key informant interviews are the primary data collection tool for our case studies. We use key informant interviews to collect information on what steps the community



Figure 5.—Building a foundation for community preparedness for wildfire

is taking to increase wildfire preparedness and what resources have been necessary to implement these steps. In each community we interview people whose jobs make them responsible, in part, for wildfire preparedness, including the federal lands fire management officer, the state agency fire management officer, county emergency preparedness official, local fire chief, and sheriff (fig. 6). In addition, we interview people whose job responsibilities are tied to wildfire preparedness in the community, including real estate agents, bankers, developers, and contractors. From each of these people we obtain names of citizens who are active in wildfire preparedness. We also interview these involved citizens. In the pilot communities, interviews lasted from one to seven hours. We interviewed an average of 13 people in each pilot community (this number is as of July 2002, a few interviews remained to be completed in each pilot community).



Figure 6.—Key informants such as federal fire management officers can offer keen insights as to a community's wildfire preparedness

The product of this research will be recommendations for actions a community can take to increase wildfire preparedness based on the ecological characteristics of their landscape and the social characteristics of the community. The outcome of this research will be communities who, if they experience a wildfire, will minimize their losses and recover and restore their communities more quickly because they have implemented are taking to increase wildfire preparedness and what resources have been necessary to implement these steps.

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