

Homeowner Perceptions and Motivations Regarding Wildfire Hazard and Fuels Management



“Natural Environments for Urban Populations”

A research work
unit of the USDA
Forest Service
North Central
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The natural features and amenities of rural areas attract homebuilders and homebuyers in many parts of the U.S. At the same time, the growing number of people moving into the wildland-urban interface (WUI) complicates efforts to both manage wildfires and mitigate their effects on nearby people and property. In order to develop effective fire management plans, decision makers need a clear understanding of how WUI residents perceive fire hazard and local fuel-management practices.

As part of a National Fire Plan project, we initiated 11 cooperative research projects with 8 universities across the U. S., focusing on places in or adjacent to high fire-risk areas. Study participants lived in Michigan, Minnesota, Wisconsin, Massachusetts, Florida, California, and Colorado. Below are findings from six of the studies.

Trust and Information Sources. People are most likely to support any specific fire management technique (including mechanical fuel reduction and prescribed fire) if they trust the agency that is carrying out the activities. **In Michigan, Minnesota, and Wisconsin, the U. S. Forest Service and state Departments of Natural Resources topped the list of agencies that could be trusted to make good wildfire management decisions.** This study also asked homeowners what sources they turned to for reliable information about wildfire issues, from family and friends, to media and nonprofit organizations, to brochures and other communications by public agencies. **Study participants found government information sources to be the most trustworthy. Guided field trips and conversations with agency personnel were identified as especially helpful – most likely because these settings provide opportunities for residents to ask staff members multiple questions in order to clarify and verify information.**

Familiarity breeds acceptability. Several studies examined the acceptability of different fuel treatments and defensible space practices and found a strong link between homeowner knowledge about a practice and support for it. For instance, one study found that respondents with accurate knowledge about prescribed burning were less likely to think it was too dangerous, to be concerned about having prescribed burns near their homes, or to be concerned about smoke, appearance, and a burn's effects on wildlife habitat. On the other hand, when respondents did not have a clear understanding of what a treatment practice entailed, they were more prone to give only qualified approval of the practice or to hold negative views of it. For people who make decisions about fuel reduction and fire management strategies, this means that clear and



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honest communication with homeowners about different techniques *before they are used* will help build trust in both the technique and the implementing agency.

Non-fire concerns influence people’s willingness to modify the landscape. One study found that homeowner attitudes toward modifying the landscape – and their willingness to create and maintain defensible space on their own property – were shaped by four factors that were not necessarily related to fire risk: **the ability to see and attract wildlife, the desire for privacy, the desire to live in a “natural” landscape, and aesthetic preferences.**

In some instances, homeowner actions that improved a property’s fire resistance were taken for non-fire-related reasons. For example, homeowners installed fire-resistant siding with the express intent of preventing rot and deterring termites. Or they removed dead or dying trees in order to prevent wind or hurricane damage, thereby also removing potential fire fuel.

Participants in another study listed non-fire-related factors that they thought should be considered in wildfire management decisions. **The two most prominent of these were concern about forest health and concern about wildlife habitat.**

Local Factors Need to be Considered. Additional research suggested that local norms play a role in whether or not homeowners implement defensible space practices. In particular, approval by the local fire department, U. S. Forest Service, or immediate family members influenced respondents’ decisions to engage in fire mitigation activities. Many homeowners also wished to honor community values or respect the wishes of their neighbors – for example, by not removing trees if doing so would upset neighbors.

One study found that living in a “natural” landscape may be important to people but it also found that what was considered “natural” was quite variable. For example, in Florida natural landscaping could include a lawn whereas people in Minnesota specifically considered a lawn to be unnatural. In Minnesota, “natural” was also defined by what it was **not** — namely, not a city or urban landscape.



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**Cooperative research partners on the projects summarized here include: Alan Bright, Colorado State University; Martha Monroe, University of Florida; Kristen Nelson, University of Minnesota; Bruce Schindler, Oregon State University; and Christine Vogt, Michigan State University.**