

CRUCIAL FACTORS INFLUENCING PUBLIC ACCEPTANCE OF FUELS TREATMENTS



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An important component of the wildland fire problem in the United States is the growing number of people living in high fire hazard areas. How people in these areas contribute to fire risk—or potentially decrease it—will be shaped by their attitudes and beliefs toward different fuel treatment approaches. Understanding the issues and concerns that influence public acceptance of different fuels management methods, whether on public or private land, is crucial information for any fire and fuels management effort.

Several research studies sponsored by the National Fire Plan and Joint Fire Science Program have examined social responses to wildland fire hazards and fuels-treatment methods. Table 1 is a summary of information about key studies discussed in this article (more detailed findings on many of the studies can be found in McCaffrey [2006]).

A number of common themes that are reasonably consistent across diverse ecosystems and different regions of the country can be identified in the studies:

- A significant portion of the population in the study areas support thinning and prescribed burning as management tools to reduce fire risk.
- Most people in fire-prone areas undertake defensible space activities.

- Actively involving individuals and communities in the management discussion helps increase understanding and acceptance of fuels treatments.

Support for Fuels Treatments

A number of studies have explored the understanding and acceptance of prescribed burning and thinning practices. Roughly 70 to 80 percent of respondents found each practice an acceptable management tool. In surveys that explored strength of support, roughly 30 percent of respondents indicated strong approval, and another 40 to 50 percent gave qualified approval (Blanchard 2003, Bright and Carroll 2004, Shindler and others 2003, Winter and others 2005).

Several concerns shaped degree of acceptance, including where treatments were being done and a lack of trust in the agencies implementing the treatments. For thinning, Monroe and others (2002) found

A number of studies have explored acceptability of prescribed burning, thinning practices, and defensible space and have found that most respondents were supportive of the practices.

that respondents who gave qualified approval were concerned with issues of why the thinning was being done, what and how much was being removed, and how it was removed and disposed.

Winter and others (2002) found two exceptions to the general pattern of 30-percent strong approval for treatments. In Florida, where prescribed burning is common, 40 percent of respondents held an extremely positive attitude of the method, while in Michigan, only 10 percent of respondents held an extremely positive view. This last is generally attributed to the 1980 Mack Lake Fire—a prescribed burn that escaped, killed a firefighter, and destroyed 44 houses.

Familiarity and Knowledge of Fuels Treatments

The studies found that people's familiarity with a practice is associated with greater acceptance of the practice. This fits with findings from earlier wildland fire social science studies (Carpenter and others 1986, Gardner and Cortner 1988, Loomis and others 2001, McCaffrey 2002). More recent studies found a similar link between knowledge and support for a treatment method. Shindler and others (2003) found that support for both mechanical treatment and use of prescribed burning was significantly associated with the respondent's natural resource knowledge: more knowledge was associated with greater support, as well as more

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confidence in the agency implementing the treatments.

In another study, Blanchard and Ryan (2004) found that knowledge levels were the most significant factor determining support for prescribed burning. People with some knowledge of prescribed burning were less likely to be concerned about its being used near a home, or about smoke, aesthetics, or effects on animals and their habitat. Similarly, a series of focus

groups exploring smoke issues found that tolerance for prescribed burning increased as participants learned about the practice during discussion, particularly among members of an anti-smoke group (Weissaupt and others 2006).

Defensible Space Ordinances

Similar dynamics were found with defensible space. Most studies have shown that a majority of people surveyed have removed vegetation

from their property (Bright 2003, McCaffrey 2002, Nelson and others 2004). The positive relationship between familiarity with a practice and acceptance is also evident. Of the three States studied by Winter and others (2002), only California had active defensible space ordinances. Ninety-one percent of Californians had removed flammable vegetation from their property, compared to 44 percent of Florida and 42 percent of Michigan respondents. Californians were also more

Table 1: Summary of referenced research studies

Primary Investigator(s)	Where	Who	Method
Bright and Carroll	Colorado Front Range, Southern Illinois, Chicago metropolitan area	Residents near national forests and random Chicago households	Mail survey
Carroll and Weissaupt	Montana, Washington	Native Americans, urban and rural residents and an anti-smoke group	Focus groups
McCaffrey	Nevada	Incline Village homeowners	Mail survey
Monroe, Nelson, and Fingerman Johnson	Minnesota, Florida	Homeowners in fire-prone communities	Interviews
Ryan and Blanchard	Massachusetts, Long Island, New York	Local residents in pine barren areas	Mail survey
Shindler and Toman (2003)	Wisconsin, Michigan, Minnesota	Residents of communities adjacent to national forests	Mail survey
Shindler and Toman (2006)	Arizona, California, Colorado, Idaho, Oregon, Utah	Residents and education program participants	Mail surveys
Winter, Vogt, and Fried	California, Florida, Michigan (Missouri added in 2005)	Homeowners near forested lands	Focus groups and mail survey

likely to have a more positive attitude about the effect of defensible space on the scenery, saving money, and improving wildlife habitat.

Understanding defensible space measures is not just a question of learning the “how to” of creating defensible space, but also of learning how effective the actions will be in reducing fire risk (Nelson and others 2004). Bright’s 2003 study found that whether full-time residents did anything to improve defensible space depended on their belief about the direct advantages and disadvantages of the practice. Concerns about the effectiveness of defensible space can also be seen in a respondent’s comment: “It’s hard to know what to believe. Who is to say that keeping 30 feet (9 m) around a building is going to keep that building from burning?” (Fingerman Johnson and others 2002). This suggests that, while the respondent understands the need for defensible space, exactly *how* the 30 feet (9 m) of vegetation management would protect their structure has not necessarily been communicated well.

Trusting the Agencies

Another factor that influences acceptance is trust in the individuals and agencies implementing the treatment. Nelson and others (2004) found that most respondents felt treatments were acceptable provided they were done by knowledgeable, preferably local, people. Similarly, Winter and others (2006) found that trust was significantly related to acceptance across study sites. The authors concluded that if a treatment practice is established, and there is high trust *in those* who are implementing the treatment, acceptance will be high.

Involving Individuals and Communities

Finally, research indicates that interactive and open communication is crucial for public acceptance of fuels treatments. Social marketing and natural hazards studies have found such methods to be most effective at changing attitudes and behavior because they allow people to question and clarify new information (Monroe and others 2005, Toman and others 2006). In their study of various fire communication efforts, Toman and others

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(2006) found that interactive communication efforts, such as guided field trips and conversations with agency personnel, were more effective than unidirectional methods, such as brochures and radio. They also found that outreach programs that emphasize interaction can help build trust.

In summary, the most effective means of increasing public understanding are interactive techniques that involve affected individuals and communities in ongoing discussions of the fuels management process. Although such work, particularly targeted educational efforts, takes time, the research shows that increased support for fuels and agency management makes these efforts highly worthwhile.

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Fire Communication and Education Products

A Communicator's Guide to Wildland Fire is available from the National Wildfire Coordinating Group (NWCG) Web site at <http://www.nifc.gov/preved/comm_guide/wildfire/index.html>.

Interagency publications, training courses, and audiovisual materials may be ordered from the NWCG National Fire Equipment System Catalog and may be downloaded from <<http://www.nwcg.gov/teams/wfewt/products.htm>>. A partial list of products includes the following.

- Education cooperative programs and partnerships guide,
- Communication and education guide,
- Education exhibits and displays,
- Prevention and the media guide,
- Prevention sign and poster guide, and
- Prevention marketing guide.

Fire messaging materials, public service announcements, and links to other resources are posted at the NWCG Web site at <<http://www.nwcg.gov/teams/wfewt/wfewt.htm>>.

Smokey Bear items can be ordered from the National Symbols Program at <<http://www.symbols.gov/>> by clicking on “National Symbols Catalog” and then “Fire Education.”

Burning Issues is an interactive multimedia developed by Florida State University and the Bureau of Land Management for middle and high school students to learn the role of fire in ecosystems and the use of fire in managing natural areas. These media along with other fire educational products may be ordered from the National Interagency Fire Center prevention and education site at <<http://www.nifc.gov/preved/>>.