CALIFORNIA FIRE SCIENCE CONSORTIUM

JOINT FIRE SCIENCE PROGRAM

Research Brief for Resource Managers

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Social dynamics of wildfire management

McCaffrey, S, E Toman, M Stidham, and B Schindler. 2012. Social science research related to wildfire management: an overview of recent findings and future research needs. International Journal of Wildland Fire 22(1): 15-24.
http://www.nrs.fs.fed.us/pubs/41476

The social dynamics of wildfire management can help us understand and improve fire management strategies that provide for safety, ecological processes, and economically efficient management. A 2012 paper by McCaffrey and others summarized the results of 200 social science studies, primarily from western North America, to identify key lessons. They present 25 key research needs.

According to McCaffrey et al., public perception of wildfire is influenced by a variety of factors such as the spatial and temporal context of fire, potential negative outcomes, and personal risk tolerance and tradeoffs. Homeowners see themselves as responsible for mitigating risk on their property and the government as responsible for public land mitigation and education. Support for mitigation activities on public land depends on trust, familiarity with the technique, and location. For example, there is greater support for thinning in the WUI (though it is important to clearly define the bounds of the WUI) and for prescribed fire in remote areas. Future research should build on existing knowledge of mitigation preparedness on public and private land.

Both formal and informal efforts to develop mitigation and management plans are important for planning efforts. Trust increases when the public is engaged early in the planning process with open and transparent approaches to decision-making and commitments. Interactive approaches, such as one-on-one consultation, small workshops, local meetings, and field trips are effective methods for educating the public and changing behavior vis-à-vis wildfire management. Future research should look at how planning activities change wildfire risk, for example how effective are current mitigation measures.

Community Wildfire Protection Plans (CWPPs) can help build and maintain community relationships. Factors that influence the success of these efforts include active agency involvement,

Management Implications

- Understanding social science process and implication behind fire management is as important as understanding the biophysical aspects of fire management.
- Mitigation activity support depends on trust, familiarity with mitigation technique, and the location of the activity.
- Public trust increases through interactive planning approaches and when commitments are followed through.
- Community Wildfire Protection Plans (CWPPs) can help build and maintain community relationships.
- Future research can help identify and refine policies and practices needed for effective fire management.

inclusion of community groups, and a common vision. The public wants frequent and site specific information during active fires that help them make sense of how a fire is influencing their lives; and after the fire, participation in post-fire recovery projects helps the community recover and reconnect. McCaffrey et al. recommend that future studies look at how human community structure affects community capacity to adapt to fire. Research should focus on understanding the factors that influence agency management decisions during the fire, how the public responds to these factors, and how these actions influence future events and beliefs.

Understanding social science process and implication behind fire management is as important as understanding the biophysical aspects of fire management. Future research can help identify and refine policies and practices needed for effective fire management.

Table 1. Factors that influence fuel-treatment preference and support

Factors	Citation
Familiarity with treatment techniques	Shindler and Toman 2003; McCaffrey 2004*b*, 2006; Weisshaupt *et al.* 2005; Absher and Vaske 2006; Blanchard and Ryan 2007; McGee 2007
Trust or confidence in those implementing a practice	Shindler and Toman 2003; Winter *et al.* 2004; McCaffrey 2006; Gunderson and Watson 2007; Vaske *et al.* 2007
Beliefs about or attitudes towards treatment outcomes	Loomis *et al.* 2001; Shindler and Toman 2003; Winter *et al.* 2006; Blanchard and Ryan 2007; McGee 2007; Vaske *et al.* 2007; McCaffrey *et al.* 2008; Vining and Merrick 2008; Shindler *et al.* 2009*
Consideration of local values or context	Winter *et al.* 2002; Brunson and Shindler 2004; Flint and Haynes 2006; Burns and Cheng 2007; Gunderson and Watson 2007; Liou *et al.* 2008
Perception of risk of wildfire	Weible *et al.* 2005; Bright and Newman 2006; Gunderson and Watson 2007
Citizen involvement in decision making	Winter *et al.* 2002; Shindler and Toman 2003; Blanchard and Ryan 2007
Location of treatment	Winter *et al.* 2002; Brunson and Shindler 2004; Weisshaupt *et al.* 2005; Bright and Newman 2006; Ryan *et al.* 2006; McCaffrey *et al.* 2008

Table 2. Factors contributing to the decision to mitigate risk

Factors	Citation
Trade-offs with other amenity values	Winter *et al.* 2002; Monroe *et al.* 2003; McCaffrey 2004*a*; Collins 2005; Nelson *et al.* 2005; Brenkert-Smith 2006; Sturtevant and McCaffrey 2006; Daniel 2007; Cohn *et al.* 2008
Perceived effectiveness of risk-reduction activities	Winter and Fried 2000; Kent *et al.* 2003; Absher and Vaske 2006; Brenkert-Smith *et al.* 2006; Bright and Burtz 2006; Martin *et al.* 2007; Cohn *et al.* 2008
Social context in which mitigation actions were considered	McCaffrey 2004*a*; Agrawal and Monroe 2006; Brenkert-Smith *et al.* 2006; Shiralipour *et al.* 2006; Blanchard and Ryan 2007
Individual capacity to implement actions	Kent *et al.* 2003; Bright and Burtz 2006; Holmes *et al.* 2007; Martin *et al.* 2007