

**National Wildfire Coordinating Group
Fire Social Science Working Group**

ISSUE: FIREFIGHTER SAFETY

Forest firefighting is a dangerous and complex job. The safety of firefighters will continue to be a priority for agencies charged with managing both prescribed and wildland fires. Since social science can deal with the interaction of humans with their work environment, there is a huge opportunity for social science research to enhance the safety of our firefighters.

DESCRIPTION:

Firefighting agencies can be proud of the progress they've made in improving their safety record. Improvements in fire safety have been made in the wake of such fatal forest fires as Dude, South Canyon and Thirty-Mile.

Agencies and individuals, working in the areas of training, leadership and decision-making, have developed innovative methods to improve safety. Creative concepts from the military, research and organizational psychology have been adopted.

The Army's staff-ride and after action review learning processes is now commonly used. Fire danger pocket cards, developed at the Fire Lab in Missoula, now aid initial attack crews to recognize potentially dangerous thresholds in the fire environment. To prevent the same firefighting mistake from being made again, NARTC's Center for Lessons Learned, is actively engaged in collecting information from past fires and prescribed burns, and then feeding "lesson's learned" back to firefighters in useful formats.

Much of the progress that has been made in firefighting safety has been by trial and error. A fatal forest fire occurs, a comprehensive review is prepared and action items to improve firefighter's safety are mandated.

There is nothing wrong with the trial and error approach. It makes commonsense, and we should continue use this option. But very few of our past safety improvements have been backed up with peer reviewed scientific studies. We cannot know whether our safety advances have been made by luck, or whether we continue to miss key elements within our safety programs. This is where social science research has a tremendous potential to improve our future safety record.

MANAGEMENT QUESTIONS:

- Across all firefighting organizations, do we have a consistent, coherent safety program?
- Are our firefighter safety programs, and our efforts to improve them, the best they can be?
- Is our firefighting safety training adequate?

RESEARCH QUESTIONS:

- How do federal and state firefighting safety programs compare to similar risky efforts in either the military or the private sector?
- How do we train firefighters at all organization levels to manage the unexpected?

- What are the human factors involved when firefighters use a pre-established threshold checklist?
- How can we improve decision making under stressful or chaotic situations?
- Can we apply the concept of the “high reliability organization” to firefighting safety?

LINKS:

- NWCG Safety Working Team
- Various universities involved in research in decision making, safety, organizational psychology and high reliability organizations
- NARTC’s Center for Lesson’s Learned
- Safety Officers on incident command teams, in regional offices, etc.