

Wildland Firefighter Safety Management: An Annotated Reading List

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Abstract

They are all familiar names to firefighters, names that are spoken in respectful and somber tones: Mann Gulch, Dude, South Canyon, Cramer, Thirty-Mile. These tragic incidents affect the way wildland firefighting professionals work everyday. They have produced a legacy of procedures: the 10 Standard Firefighting Orders, the 18 Watch Out situations, the LCES checklist. Places like the San Dimas and Missoula Technology and Development Centers have developed technologies to better protect firefighters. In addition, the federal firefighting agencies (BIA, BLM, FWS, NPS, USFS) have revised policies to mandate safety training and the protection of safety above all other resources at risk. Despite these efforts, firefighting tragedies continue to occur with surprisingly common elements. The Human Factors Workshop of 1995 marked an important step in the evolution of human factors studies by bringing social scientists and firefighters together to work on common problems related to firefighter safety. Since that time, research on human factors and firefighting has produced new knowledge and led to changes aimed at increasing safety and safety awareness throughout the industry. These changes may have reduced the average number of U.S. Forest Service fatalities due to wildland fires. However, there is still room for improvement.

In the modern world of wildland firefighting, fire managers face a broad array of communication and management challenges. To provide insight into how to address some of these challenges, we sought input from members of the fire community, reviewed the “human factors” work that was done after South Canyon, and researched management-oriented literature on the social aspects of communication. Sponsored by the National Wildfire Coordinating Group’s Social Science Task Group and funded by the National Fire Plan, we identified pertinent research in each of eight key topical areas. The end result is an annotated bibliography, which contains information about managing in complex environments that is particularly relevant to wildland firefighting managers.

A key challenge within the fire fighting community is making this type of knowledge available for application in the field. In putting this list together, we have taken a first step. The next step, and a more challenging one, will be for managers to draw lessons from this literature that can help them manage problems that they encounter. In the shadow of past tragedies, we acknowledge the difficult and essential work these managers do on a daily basis. We hope that this will be a useful resource to the broader firefighting community. The references included in this volume represent a diverse collection of classic and contemporary work related to managing organizations. The sources included provide insight into key management research that is likely to inform the challenges faced by firefighters both in the routine aspects of everyday work life and in the complex crisis situations that are a part of firefighting. Because of our backgrounds in

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organizational communication, we have included many important pieces from that body of research. Although not comprehensive, this compilation of research provides a starting point to explore key issues related to firefighter management. The bibliography is organized according to eight topical areas: Human Factors and Firefighting, Decision-making and Sensemaking, Organizational Culture, Organizational Identification and Identity, Leadership and Change, Teams and Team Management, Managing Risk and Uncertainty and Crisis Communication. Each topical section includes a brief summary of the literature in that section, followed by an annotated list of articles. The annotations highlight relevant points and enable readers to determine whether the specific literature is likely to be helpful for meeting their goals. Finally, in addition to a hard-copy, printed bibliography, these citations and annotations can be accessed through the searchable database at the Wildland Fire Lessons Learned Center website (<http://www.myfirecommunity.net/KnowledgeExchange.aspx>).

The Presenting Authors

Gregory S. Larson, (Ph.D.) is an Assistant Professor in the Department of Communication Studies at the University of Montana. He completed his undergraduate work at the University of Utah (B.S., 1992) and his graduate work at the University of Colorado at Boulder (Ph.D., 2000). He has taught at the University of Colorado (1994-1999), the University of Minnesota Duluth, (1999-2003), and the University of Montana (2003-2005). Greg's research specialties include: organizational culture, communication technologies, and occupational identity. He is a member of the National Communication Association and the International Communication Association, and has received top-paper awards from both of those associations. Living in Colorado in 1994, he became interested in wildland firefighting management in the aftermath of the South Canyon fire. Greg has published in *Communication Monographs*, *The Journal of Applied Communication Research*, *Management Communication Quarterly* and *The American Communication Journal*.

Vita Wright has worked professionally for the United States Forest Service (USFS) since 1990. With experience in the USFS management and research branches, Vita has spent the past eight years developing the federal interagency Aldo Leopold Wilderness Research Institute's Research Application Program. This program focuses on improving the transfer of scientific information between researchers and managers on a broad range of ecological and social issues, including wildland fire. Funded by the Joint Fire Sciences Program, the Bureau of Land Management (BLM), and the USFS, Vita's recent efforts have focused on using knowledge from the social sciences to understand influences to the adoption of new information and tools by fire managers in the BLM, USFS, and National Park Service. Prior to working at the Leopold Institute, Vita obtained her M.S. degree in Organismal Biology and Ecology at the University of Montana. She is currently working on her PhD, studying the social science of natural resource management through the University of Montana's College of Forestry and Conservation. Vita previously worked on the Umatilla and Bitterroot National Forests, where she analyzed habitat for wildlife species of concern and observed the effects of past disturbances on coniferous forest ecosystems. Vita began her career as a Research Assistant for the USFS Pacific Northwest Forestry Sciences Lab, Glacier National Park, and the USGS Northern Rocky Mountain Science Center.