

Risk and Crisis Communication in Wildland Fire Fighting: Developing a Social Science Research Group for Wildland Fire

David Flores

USDA Forest Service
Fort Collins, CO, USA

Rebekah L. Fox

Texas State University
San Marcos, TX, USA

Jody Jahn

University of Colorado
Boulder, CO, USA

Joel O. Iverson

University of Montana
Missoula, MT, USA

Steven J. Venette

University of Southern Mississippi
Hattiesburg, MS, USA

Abstract: Panelists discussed the development and use of a research strategy to cultivate communities of practice for the mitigation of risks associated with the catastrophic effects of wildfires on communities. Two primary goals of the authors were to: (a) contribute theoretically to the understanding and application of communities of practice, specifically around risk management and (b) contribute to understanding in the form of lessons learned from the United States Forest Service.

Keywords — COVID-19 pandemic, focus groups, organizational learning, qualitative research methods, wildland fire management

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INTRODUCTION

Wildland firefighting is a geographically dispersed but close-contact, high-uncertainty profession; and during pandemic conditions, firefighters must respond to emergency wildfire without succumbing to sickness themselves or spreading the virus throughout site communities. USDA Forest Service (USFS) executives consulted their risk scientists in the Rocky

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Mountain Research Station and administrators in the Office of Innovation and Organizational Learning (IOL) during the early days of COVID-19. An academic social science research group assembled, and, knowing that the agency would benefit from administrators listening to their fire managers in the field, they designed ongoing focus groups as a recursive tool of risk communication. Understanding how to prepare wildland fire management for the added uncertainty of contagious disease, how to immediately address issues, and learning how firefighters adapted during the pandemic became the task of the research group, working in tandem with agency employees, for eight months.

In the post-pandemic reprieve, many lessons from using focus groups during a crisis have become institutionalized, as has the continued activation of the social science research group's expertise and the development of social science research agendas in wildland fire.

THE FOREST SERVICE CHALLENGE

The Forest Service manages federal forest lands across the United States. It is subdivided organizationally into nine regions, and therefore administers 191 million acres of land in a decentralized, place-specific manner. It is also organized as a government bureaucracy, with many bureaus which have specialized assignments and cooperate toward a shared mission. These groups are further organized by a hierarchical authority system, in which a strict reporting system exists to manage a massive amount of information and action in a streamlined way. Besides land management, the USFS has the responsibility to engage with millions of stakeholders, through their various communities and cultures.

The pandemic was one of many different issues facing forest communities. Communicating effectively across these relationships proved incredibly challenging, especially given the diversity of stakeholder views and adaptations to COVID-19 and knowing that wildland firefighters often come from and are invested in forest communities. The predominant questions that were hovering over agency administrators and us as the research group were: What if there is a catastrophic wildfire and the entire response system goes down because of COVID? What are we going to do? What would this mean for communities? Avoiding that scenario by keeping the wildland firefighting system healthy and intact was critical.

Federal policies were issued in the beginning of the pandemic and immediately changed how people accomplished day-to-day work. Our job as social scientists was part of a mandate from the agency Chief, who asked us to learn what worked, or what did not, directly from firefighters with regard to adjusting to COVID-19 policies and to digesting information that changed on a weekly basis. Because we wanted rich feedback and had existing relationships with wildland, we determined focus groups were not just possible but desirable over other data gathering methods. Yet even straightforward questions from us, such as how realistic physical distancing or mask use was, led to incredibly challenging conversations among firefighters. Getting this information to the executive level of the organization was similarly challenging. As a redirect, we found a USFS group, Innovation and Organizational Learning, who provided firefighters to facilitate the focus group conversations. Their proximity to the field was invaluable in creating an atmosphere where participants felt willing to share their experiences, especially given that the focus groups were convened in an otherwise sterile online platform. The IOL facilitators, with research group guidance and analysis, conducted 194 focus groups from March through October 2020. We submitted reports to our senior leadership about how things were changing in the field. Hundreds of lessons emerged from the focus group data and revealed six general themes, from conflicting policies to negative impacts on personal life, which we delivered to top levels of the organization who adjusted guidance to better equip employees. Thorough details of our methods and findings are available in USFS [1] and other publications.

CULTIVATING A LEARNING COMMUNITY AND DESIGNING TEAM-LEVEL PRACTICES

The social science research group continues to be instrumental in solving problems, beyond its inception during COVID-19. Each member brings different experience and skill to this team. Fox and Jahn are scholars who are uniquely embedded in wildfire management.

Fox is an administratively determined (AD) employee with the USFS; i.e., she is on call as needed to provide expertise in crisis management, incident stress management, and trauma. This work serves the agency and enhances her research acumen for organizational learning. She points to the Wildland Fire Lessons Learned Center (WFLLC) as evidence of USFS dedication to moving away from a culture of blame and into a culture of learning. WFLLC is a public-facing repository of all the learning documents the USFS produces of incidents, accidents, fatalities, and near misses. The WFLLC learns through interviewing, through storytelling, and sharing lessons learned in order to progress as a learning community in general and to share knowledge through the wildland fire community in particular.

Fox also participates in Rapid Lessons Sharing (RLS) teams which produce educational documents regarding incident management and safety. If a wildland firefighter experiences an unintended outcome or is injured, the safety officer is expected to find out everything that happened and what needs to happen through interviews. The two-person RLS teams are pre-positioned within a region, to be dispatched and begin interviews and expedite findings regarding tree strikes, vehicle accidents, civilian extractions, burn injuries, and non-fatality oriented events., so the safety officer may focus on the ongoing fire incident. Fox is also experienced in Facilitated Learning Analysis (FLA) for incidents of higher risk, near misses of serious injuries, and sometimes of fatalities. A longer and more thorough process, the FLA assembles many subject matter experts knowledgeable of specific elements of the incident, whether helicopter crash or heavy equipment turnover. She also teaches about learning from unintended outcomes, a workshop which trains 60 to 120 firefighters, and

participated in forest health evaluations.

“I go to the forest and then to the classroom, but that also preps me to be able to present these findings in our journals” and continue the cycle of learning.

Jahn expressed how her research is informed by cultural knowledge, having grown up in a Forest Service family through her father’s employment. Her questions are also shaped by eight seasons as a wildland firefighter, working on hand crews, engine crews, hot shots, rappelling. These work experiences and stories, and the South Canyon Fire that killed 14 wildland firefighters in 1994 were also impactful: “To be in the presence of loss from fire, of South Canyon, ended up following me throughout my research career.”

Changes came about because of the South Canyon Fire. The serious accident investigation report on South Canyon effectively blamed the firefighters for their deaths. The investigators looked at the list of the safety rules and determined which safety rules the firefighters violated, causing their own deaths. That accident report caused a huge shift in the wildland fire community; it was a major turning point toward valuing firefighter judgment to follow rules that make sense in the moment and to disregard ones that do not make sense. Jahn researched that transition through its technical documentation cycle, from the policy to the training to the local documentation to the types of questions asked in an investigation. The shift moved from who messed up to considering which actions sense during a crisis—and therefore to understanding characteristics of those events that are normal for wildland fire work.

The nucleus of her research is about wildland firefighting team culture or crew dynamics, especially around safety rules. Seemingly black and white, safety rules and guidance are situational—very cultural, based on decision premises, informed by the people to whom you hold yourself directly accountable, your team members, your crew members. How do wildland firefighting teams translate safety rules into action in their everyday practices? How do they bring them up in conversation, or not? We find that different dynamics in the crews inform whether there is more of a learning culture, with more dialogue and actually talking through issues. In that case, there is more of a mentor/mentee rapport. Alternately, groups with more seasoned members with more expertise do not necessarily want to run things by each other; if they do, it damages their sense of credibility.

Her questions also extend to current practices. What kinds of questions are being asked in facilitated learning analyses or rapid lesson sharing? What are the products that come out of that? How are they framed? One outcome of the shift in USFS to becoming invested in being a learning organization is the move away from a single-cause, univocal analysis. Instead, with interdisciplinary analysis, reports become a multivocal narrative, with different people’s perspectives at different times, which is then summed together.

Besides safety rules and crew culture, having diversity, equity, and inclusion (DEI) in wildland firefighting creates a safe work environment. Current research finds there is tension at the frontline level among firefighters; they have a sense that diversity initiatives disadvantage people who qualify for the job. There is tension around the idea of reverse racism and reverse sexism. Conversely, there are women and firefighters from underrepresented groups who feel resentment being directed at them, as if they have to prove themselves constantly, as if there is always a threshold they have to overcome in order to prove that they belong in their role. The research extends to practice. Working with six Wildland fire Crews to understand their routines and cultural practices has informed where those practices may be moved toward DEI, and how to make small, powerful changes that can enhance that culture in intentional ways.

CONCLUSION

Focus group research allowed us to communicate in real time what was happening on a weekly basis and to communicate that vertically and horizontally across the agency. It allowed people to voice their beliefs in a safe setting. It was incredibly powerful that they were learning from each other, while we provided information up the chain of command. This created a conduit for learning which allowed people at the field level to communicate with senior levels of the administration.

Beyond the initial pandemic research, this social science research group is embarking on a new set of projects and has added new members. We are moving forward with communities of practice, moving toward having folks share their learning across the organization and among multiple groups of stakeholders. The research direction is about practitioners letting us know what their biggest challenges are, and then developing our research questions around that. We want to continue to build upon what the Forest Service is trying to establish, which is a culture of learning, then also recruit the next generation of diverse researchers in the field of wildland fire. There is a tremendous lack of diversity within wildland fire fighting and also within wildfire research and social science research around wildfire. Complex problems require a complex body of people, with different lenses, who can provide us different types of information, thinking, and approaches.

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Author Biographies

David Flores, Ph.D. (University of Michigan) is Research Social Scientist, USDA Forest Service, Fort Collins, Colorado, USA. david.flores2@usda.gov.

Rebekah L. Fox, Ph.D. (Purdue University) is Professor of Communication Studies, Texas State University, San Marcos, Texas, USA. rf24@txstate.edu.

Jody Jahn, Ph.D. (University of California, Santa Barbara) is Associate Professor of Communication, University of Colorado, Boulder, Colorado, USA.

Joel O. Iverson, Ph.D. (Arizona State University) is Professor of Communication Studies, University of Montana, Missoula, MT, USA. Joel.Iverson@umontana.edu

Steven J. Venette, Ph.D. (North Dakota State University) is Professor of Communication Studies, University of Southern Mississippi, Hattiesburg, MS, USA. Steven.Venette@usm.edu

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