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**Destiny Aman** is a geography student at Penn State University, currently finishing her doctoral dissertation on the perception of wildfire hazard in the wildland-urban interface. Originally from Northern California, Destiny has a great appreciation for the forested landscapes of the West. In her research, she employs qualitative methods to better understand how people create and relate to spaces of home, community and nature. She argues that a more nuanced understanding of these social processes can help fire managers better connect and build trust with WUI residents and ultimately, reduce the costs of wildfire hazard for individuals, management organizations and communities.

## **16. Types and Status of High Reliability Practices in the US Federal Wildland Fire Community**

**Author(s)**

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Since emerging in the late 1980s, the paradigm of High Reliability Organizing (HRO) has sought to describe how and why certain organizations consistently function safely under hazardous conditions. Researchers have explored a variety of industrial situations, from the early observations of nuclear aircraft carrier operations to nursing units and even high-tech IPOs. The bulk of this research has been descriptive rather than comparative or predictive. Still, or perhaps because of this, there has been a robust and enriching academic discussion through which the paradigm has been refined and new research needs articulated. Of particular interest for the international fire community seem to be the debates concerning how 'error' is viewed, and the implications for considering how to improve safety, reliability, resilience and/or human performance. These debates appear to be on the verge of illuminating how the concepts interconnect - practically and theoretically. Another key research agenda has focused on exploring the relationships between HRO and other human relations practices in an effort to understand how social dynamics underpin enumerated HRO practices (such as Weick and Sutcliffe's five principles: 'deference to expertise', 'reluctance to simplify', 'preoccupation with failure', 'sensitivity to operations' and 'commitment to resilience'), and the extent to which these practices are shared across industries.

To provide a benchmark for the US wildland fire community, and to further explore HRO theoretically, we conducted a telephone survey of permanent seasonal and permanent full-time employees filling fire-related positions in the US National Forest Service, Bureau of Land Management and National Park Service (validated  $n = 574$ ). This presentation (one of two in this conference) focuses on the practical and theoretical implications of the behavioral practices we found. Specifically, results both challenge

existing theory and illuminate connections between cornerstone values of the fire community, namely: leadership/followership, organizational learning and internal group dynamics.

**Dr. Anne Black** is a social science analyst with the Human Factors and Risk Management RD &A, USDA Forest Service Rocky Mountain Research Station.

## **17. Communication and High Reliability: How the Crew Environment Facilitates or Inhibits Wildland Firefighter Learning**

**Author(s)**

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High reliability organizations such as wildland firefighting are not able to experiment with trial and error, so they depend on members learning as much as possible from large scale accidents and everyday events (Rochlin, 1993; Weick & Sutcliffe, 2001). One important element involved in organizational learning includes the communication environments where learning takes place. This two-part study explored communicative practices within wildland firefighting that both facilitate and inhibit member learning at the crew level. Study 1 involved in-depth interviews with 27 total members representing two heli-rappel wildland firefighting crews. Interviewees were asked about communication and learning practices on their respective crews. Interviews were analyzed using a grounded theory approach (Charmez, 2006; Strauss & Corbin, 1998). Study 1 findings pointed to several key processes and variables that appear to influence how crew environments either facilitate or inhibit group communication and learning. From those variables, hypotheses were developed to predict relationships among the crews' presence or lack of communication environments, learning practices and production pressures. Hypotheses from Study 1 were tested quantitatively in Study 2 in a large-scale survey completed by n=355 wildland firefighters who work on on-the-ground crews (e.g., hotshots, helitack, heli-rappel, engine and Type 2 handcrews). Analyses of the data are forthcoming.

**Jody Jahn** is a doctoral candidate at University of California Santa Barbara in the field of organizational communication. Her research examines how crew level cultures foster learning and communication practices. Jody spent eight seasons as a wildland firefighter on the Nez Perce, Clearwater and Payette National Forests.