



The CASE Journal

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Article information:

To cite this document:

Christopher Craig, (2019) "Managing wildfire disasters in the Rocky Mountains", The CASE Journal, <https://doi.org/10.1108/TCJ-07-2018-0087>

Permanent link to this document:

<https://doi.org/10.1108/TCJ-07-2018-0087>

Downloaded on: 22 March 2019, At: 10:42 (PT)

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Managing wildfire disasters in the Rocky Mountains

Christopher Craig

Introduction

On July 4, 2017, the first named large wildfire of the year was reported in the Northern Rocky Mountains (NIFC, 2018a). The fast spreading fire named “July” started one of the most active wildfire seasons in the history of the region (NIFC, 2018a; NOAA, 2018). “July” destroyed over 10,000 acres and caused \$6.2m in damage, and by August 23 large wildfires in the region had burned more than 700,000 acres causing more than \$200m in damage (NIFC, 2018a).

Adam, a young military veteran and Montana native, was a full-time college student who also worked as a Wildland Firefighter. By August 23, 2017, there were 100 named large wildfires in the Northern Rocky Mountains that over 7,000 firefighters, including Adam, had been assigned to battle (NIFC, 2018a). Adam and his crewmates often packed deep into the dangerous back country of the Rocky Mountains for days on end to do their jobs.

In total, 13 elite wildland firefighters were killed in the 1949 Mann Gulch wildfire in one of the same national forests where Adam and his colleagues worked in 2017 (Thackabury, 2004). Norman MacLean famously documented the tragedy in a best-selling book called *Young Men and Fire*. For Adam and the thousands who spent time on the fire lines and in the back country, MacLean’s cautionary tale was likely fresh on their minds. In 2017 alone, wildfires in the Rocky Mountains and California claimed the lives of 54 residents and firefighters while causing catastrophic economic, environmental and societal damage (NOAA, 2018) raising the questions: what can be done to enhance wildfire management and how can wildland firefighters like Adam be included in the decision-making process?

Wildfire background

The 2017 wildfire conditions in the Northern Rocky Mountains were intensified by an abnormally wet Spring followed by an abrupt shift to extreme drought (Craig, Allen, Feng and Spialek, 2019). In 2015 and 2017, extreme drought preceded the on set of wildfire disasters combining to cause almost \$30bn in damage (NOAA, 2018). The combination of suppression-focused policy and intensified wildfires contributed to an increase of federal government expenditures for wildfire management by over threefold between 1994 and 2015 (Stephens *et al.*, 2016). Complicating these trends, it has been projected that drought and other climatic conditions will magnify large wildfire risks throughout the region (Davis *et al.*, 2017). This will inevitably increase regional economic, environmental and societal risks for those like Adam tasked with battling wildfires.

Wildfire management and organizations

The shared management of wildfire has traditionally been a collaboration between five federal agencies that also includes local, county and state organizations. Both mitigating and adaptive measures have been involved in wildland fire management (Smith, 2017). Mitigating measures such as the sustainable removal of forestry fuel sources are related to land management

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The author would like to thank Greg Junghans, a graduate of the Montana State University Billings College of Business in Management, for providing the example student response to discussion question 1. The author would like to acknowledge the funding from National Science Foundation Nos 1726834, 1726278 and 1726843.



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(Smith, 2017; Zwickle *et al.*, 2014). Considerations for worsening climate change risks have been notably absent from mitigating policies. Adaptive measures such as agency and public-private collaboration have been more directly related to actual wildfire events (Stephens *et al.*, 2016), and can involve boots-on-the-ground actions by local Wildland Firefighters like Adam. As the National Interagency Fire Center noted, “Wildland fire recognizes no ownership or jurisdictional boundaries on the landscape; nor do complex the complex issues of fire management” (NIFC, 2018b, para. 1).

The situation: management, wildland firefighters and discursive closures

The shared management structure for wildland fire has been problematic as “one of the most difficult challenges to revising forest fire policy is that agency organizations and decision-making processes are not structured in ways to ensure that fire management is thoroughly considered in management decisions” (Stephens *et al.*, 2016, p. 1). Historically, those charged with managing active wildfires and who are locally impacted, such as wildland firefighters like Adam and local residents, have not been actively involved in agency decisions.

The difficulty in the decision-making process has been seen in federally mandated changes that followed the “Mann Gulch” tragedy when an official set of safety rules were created and adopted for wildland firefighting (Thackaburry, 2004). The safety rules provided guidelines that wildland firefighters could memorize and follow. Rather than enhancing the critical thinking abilities of wildland firefighters like Adam in dynamic and dangerous situations, however, the safety rules were interpreted and enforced as orders (Putnam, 1995). As Adam noted, the “orders are orders” military metaphor of the safety rules persists today.

In 1994, the “Storm King Mountain” wildfire outside Glenwood Springs, Colorado killed 14 elite wildland firefighters. In response, the National Forestry Service commissioned a study that included interviews with and surveys of wildland firefighters (Thackaburry, 2004). There were two notable outcomes noted of the study: the safety rules were used to blame the firefighters who were killed and input from wildland firefighters about organizational culture and safety rules changes was dismissed. These are examples of where federal agencies created organizational discursive closures. A discursive closure occurs when an organization tries to suppress conflict and control the narrative related to a conflict (Thackaburry, 2004), such as wildfire management. Federal agencies would eventually disregard the input when prioritizing study findings and recommendations despite initially providing an opportunity for wildland firefighters to share their voice via interviews and surveys, an example of an organizational discursive opening.

With trivial changes to the safety rules and culture, another tragedy occurred in 2001 where the four wildland firefighters again were blamed for their own deaths with the safety rules as justification (Thackaburry, 2004). Another eight wildland firefighters were killed in 2017 across the USA (Fahy *et al.*, 2018). Without the voice of Adam and other wildland firefighters, or even the residents who face wildfire dangers each and every year, wildfire management decision making will likely continue to be a politicized and privileged process (Stephens *et al.*, 2016).

Future direction

Adam, a military and wildland firefighting veteran, never gave an indication that he would consider disobeying “orders.” He also had not given much thought about how agency decisions influenced his safety and health. As a Montanan and as the frontline defense against wildfire disasters, he realized that this attention was needed. Adam wondered how wildfire could be sustainably managed while also protecting the health and safety of wildland firefighters and fellow Montanans. He also wondered if it would ever be possible to use his voice to influence wildfire management decisions that could very well save his life one day. The questions remain: what can be done to enhance wildfire management and can Adam do anything to gain a voice in policy decisions?

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