

The role of social science in the governance and management of wildland fire

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Introduction

Wildland fire management is a multifaceted physical and social issue. Complex social, health, economic and environmental changes across the globe are increasing the challenges of wildland fire management. Consequently, addressing these challenges requires perspectives that inform relevant policies beyond improved knowledge of the physical and biological dynamics of fire. There is a growing literature exploring the social aspects of wildland fire management; however, this is typically captured in social science or public policy-focussed journals and is less often brought together in mainstream fire-management literature. This Special Section presents a collection of papers that discuss some key themes in social science in the area of wildfire management.

A plethora of issues can be included under the rubric of wildland fire ‘social science’. This Special Section draws on the work of researchers from a range of the social sciences, with results that have implications for both policy and practice. It highlights the contribution that the social sciences can make to our understanding of societal aspects of wildland fire management. The perspectives presented provide important insights into some of the drivers of vulnerabilities to and resilience in the face of wildland fire. This section also aims to encourage and guide further social research as well as management action.

The social sciences have much to offer wildland fire management, and there is a growing body of work to inform our understandings, policies and practices. Although the majority of this work has focussed on the very important arena of community safety, there are other fields of the social sciences providing complementary insights. Our knowledge of fire behaviour, building survival and suppression capabilities have contributed to increased efficacy and success of wildland fire management, in the face of increasing complexities. Many of these complexities are socially driven and as such, require socially driven responses. It is enabling and supporting our understanding of these complexities that the social sciences come into their own.

Overview of Special Section

The papers presented in this Special Section are a small sample of the kinds of research and insights that the social sciences can

provide wildland fire management, and readers are encouraged to further explore the broader literature on fire-related social science. The present papers cover the controversial issue of staying and defending or early evacuation, and issues of children’s understanding of bushfire risk, indigenous knowledge of fire, and the meaning of ‘shared responsibility’. Each paper highlights important challenges and ideas for fire management; collectively, they highlight some of the contributions the social sciences can make to improving our ability to manage wildfire risk to individuals and communities.

For example, McLennan and Eburn (2014) provide a thought-provoking paper that asks people to consider the conflicts involved in the meaning of ‘shared responsibility’ in the context of wildland fire risk management, although the same challenge is present in other hazard management arenas. Their paper highlights the essential differences in value systems in state–individual relations, and provides a framework that makes often unstated or implicit assumptions explicit. Moreover, by coming from two different disciplines themselves (law and human geography), these authors have provided us with a richer picture of these challenges and possibilities than may have been presented if considered through a singular disciplinary lens.

It is useful to keep the concept of ‘shared responsibility’ in mind as the reader works through these papers, and to consider McLennan and Eburn’s argument that in Australia, we should not choose a singular management approach. Rather, that ‘in ‘real world’ wildfire management, responsibilities need to be shared through some form of hybrid system in which control, choice, public values, and private interests would all be prioritised and traded off in different ways in different parts of the system and management cycle’ (McLennan and Eburn 2014). Some of the issues that would need to be considered in such a hybrid approach are highlighted in the papers that follow.

A less-well explored subject is that of indigenous fire management. In her review of social science research on indigenous wildfire management in the 21st century, Christianson (2014) addresses an area of wildland fire management (potential) that receives less attention than is arguably warranted. Her piece highlights that, worldwide, little is currently known about how wildfire is managed in indigenous communities and that in many cases, these communities may face a higher

risk of wildfire as they are situated in isolated, remote landscapes that can carry fires. This work raises the question of sharing responsibility with whom and for what? Perhaps, as she suggests, for understanding, respecting and working with the extensive knowledge of our indigenous communities. As Christianson suggests, even though relationship building and research with indigenous communities takes time, if we are to genuinely share responsibilities with all peoples and groups, it is vital for social scientists to increase their engagement with indigenous communities in relation to fire and its management.

Another crucial but little-explored area in wildfire management is that of children's understanding of bushfire risk. Towers (2015) presents research to elucidate how children understand wildfire through an in-depth study of children in fire-prone areas across south-eastern Australia, with a focus on emergency response. Through this process, Towers finds that children demonstrate a capacity to engage in discussions about fire hazard. Towers further makes the case for the inclusion of children in the broader discussion in risk management in fire-prone areas through better engagement in the national curriculum.

Finally, both McCaffrey *et al.* (2014) and McNeill *et al.* (2014) explore the issue of staying to defend a house during wildfire versus leaving early or evacuating. They approach the subject from two different countries – the USA and Australia – and two different social science disciplines – human geography and psychology. The findings of McNeill *et al.*, working in Australia, suggest that the provision of more information, which people seemingly often call for post fire, may not actually solve the problem of people evacuating or leaving under conditions the fire agencies would describe as late and highly risky. McNeill *et al.* argue that this is because 'information requests are often a symptom of decision delay rather than an actual cause of it'. Consequently, they highlight that there is an imperative to understand the actual (as opposed to reported) causes of delay as this will likely reveal that different strategies to those currently employed will be needed to reduce delays in evacuation or leaving early. Their finding that the strongest predictor of delaying the decision to defend versus evacuation was a lack

of difference in perceived values of defending versus evacuating has important implications for policy and practice. McCaffrey *et al.* examine various alternatives, such as variants of the Australian Stay and Defend approach, to the traditional mass evacuation of residents. They have examined the results of community interviews in four communities in the United States where alternatives to mass evacuation have been considered. Their results illustrate that opinions are mixed about the benefits of each approach. They found that those community members who were focussed on improving safety and reducing uncertainty for emergency responders tended to prefer the mass evacuation approach, whereas those who were seeking increased safety and reduced uncertainty for householders preferred the alternative approaches.

The results of the studies in this Special Section illustrate the complexities and limitations of developing a single approach to improved safety, and highlight the importance of including multiple disciplinary perspectives in wildland fire risk reduction.

References

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