



Promises and dilemmas in forest fire management decision-making: Exploring conditions for community engagement in Australia and Sweden



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ABSTRACT

Prescribed burning, to prevent larger fires or to encourage ecological restoration, is a highly contested practice, raising both complex practical questions relating to safety and techniques, and deep philosophical questions about the relationship between people and nature. Previous research either analyses conflict in forest fire management, or argues for social learning but does not discuss how this might happen. We explore what community engagement in fire management might contribute, and how policy conditions enable or constrain deliberative practices in fire management in two very different countries, Sweden and Australia. In Sweden, burning is gradually emerging on foresters' and nature conservationists' agendas, whereas in Australia, prescribed burning has been practiced and debated on a relatively broad scale for some time. Both countries rely much on technical expertise, while merging this with local knowledge in transformative processes in which conflicts and difference have a place could enhance the quality of the debates.

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1. Introduction: dilemmas in forest fire management

People across the globe, and in as different contexts as Sweden and Australia, have lit forest fires for a long time to assist in hunting, to clear the land for farming and its fertilization, or to help regeneration (Pyne, 1991, 1997). In current forestry and nature conservation management and as a wildfire prevention strategy, intentional forest fires have also become common. Prescribed burns, as they are often called, are used specifically for ecological purposes, but for the majority they aim to control the undergrowth (called 'fuels') that contribute to wild fires, by using science-based techniques that reconcile the conservation of biodiversity with the protection of human life and property. They are a highly contested practice, raising technically complex practical questions relating to safety and techniques, but also deep philosophical questions about the relationship between people and nature, such as the extent to which human safety and assets should prevail over other species, and to what extent people should intervene in nature (cf. Bowman et al., 2011). There are multiple, conflicting values involved in debates about prescribed burning which cannot be aligned by

technical solutions but rather pose challenges for community engagement on the topic.

Global environmental change is further complicating debates about dealing with fire in environmental policy and planning. Warmer climate and increased frequency of storms and lightning raise susceptibility to wildfires (Granström, 2009), leading to new types of dilemmas. For instance, removal of fire-prone trees, snags and debris might become more common for fire prevention, but the emergence of new migrant species and pest outbreaks imply additional fire hazards that might counteract parallel quests for biological diversity protection (Chapin et al., 2007). Also, prescribed burning might further expose the already contrasting views about whether humans or nature are voluntarily or involuntarily exposed to wildfire risk (Altangerel and Kull, 2013).

Both Sweden and Australia maintain 'vast' forest areas, and a long-standing science-based forestry tradition, representing a type of planning focused on enhancing what Scott (1998) has called legibility. Legibility refers to the process of standardization to be able to measure and centrally orchestrate, document and monitor developments. States have attempted to increase the legibility of their cities, forests and rural areas in order to exert high levels of control (Scott, 1998). Community engagement, is rather seen as an impediment and thus not a key feature of this tradition, because it is considered to jeopardize control by exposing the different valuations playing a role in debates about

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prescribed burning (Hillier, 2003; Brueckner and Horwitz, 2005; Hellberg and Granström, 1999; Buizer and Lawrence, 2013). Yet, we claim that transformative engagement practices are needed to avoid the kind of contestations that turn contestants into enemies rather than participants in a debate. This means we need to look for these practices, which is the focus of our paper.

With regard to natural resource management decision making more broadly (than forest fire management), Australia and Sweden have both experimented with forms of community engagement, with mixed results (Curtis et al., 2014; Sandström et al., 2008). Community engagement in forestry decision making has been reported to be particularly difficult in Australia (Ananda, 2007; Brueckner, 2007; Gordon et al., 2013), whereas in Sweden the domination of private forest landowners combined with extensive reindeer herding in northern forests raise particular problems (Sandström and Widmark, 2007; Widman, 2015). This is not different from experiences in other countries that have ambivalent experiences with community participation in forestry (Kitchen et al., 2002). It is still an open question what community engagement can contribute in the case of fire management decision making, although some studies have addressed this. For instance, greater community engagement in fire management may become complicated by the rise of a risk emergency framing (Bosomworth, 2015). Such framing means that fire management is understood in terms of the necessity of protection of assets and human lives. The (changing) role of volunteer fire brigades, which we will discuss later in this article, obtains significant attention within this framing, and also awareness-building and educating lay-persons about the importance of fuel reduction burning. Such a narrow understanding of ‘community engagement’ is however at odds with carefully emerging practices that emphasize the importance of confrontations between different valuations of risk, such as the small trials conducted in Victoria which have involved communities in choosing locations for strategic burning (Paschen and Beilin, 2015). It is such possibilities for confronting different valuations of risk between professionals and the affected communities that we are interested in here.

In this article, we explore community engagement in relation to forest fires, with a focus on prescribed burning, in Sweden and Australia. In particular, we address the following questions:

1. How do the current policies on community engagement assist in addressing contested issues relating to prescribed burning?
2. What transformative practices are in place to facilitate confrontations between different valuations of risk in prescribed burning decision-making?

The two countries are chosen to illustrate different political and institutional contexts and legacies for forest fire management practice, enabling us to reflect on what those differences entail for public engagement, and what lessons can be learned. Here, we consider such participatory, deliberative practices vital for forms of engagement that reach further than merely being instrumental for fire management, namely to contribute to transformation and joint learning. Both Australia and Sweden are industrial nations with a long tradition of public participation in policy making, and both countries are experiencing large fires and employ prescribed burning. In many other ways, the countries are different, such as concerning forest ownership, forest ecology and climate. The research design is thus not a comparative study per se, but the diversity in country contexts helps to distinguish prevailing trends in community engagement practices. In Australia, the prescribed burning issue has become vigorously and widely contested (Buizer and Kurz, 2016), while in Sweden it is still largely confined to technocratic elites. It has neither been our intention to find best practices in Australia or Sweden, nor to provide an exhaustive overview of practices. We rather explore the conditions in which small-scale alternatives to the mainstream approach developed, to highlight possibilities for cross-country and cross-region learning. An even broader, international exploration is important for a more in-depth understanding of fire management

decision making. Therefore, our literature review on issues in community engagement covers debates on forest fire management more broadly, including in the US and some other European countries. We highlight the main theories about what such engagement might contribute, particularly in fire management, and present our analytical framework. We then present our methods and results.

2. Issues in community engagement

In this short overview we will start broadly with community engagement in the environmental resource management literature, then narrow down to attention to the same topic in the forests literature and fire management literature. We then present our questions as they emanate from our conversation with the literature.

2.1. Community engagement in environmental resource management

In the environmental resource management and governance literature, much attention is given to procedures of community engagement, highlighting the sensitive issues of *who* should participate in the decision-making and the management of expectations of the different stakeholders (Emerson et al., 2012; Meadowcroft, 2004). Attention has also been raised to how these processes can be counterproductive, particularly when the existing institutions continue to operate in bureaucratic ways, for example when they produce one-size-fits-all regulations that cannot harbour a diversity of outcomes (Innes and Booher, 2015) or do not produce genuine empowerment and equity, trust and learning (Reed, 2008). Nevertheless, *generally* presumed positive impacts of deliberative practices include their influence on behavior which becomes based more on arguments rather than on uninformed emotions; on their joint learning and interaction potential; on the likelihood to bridge differences and create trust; on the reduction of government costs by preventing mistakes; on the application and integration of different forms of knowledge to decision-making; and on achieving more creative, tailor-made and legitimate decisions that bring about new institutions and practices (Innes and Booher, 2015; Goodin and Dryzek, 2006). There are also warnings about how these positive impacts should not be taken for granted, for example, in situations involving a high level of risk, where support for community engagement at higher levels is at odds with local political contexts characterized by mistrust and disunity. Such caveats, it has been argued, should be taken into account to see what can be expected from the community engagement process (Bull et al., 2010; Meadowcroft, 2004).

2.2. Community engagement in forest management

More particularly in relation to forests, decentralization reforms come together with calls for greater public participation in governance (Agrawal et al., 2008) resulting in a growing focus on participatory processes and methods (Buchy and Hoverman, 2000), for example through adaptive forest management (Lawrence, 2011). Generally, knowledge is limited about how different forms of governance including those oriented towards public participation affect outcomes (Agrawal et al., 2008; Ostrom and Nagendra, 2006). Some of these processes may not lead to productive engagement, but aim to convince so-called ‘participants’ of an already taken decision, for example by transferring to them a selective knowledge (Arnold et al., 2012). Often the aim of these processes is to achieve consensus, but in the field of forest management, public participation has not avoided conflict and the question is whether a lack of conflict is desirable (Eckerberg and Sandström, 2013). Conflict may work as a medium for social change, contributing to the improvement of social relations, democratic processes and the quality of decisions (Mouffe, 2000; Walker and Daniels, 1997). This goes beyond the dichotomous understanding of conflicts as either functional or dysfunctional (Yasmi et al., 2009), towards questions about how conflicts could effectively be managed in order to achieve change.

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