Exploring paradoxes of native vegetation management in the context of bushfire in south-east Australia in the 21st century

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Acronyms

ACT – Australian Capital Territory
DEPI – Department of Environment and Primary Industries
DSEWPC – Department of Sustainability, Environment, Water, Population and Communities
DSE – Department of Sustainability and Environment
VBRC – Victorian 2009 Bushfire Royal Commission
SBMP – Strategic Bushfire Management Plan (ACT)
BNHCR – Bushfire and Natural Hazards Cooperative Research Centre
NSW – New South Wales
VIC – Victoria
CFA — Country Fire Authority (Victoria)

RFS – Rural Fire Service (NSW and ACT)

CSIRO — Commonwealth Scientific and Industrial Research Organisation

Certificate of authorship

I, Samantha Jane Strong, hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgment is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

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Samantha Strong

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Ethics Committee approval

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Abstract

Complex issues relating to Australia’s environment stem from its particular evolutionary history over millennia in response to very particular conditions and environmental changes. Many species have adapted to long periods of drought and frequent fire. Australian native vegetation is of global significance biologically, yet many Australian ecosystems have been profoundly altered over the past 200 years since European colonisation and many flora species are threatened with extinction. South-east Australia is one of the most fire prone regions of the world; however, fire fits uncomfortably in the land management portfolio in highly settled areas and significantly altered ecosystems, despite a general acknowledgement in scientific circles of fire being an element for ecological dynamics.

Hence, native vegetation management in Australia is an example of complex, problematic and interconnected issues operating at multiple scales, that is, with wicked problems, and necessarily requires complex understandings. Contradictory multi-scalar wicked problems can be explored in terms of paradoxes, referred to as complexities and disconnects. In south-east Australia, paradoxes can be understood as contradictions between: scientific knowledge and local, cultural perceptions; political and economic drivers; and anthropocentric responses to impacts of climate on altered environmental conditions.

Two of the most costly and intense bushfires this century were selected as comparative case studies: the 2003 Canberra and 2009 Victorian Kilmore-Murrindindi Black Saturday bushfires. These two fires provide opportunities for comparisons between urban and regional fire and native vegetation management issues, as well as integrating a longitudinal component for analysis between different jurisdictions and responses by agencies and communities. Efforts to understand complex environmental management problems are inextricably linked to language and constructing meaning through sharing information. Therefore a range of data was selected to reflect the diversity of narratives existing in the
field that included policies, news media, environmental histories, memorial sculptures and reflective conversations in the form of interviews.

Iterative analysis shows that the problems are concerned not solely on policy conflicts and management, but culturally derived ‘baggage’ that was retold and stimulated after each bushfire using a particular choice of language and mythic concepts. These narratives function as important sense-making myths that are static, cross temporal boundaries and places and encompass ambiguity. Thus, for a paradox to function it must be based upon the articulation of a myth; and for a myth to function, it relies upon the paradoxical. Three major paradoxes — referring to learning from history, mitigation of risks, and trying to control the uncontrollable — function with five myths: the cultural landscape, community, conservation, certainty and knowledge and government control.

A key contribution of this research is that it incorporates a ‘trilogy’ of narrative criteria into social constructivist approaches: paradox, metaphor and myth, in conjunction with reflexivity and interpretative methodologies. A significant discovery concerns societal learning and knowing. Myths effectively frame perceptions of risk and control at critical moments which coincides with reactive policy making. The results show learning is based upon historical representations loaded with mythic roles and characterisations of how to connect with, and manage, the environment. Exploring paradoxes via myths can therefore contribute rich perceptions to the framing of learning and knowledge regarding the environment to guide community and management responses.
Chapter 1: Introduction

Context

Just as many others have considered before me, there are many ways people attempt to understand the complex world in which humans live. Humans shape the physical world and evidence of this is noted in myriad records through time; humans research and record visual and biophysical changes, write histories, create art and share verbal personal accounts. Humans are storied beings and they make sense of the world through sharing storied accounts to shape constructions of the world. In our efforts to try to understand many complex issues, our use of language shapes our actions, which significantly, directly influences the world; consequently, the diversity of language means we can also have conflicting and contradictory understandings of the world and one another. The research for this thesis focuses on some of the most complex issues this century in south-east Australia that concern relationships between humans, vegetation and fire.

Background to the research

I introduce this research with a personal reflection of my involvement with vegetation and fire. I have been employed in various natural resource management positions, mostly in community engagement, regarding native vegetation management in Central Victoria for almost eighteen years. Living on a farm, I have been aware of multiple social, economic and ecological factors in regional land management issues from both a professional and personal perspective. As a Country Fire Authority volunteer firefighter I have also attended regional bushfires since 2005. In 2010 I was employed as the community engagement officer for Parks Victoria’s federally-funded Natural Values Bushfire Recovery program.

During the week leading up to the 7th February 2009, I was working outside each day for a community environmental education project in a small rural town north east of Melbourne. The township is situated on alluvial plains at the foothills of the Great Dividing Range, where the family farm is located and from where I travelled to work on ‘the flats’; the area is a mix of private woodlands, public forests and expanses of agricultural cropping and grazing land. From personal knowledge, and constant media warnings, I was aware of the increasing likelihood of major bushfires erupting in tinder-dry conditions after ten years of drought and
a week of temperatures over 40 degrees Celsius. We cancelled our monthly working bee that was to be held on the morning of Saturday 7th February; the weather conditions were predicted to be ‘the worst on record’, and many of us wanted to be close to our homes. As we all feared, with gale-force hot winds and the dry heat taking one’s breath away, the sky became a murky, dusty, swirling mass that was filled with a sense of dread. The major bushfires arrived. Later on that Saturday afternoon, as the horror of that day was revealed on radio and websites (I had no television), I nervously volunteered as a firefighter to assist with the bushfires near Flowerdale on the morning of Sunday 8th February, a small township virtually obliterated the day before, in the intense heat of those fires. The scene in Yea prior to our departure to the fire ground was surreal and shrouded in smoke. People in states of exhaustion and shock were searching fearfully for family members, sitting numbly, or standing in huddled groups; the firefighting crews were returning stunned from their shifts, their faces expressionless. We were warned of the possibility of finding bodies. Driving there, we passed burnt cars on the side of the roads. What once were the townships of Flowerdale and Hazeldene, set amongst Eucalyptus viminalis (Manna Gum), Eucalyptus Maccrorhyncha (Red Stringy bark) and an array of European trees, had become a mass of twisted, tangled stacks of white corrugated iron that had previously been a ‘Colourbond’ rainbow of little houses and sheds. All the while, we wondered how people could have survived, or where they could have fled out of the narrow, densely forested valley that had been burnt in intense crown fires. We learnt later over the weeks that dozens did not survive. Oddly, when amongst this burnt landscape, the silence and a weird state of calm were slightly unsettling. That experience, although benign compared to the previous day, has stuck in my mind. I felt scared for the people and for the impacts on the environment that appeared to be defeated after drought and now, intense bushfires. I feared for the future and how we could possibly overcome the state of social despair and environmental loss.

Later, when working at the conservation project, I experienced another set of responses to these bushfires. As members of a group involved with nature conservation, community education and land management on private land (supported by numerous government agencies), we experienced our own shock, ‘backlash’ of fear, immeasurable loss and grief from those fires. We were finding solace by working on rapidly devised fire recovery
programs to provide indigenous tubestock for fire-affected properties in the Goulburn Broken catchment. Yet suddenly we were confronted with media stories and community anger, a palpable loathing and fear, of how ‘wrong’ native vegetation was, how dangerous trees were. The reactions were intense, the language emotive and metaphorically fierce; the sense of bewilderment and sadness profound. Along with other environmental managers, I was being framed, sometimes literally, as a ‘murderer’ since our work was affiliated with trees, and ‘trees killed people’ on Saturday 7th February. Like others, we loved living in the ‘bush’, yet because of our affiliation with conservation land management, we were ousted from this social group. We had become ‘traitors’ because we had concern for things other than the harm caused to people. Suddenly, the bushfire disaster meant that social connections were twisted and distorted, so that many who once lived close to the bush now wanted it removed, and those who worked to preserve it were not to be trusted. We had lost a sense of social connectivity over our perceptions of Eucalypts. Despite our concerns, many dared not overstep this fragile, emotional social division for fear that the anger would lead to further and unnecessary removal of trees.

At that time I was undertaking a Masters in Environmental Management and was able to explore the language used in media depictions of three previous major Victorian bushfires. This research went only partway in exploring the reasons why societies respond as they do after such catastrophic events. I wanted to explore these issues further, by undertaking in-depth research supported by an academic structure, to help my own need for detachment, to seek answers to questions from a moment in history that I will never forget.

The purpose of this research is to explore the paradoxes of native vegetation management in south-eastern Australia in the early twenty-first century, focusing on human responses to bushfire. The change in frequency and impacts of fire on native vegetation in the south-east of Australia since European occupation in 1788 is integral to ongoing cultural development and knowledge; a critical aspect is the role and implementation of vegetation management policy by governments which have attempted to control the use of, and access to, woody native vegetation, and its regrowth. Policy can be viewed as an expression of cultural values which encompass the social, economic, ecological and political consequences of fire on biological systems. Often environmental problems are framed vividly as ‘wicked’ (Allan,
2009; Brennan, 2004), ‘fuzzy’ or ‘messy’. Considering this perspective on the complexities associated with environmental management, analysing an aspect of the problem using a paradoxical frame allows exploration and identification of the disconnection between the actors, their management efforts and perspectives in relation to knowledge and research, policy and history. Hence, vegetation management is explored via a series of paradoxes, also referred to as contradictions and perverse ironies.

To explore how narratives associated with paradoxes are debated, acknowledged and presented, the dominant discourses linking society to the environment within media, vegetation management policy and our contemporary environmental histories are identified. The research methodology seeks not only to analyse power and social dynamics embedded within the narratives and how they relate to ecological dynamics, but also to become better acquainted with, and respectful of, nuances within sociological, historical, political and ecological aspects of native vegetation management. By referring to paradox as a means for deeper reflection on confusing, daunting and multi-layered issues, the contradictions will be explored and unpacked using narrative analysis through the presence and use of myth.

Discourse will be explored to provide a greater understanding of whether and how discursive influences that are used in our ‘everyday’ professional and social language contribute to native vegetation management policy development. This thesis will present two regionally scaled case studies that respond to vegetation management after major bushfire, as presented in public dialogue. The case studies are set within a broader context of global triggers, national policies and state legislation.

The timing of this research is pertinent due to a number of significant changes being made to environmental legislation around Australia (Department of Sustainability and Environment, 2013d; Ritchie, Laurance, Bradshaw, & al., 2013), in response to the increasing impacts of bushfire on humans and social-ecological systems. Having time to approach the research topic, and develop interpretive and inductive-iterative skills, has provided opportunities to analyse the nuances of anthropocentric relationships to vegetation and environment, and how responses are transferred into policy. Referring to these socially constructed relationships in response to bushfire helps the exploration of communities and
agencies, and how their ability to influence the biophysical environment is transformed. This research will support the work of others as another small, but positive step towards greater integration of multidisciplinary perspectives in dealing with a range of complex issues that influence how diverse social communities live with native vegetation in south-east Australia.

**Research problems**

The multi-layered issues and problems associated with managing vegetation in south-east Australia are explored via the following questions:

1. Which paradoxes have been reflected in key moments in native vegetation management in the context of bushfire in south-east Australia since European settlement?

2. How do social mechanisms build and reinforce paradoxes of native vegetation management following bushfires?

3. How do these social mechanisms and paradoxes influence native vegetation management thinking and practice?

4. How can an understanding of these paradoxes inform future management?

**Definitions**

The following section outlines my use of key terms applied throughout the thesis. Deeper discussion of the terms and their use is provided later.

**Bushfire**

I have chosen to use the term ‘bushfire’ throughout this thesis to denote unplanned fire, other than when ‘wildfire’ has been specifically used in a quotation. ‘Bushfire’ is a reflection of a specifically historical Australian cultural context and popular use throughout many data sources.

**Paradox**

I have applied the term paradox to something which at first appears to be straightforward truth, but upon closer analysis of concepts, issues or ideas (such as a policy or belief), is
 actually contradictory or deeply ironic. Paradoxes rely upon tensions between two concepts which operate simultaneously (see Barrow, 1998; Cronon, 1992; Smith, 2009).

Discourse

Discourse is understood in this thesis as the practice of social interaction that is either textual and/or discursive in form. This definition is derived from multiple theoretical sources (Alvesson, 2002; Fairclough, 2003; Hajer, 2006; Potter, 1996).

Narrative

The term ‘narrative’ has numerous meanings among social researchers. I have based my interpretation on those used by narrative and policy inquiry researchers such as Fischer (2003a) and (Stone, 2012; 1989). I define narrative as a storied account of an event, a perceived reality. Story and narrative can be interchangeable, but I have attempted to limit confusion by referring to the data sources as narratives. A full explanation is provided in chapter 3, p. 70.

Storyline

Storylines are understood as components of narratives and have plots. Hajer describes these as ‘short cues’ or ‘condensed statements’ of a much more complex and longer story that is shared between people to explain one’s understanding/experience of an event (2006, p.69). Storylines have a beginning, middle and an end provided in a sequence and an account. Constructing storylines also help humans create, and thus share, meaning and perceptions of reality. I chose to use storyline rather than ‘plot’ to firstly reduce confusion with an alternative meaning for plot (used as a verb). Also, since humans are storied beings (Fischer, 2003a) the term ‘storyline’ helps present the idea of people being connected through story (see Hajer, 2006), described also by Beilin and Reid (2013) in reference to connecting people and place in their research into Victorian bushfire experiences. This term became an important aspect of the research, as the centrality of myth in the discourse emerged, and this is discussed in more detail below and in the analysis in chapter 4. Additional aspects of storyline are outlined in chapter 3.
Myth

The popular interpretation of myth is typically one of storied tales, legends and moralistic fables that are often premised on falsehoods; however myth is not always something wholly untrue or false. This is because, as Yanow clarifies, myth is also ‘a narrative created and believed by a group of people that diverts attention away from a puzzling part of their reality. This definition includes four elements: narration, social construction, belief, and incommensurability’ (Yanow, 1992, p. 401). Myths are also important for the construction of cultural identity since they produce meaning through the construction of collective realities. Central to Hills’ argument is that myth is defined as ‘a story by which a culture explains or understands some aspect of reality or nature’ (from Fiske, 1982, in Hills, 1991, p. 13). I find both Yanow and Hills’ references to myth appropriate for this research as they explain why a particular kind of narrative form is so prevalent in paradoxes closely aligned with policy and sociological interpretations of the environment.

Metaphor

Metaphors are figurative language (Liska & Cronkhite) that rely on symbols and vivid associations that are cognitively structured between a source domain and a target domain (Kochis, 2005; Lakoff & Johnson, 1980). An oft referred-to example, ‘Life is a journey’, is explained with the source domain of ‘journey’ to explore the entailments of ‘life’; entailments of life are mapped from the source domain to the target domain of a journey. The use of unrelated symbolic language assists communication of difficult and hard to explain concepts, particularly during times of stress.

European Australian

This term refers to any person who is of non-Indigenous Australian background and is considered Australian as a consequence of European colonisation in 1788.

Indigenous Australian

While Indigenous Australian participants referred to themselves as Aboriginal (similarly European Australian interviewees also adopted the term), I have followed CSU guidelines and use the term ‘Indigenous Australian’, and, when appropriate, the clan to which an interviewee belongs.
The paradox frame

The research for this thesis has been undertaken with paradox as the starting point, as observation suggested the social-ecological issues relating to native vegetation management and bushfires this century were highly paradoxical. There were clear disconnects between a range of sectors, their various communication of issues and the subsequent policy responses. The issues appeared to be unresolvable and the cycle repeated following each major bushfire.

Early in the research it became apparent that what were originally thought of as management ‘disconnects’ should be more accurately identified as paradoxical, in that what was appearing as a rational response was actually contributing to the problems, or contradicting ways of understanding the issues at hand. Referring to the frame of paradox has allowed me to explore the same issues with a specific frame that considers the perverse outcomes of many policy shifts and the public discourse that stimulates them, in the context of a long history of subjective understanding and construction of our understanding of the environment.

Thesis structure

This thesis is presented in 5 sections and is presented in Figure 1 on the following page:

1. The first section considers the literature and context of native vegetation and bushfire management in south-east Australia.
2. Methods chosen as the most suitable for this research.
3. Case studies are compared and contrasted with regard to relevant data according to analysis of myths present in each case study. The analysis of the myths is presented in two parts: the first section is an overview of the myth to introduce the detailed reflective analysis. The second section of each myth encompasses an exploration of key contradictions of the myth.
4. Discussion of the influence of myth and paradox.
5. Conclusion and relevance for land managers.
Figure 1. Thesis structure model.

- **Chap 2**: Literature review
- **Chap 3**: Methodology and methods
  - Results of myth analysis
    - A comparison of myths found in ACT & VIC case studies
- **Chap 4 In 5 sections**: Discussion of myths in relation to paradoxes
- **Chap 6**: Conclusion
  - Key findings
Chapter 2 Social-ecological literature review

The scope of this literature review considers intrinsic features of recent social-ecological research; in so far as the main approaches seek to enhance a greater understanding of the multi-dimensional, complex dynamics that exist between social, economic, political and biological facets of environmental management issues. While this review is primarily concerned with bushfire, other natural resource issues are also acknowledged, including water, gender, and climate change. Governance, planning and policy issues cross-over the research spectrum. These broad topics are discussed first, followed by an overview of bushfire social-ecological research.

Research in the field of social-ecological management of vegetation and fire sits within a larger field of enquiry into natural resources management. Much current research in this larger field addresses the complexity and uncertainty of managing natural resources, emphasising systemic approaches that necessarily include social and cultural aspects; for example, the fields of resilience thinking (Olsson, Folke, & Berkes, 2004; Stockholm Resilience Centre, 2007) and social-ecological systems. Although some social-ecological research is positivist (see Liu et al. (2007); Olsson et al. (2004), Abel et al. (2016); and Walker, Abel, Anderies, and Ryan (2009)) other work refers to alternative, hermeneutic approaches to reconceptualise (and theorise) seemingly intractable social-ecological issues (for example, Aldunce, Beilin, Handmer, & Howden, 2014). Social-ecological research in natural resource management endeavours to ‘transcend’ existing disciplinary, cultural and institutional boundaries in collaborative teams that cross both the social and natural sciences, and associated resources, for example, (Blann, Light, & Musumeci, 2003; Holling & Meffe, 1996; Olsson et al., 2004; The Resilience Alliance, 2002).

Social-ecological research in the fields of water and climate change works with the complex links between policy, climate change, governance structures and catchment management (for example, Wallis and Ison (2011) Ison, Röling, and Watson (2007); and McCool and Stankey (2004)). Due to water resources crossing many biophysical, jurisdictions, cultures and climatic change, this field of research reviews and analyses the interface between governance structures and policy. Some refer to the nuances of heuristics, such as metaphors (Demeritt, 1994; Hardy-Short & Short, 1995; Ison, Allan, & Collins, 2015).
With a strong focus on social justice, social-ecological research seeks to enhance democratic processes, and thus increases cross-collaboration between both the social and ecological sciences and also increases shifts to the broader socio-political paradigm. Underpinning much of the research are arguments addressing power dynamics of contemporary social hierarchies and shifts in social-cultural contexts:

[The] responsibility-sharing issue that warrants greater attention in Australia is the impact of uneven social vulnerabilities in society (McLennan & Handmer, 2012).

Internationally, ‘Traditional Knowledge’ is part of the social-ecological approach (Carr, 2005; Doolittle, 2010; Neely, 2010). In Australia, long-term research partnerships have been developed between Indigenous Australians and other experts, such as: Bird Rose (2001); Birkhead, Hemmings, Greiner, Rigney, and al. (2011); Weir (2009, 2012); (2013). These include regional case studies of Indigenous Australians’ continuing connections to land (Griggs et al., 2013); and the political aspects of water resources (see (Jackson, 2006; Jackson & Langton, 2012; Jackson, Moggridge, & Robinson, 2010). The co-involvement of Traditional Owners in defining the problems and the research process is highlighted and, therefore, politicises the need for greater Traditional Owner involvement in policy development in the twenty first century. Gott (2005) has for some time applied ethnographic and ecological perspectives into her research in Australia and, as a pertinent reminder, concludes that:

Land management cannot be carried out without the deep sense of responsibility which was conveyed by the totality of Aboriginal culture ... We need to take account of Aboriginal management of the ecosystems and its long evolutionary history if we are to succeed in our own management (p. 1206).

Gender and its conceptualisation (Arora-Jonsson, 2011), is another important component in social-ecological research (Nightingale, 2006). Contemporary gender research now reconsiders the framing of gender in disaster management scenarios and sustainable development, particularly within the context of climate change (Dankelman, 2002). One aspect of gender that is pertinent to this research is gender vulnerability during natural disasters (see Enarson and Joseph (1999); and Nightingale (2016)). There are differing
contextual outcomes for women when comparing the more fundamental aspects of human rights in the developing world (Denton, 2002; Mwangi, Meinzen-Dick, & Sun, 2011) with those in Western fire-prone regions of the world. In Western fire-prone countries, gender research argues for greater equality within emergency services and within the provision of assistance to communities confronted by bushfires (see Eriksen, Gill, & Head, 2010; Eriksen, Waitt, & Wilkinson, 2016; Whittaker, Eriksen, & Haynes, 2016). In both cases however, gender issues are presented by identifying signifiers of cultural change and the capacity for responding to social, political and environmental vulnerabilities; yet paradoxically, some changes mask the insidious nature of gender inequality within the structural dimensions of agencies, organisational/cultural hierarchies and peri-urban/rural communities.

Research in the field of social-ecological management of vegetation and fire, compared with water and climate research, has had less emphasis on social constructions of reality. Complexity and uncertainty have long been approached through adaptive management (Allan, Curtis, Stankey, & Shindler, 2008; Bosomworth, 2011; Gunderson & Holling, 2002; Holling & Meffe, 1996; Ison, Blackmore, & Iaquinto, 2013; Jacobson et al., 2014; McCool & Stankey, 2004). Larson (2011) explored metaphors of forest and other management, but overall there is less emphasis on researching the impact and influences of narrative, and the powerful symbolism contained within language, than on contemporary efforts to manage the complexities of people and the environment. Of those researchers who consider narrative, Schauble (2009b, n/d) and (2008) consider language and metaphor used in crisis moments, while Gough-Brady (2012) argues that there is an historic paucity of appropriate language when describing Australian bushfires and their management.

Buxton, Haynes, Mercer, and Butt (2011) demonstrate a need for greater awareness of planning policy, to better anticipate the impacts of weather-influenced disasters in peri-urban ‘hyper-complex’ regions. From a policy perspective, post-disaster contexts provide opportunities to evaluate and reflect upon the development and application of land use policies. One example in Victoria following the 2009 bushfires by Buxton and colleagues (2011; Llausàs, Buxton, & Beilin, 2016), analyses the failure of planning mechanisms in Local Government Areas in the peri-urban region of Melbourne. Contradictory climate and environmental protection policy issues in the United States are considered by Jasanoff
(1991); (1998, 2011), while others critique existing frameworks and appraise new systems and problem-solving processes to deal with conflicted problems (or ‘crossroads’) that are often experienced by land managers and communities (see Smith et al. (2016)).

With more frequent and large-scale destructive bushfires occurring in fire-prone regions of the world this century, social-ecological science research is more frequently funded, (for example, McCaffrey, Toman, Stidham, & Shindler, 2013; Murphy, Abrams, Daniel, & Yazzie, 2007; Penman et al., 2014). Consequently, the research field is better positioned to contribute further to government responses, rebuilding programs and policy recommendations (for example the Bushfire & Natural Hazards CRC, 2017; and United States Forest Service, n/d). Social scientists have paid considerable attention this century to pre- and post-bushfire community responses, particularly in terms of public/community ‘resilience’ (McLennan, Bosomworth, Keating, Kruger, & Towers, 2012; McLennan & Handmer, 2012), to conceptual arguments about risk and its perception (Aldunce, Beilin, Howden, & Handmer, 2015; Beilin & Reid, 2015; Gill, 2005; Penman et al., 2014; Stelling, 2014; Winter, McCaffrey, & Vogt, 2009) and to issues of racial and gender inequalities (Eriksen et al., 2010; Whittaker et al., 2016).

Much of the social-ecological bushfire research undertaken in south-eastern Australia is supported through Government-funded emergency management organisations (that is, The Bushfire and Natural Hazards Cooperative Research Centre, or the Australian Institute for Disaster Resilience (https://www.aidr.org.au/), with support from university research bodies. The collaboration of Bradstock et al. (2014) is but one example where government-funded networks and academic institutions are merged. In their project, Bradstock et al. (2014) explore the social construction of risk, in terms of how values emerge into the more technical challenges of responding to major bushfires in the populated south-east of Australia, focussing on the framing of the concept of ‘fuel’.

Smith et al. note that the basis of current bushfire problems (and need for in-depth social-ecological research) is:

“a complicated merger of two distinct components: (1) the shared human population values affected by wildfire ... and (2) the biophysical. ...Many segments of traditional
Despite this awareness, there remains widespread concern for integrating human adaptations with changing and variable fire conditions. In order for us to increase our social-ecological understanding of fire using an historical timeframe, Smith et al. articulate the need to shift our framing away from the traditional, negative focus on impacts of historical fires that results ‘in a professional culture focused on “fighting” fire as an adversary’ (p. 137). Similarly, building and maintaining trust is paramount in helping shift the negative framing of both agencies and bushfires, as explored by (Sharp, 2010; Sharp, Thwaites, Millar, & Curtis, 2009), who conducted their study of regional communities following the 2006 bushfires in north-east Victoria.

To work within the challenges of social, political, economic, climatic and ecological (or ‘wicked’) problems being experienced in fire-prone regions, a range of research methods are applied. In Australia, interpretative approaches are used in bushfire policy and planning analysis, such as that applied by Coffey and Wescott (2010) that considers the layers of discourse within biodiversity policy governance and arrangements in Victoria. Others use a combination of surveys and policy analysis (Halliday, Castley, Fitzsimons, Tran, & Warnken, 2012; Hughes & Mercer, 2009; Nightingale, 2016; Smith et al., 2016). Interviews and surveys are popular data in social-ecological research, used to gain insights from those who are marginalised or affected directly by bushfires. In addition to case studies (Bennett, Dumsday, Llyod, & Kragt, 2007; Darbas, Williams, & Graham, 2011; Schirmer, Dovers, & Clayton, 2012), other approaches opt for triangulation of participants, literature and case studies (Eriksen & Gill, 2010; Eriksen & Prior, 2011; McLennan et al., 2012), communication studies (Bainbridge & Galloway, 2010; Bubela et al., 2009; Carver & Pikalo, 2008; Schauble, 2009b) and participatory focus groups (Beilin, 2005; Beilin & Reid, 2013; Reid, Beilin, & Karim, 2012).

Just as the growing body of social-ecological research contributes to our baseline knowledge and our ability to consider the multiplicity of human and ecological needs within complex systems, a gap still remains. Scope exists for an in-depth exploration of social-ecological bushfire issues that consider the influence of narrative; there is opportunity to research how
nuances of conceptual socio-ecological understandings of bushfire and the environment filter into public policy and broader cultural learning, via public narratives and knowledge sharing. The methodology and focus of this research diverges from the approaches reviewed above, in that social-ecological issues are deliberately considered across a broad spectrum of issues via narratives; specifically considering the discursive, nuanced and symbolic richness of myths. Understanding the layers of contradictions in social constructions of the environment and human societies can be informed by exploring the subtexts —or storylines— of myths. Doing so encompasses and reflects the range of complexities that exist across diverse narratives, which are translated into real-world outcomes. The research presented here is a valuable and novel contribution that complements the work and knowledge of those discussed in this literature review.

**Literature review of the contextual considerations for researching complex problems of native vegetation management in south-east Australia**

Complex issues relating to Australia’s environment stem from its particular evolutionary history, since native vegetation has evolved over millennia in response to very particular conditions and environmental changes. Many species have adapted to long periods of drought and the frequent occurrence of fire, while others are reliant on tropical and alpine conditions (Bradstock, 2010). The continent’s isolation has meant that flora, until recently, have been protected from events that impacted species of fauna and flora in other continents. Australian native vegetation is of global biological significance due to the number of endemic species, yet many Australian ecosystems have been profoundly altered over the past two hundred years, because European colonisation resulted in large-scale vegetation loss (Oliver, Smith, Lunt, & Parkes, 2002). It is understood that eighty-seven per cent of native vegetation has been cleared since the arrival of Europeans, of which forests and woodlands are the most depleted vegetation types (State of the Environment Committee, 2011). As a result many flora species are threatened with extinction. Hence, native vegetation management in Australia is an example of complex, problematic and interconnected issues operating at multiple scales (Bührs & Christoff, 2006; Lunt & Spooner, 2005; Schirmer et al., 2012).
Environmental management of this complex situation is framed as ‘wicked’ due to interconnected factors around native vegetation use, and a combination of social and economic values that cross multiple landscapes, jurisdictions and social and ecological communities (Brennan, 2004; Head, 2008). Management issues have developed and shifted over time, and this has led to different management practices in response to environmental conditions and to the anthropogenic factors influencing conservation. Such changes have produced shifts in policy, knowledge, technology and society. The complexities and conflicts around native vegetation management reflect different responses to the historical social emphasis on conquering the vast landscape for human benefit (Bührs & Christoff, 2006).

To understand how to approach the complexities of these problems and the context from which they emerge, we need to firstly recognise how we make sense of the world, which then shapes our efforts to grapple with converging technicalities and the confluence of complexities of native vegetation, fire and humans. Our efforts to understand complex environmental management problems are inextricably linked to how we use language and construct meaning through the process of sharing information. This chapter explores sociological, ecological and policy literature to understand the broad contextual issues relating to the research problems. Exploring the research problems depends upon situating the research within an appropriate philosophical and social theoretical setting. Doing so will assist in developing an appropriate research methodology, presented in chapter three.

History and art in Australia: Early narratives of the Australian environment

To look ahead, we need to refer to the past (Barr & Cary, 1992; Bradstock, Williams, & Gill, 2012), because our current thinking has been shaped by earlier theories developed during different social, political and economic eras, which have evolved and stimulated critical thinking and debate. Philosophers (Foucault, 1980), historians of commercially popular and publically accessible environmental histories such as (Gammage, 2011; Griffiths, 1996, 2002; Hansen & Griffiths, 2011; Rolls, 1981) and ecologists (Bradstock et al., 2012; Cary, Lindenmayer, & Dovers, 2003; Driscoll, Lindenmayer, & Bennett, 2010; Lindenmayer, Blair, McBurney, & Banks, 2010; Lunt & Spooner, 2005), understand the importance of reflection, awareness of the temporality of knowledge, of situating knowledge within its historical context, and to contextualise learning. Just as with many terms in social science,
‘environmental history’ is understood to be ‘eclectic, fluid, and unable to be dominated by one or even few disciplines’, which consider ‘the investigation and description of previous states of the biophysical environment, and the study of the history of human impacts on, and relationships with, the non-human setting. Environmental history seeks to explain the landscapes and issues of today and their evolving and dynamic nature, and from this to elucidate the problems and opportunities of tomorrow’ (Dovers, 2000b, p. 132).

As central motifs in many of the accounts within environmental histories of south-east Australia, the interface between bushfires and native vegetation is a significant element. For example, Rolls (1981), a northern New South Wales resident of the Pilliga forest, writes in *A million wild acres: 200 years of man and an Australian forest* with deep respect for the country and use of the altered forests, which are now protected by nearby state forest reserves. Although it was controversial at the time, Rolls’ account is now recognised as an important record of oral histories of a community and land-use types that no longer exist. As a long-time resident of the region he provides a voice deeply connected to the complexities of vegetation changes and use of the country, capturing stories of locals shortly before a number of them became too old or died. Rolls acknowledges the integration of Aboriginal knowledge and land use, despite radical colonial acquisition of the country. His account contributes a story about connection to a place and its history, and of how both white and Indigenous Australian values relate to the local vegetation. The incongruous and conflicted past use of vegetated landscapes is ultimately described in terms of production, where trees as timber are consumable; the sustainable harvesting of vegetation is juxtaposed with deeply felt Indigenous and European Australian value of culturally significant places. All the narrative layers are inexorably connected to biodiversity and historical values of the community around the forests. This style of social-ecological history invites the reader on a local-scale, personalised journey through the region.

As demonstrated in Rolls’ account of the Pilliga, the voices of contemporary historians consciously form discursive links to the people who they are representing narratively, and in this way they allow readers to be part of this narrative and to relate their own experiences of environment and place. Such histories provide a way to legitimate a distinctly local identity for environment and place in regional Australia. Historiographies also encapsulate
the important aspect of temporal scale in exploring environmental change and social consequences. Griffiths states that history is the tool used to help shape conservation ethics with social and ecological foundations (1996). In *Hunters and Collectors* (1996) Griffiths articulates nineteenth-century perspectives on learning about the Australian colonial landscape, and places them in the late twentieth-century context. This type of narrative provides an important stepping stone in exploring cultural identity, environmental awareness and sense of place, in the context of tensions of the Indigenous and non-Indigenous Australia. Through his distinctive narrative voice, Griffiths illuminates the social values of the late nineteenth to early twentieth-century ‘amateur’ scientists and the questions that inspired their exploration of place. Reflecting on such questions helps researchers and communities to understand situations and conditions in relation to the present, and is particularly valuable when weighing up policy, social values and environmental change. Environmental histories provide opportunities to explore how an earlier sense of cultural displacement and denial has shaped efforts that now integrate shadows of the past and make amends for those wrongs (Griffiths, 1996, p. 5).

An account that challenges a particular academic perspective of colonial environmental appreciation is presented in Bonyhady’s *The Colonial Earth* (2000). Bonyhady refers to artists and stories as an important narrative device to represent different social classes of the time and the legislative failure to support public values for environmental protection in the nineteenth and early-twentieth centuries. Like Griffiths, Bonyhady researched the connection colonial settlers had with the giant Ash forests in southern Victoria and north of Melbourne. This critique provides insights into early values towards the new landscape, quoting rich metaphoric descriptions that have fed into current framing of particular types of vegetation. Historically, there appears to be a similar narrative to Griffiths’; of failed policies and too few resources to be able to adequately prevent loss of forest resources from excessive milling.

Other histories have considered the impact of language on the Australian environment. Europeans have imprinted their vocabulary since 1788 as a dominating force upon the environment in multiple narrative forms (Bonyhady & Griffiths, 2002). Arthur (2003)
describes the ongoing limiting and temporal influences of living in an environment which is restricted by particular historical narratives:

\[\text{as a settler I have become conscious of the way words have written the colonist into the Australian landscape, how the narratives we have written about ourselves have imagined both a particular Australia and our position in it (p. 5).}\]

As an historian, Arthur's feeling that he is writing about and constructing an unreal landscape is seen as a consequence of the first European explorers' struggle to articulate their experiences, while lacking appropriate words and visual language; the obvious choice was to revert to language that was familiar in order to represent new things. Consequently, the 'colonised place is firstly understood through a northern European lens...and then audited as deficient' (Arthur, 2003, p. 98). Lansbury argues that the 'traditions of a country and its people are determined by historical events, but those traditions are frequently modified and changed by literature in the continuous interplay of the reality of the imagination and the reality of life' (Lansbury, 1970, p. 1). Ongoing influences from the nineteenth century, Lansbury believes, are the notions of Arcady evoked in literature which also contributed to a cultural history of the environment. The linguistic inability of the colonisers to articulate the new environment is associated with colonial artists, such as John Glover, Louis Buvelot and Joseph Lycett, whose early depictions of tamed landscapes which represented Arcadian visions were easily translated by European eyes (Gleeson, 1971). The paintings of the nineteenth-century Victorian environment (see figs 2 and 3 below) depict the style of classical landscape portraiture of Europe.
Colonial artists adapted to a different landscape, but it took time for more accurate representations of Australian trees and landscape textures to be produced. Glover was one of the first, inspired by his own ‘civilising’ touch in transforming the environment on his property in Tasmania (Bonyhady, 2000), shown in fig. 3 above.
The artistic development in portraying a more accurate visual interpretation of the landscape led to a variation in lexical meanings of the most fundamental elements in the landscape through which they moved, such as ‘bush’ and ‘scrub’ (see Douglas in Bonyhady & Griffiths, 2002). These terms had different and conflicting configurations in local contexts. Bonyhady and Griffiths (2002) bring together richly textured analyses of the environmental, cultural, geographical and linguistic layers that make up the official and the vernacular languages that create the stories growing out of and taking root in places, and how they were then transformed. Langton (1998) describes the impact of colonisation and subsequent modern technological development not only on cultural perceptions of the ‘wilderness of Australian landscapes’, but the flow-on effect on legislative changes for protected lands which deny Aboriginal connections to the land. ‘There was no wilderness, but there are cultural landscapes, those of environmentalists who depict a theological version of nature in posters, and those of Aboriginal people, present and past’ (1998, p.24). Langton criticises the legal processes which have entrenched the dominance of Western visions of ‘wild’ places. These arguments are supported by Bonyhady and Griffiths (Bonyhady & Griffiths, 2002), who argue that landscapes are transformed by the words, phrases and storytelling that describe them. Arthur (2003, p. 97) claims that language in historical records distorts the environment into something depicted as ‘essentially defective’; and in need of improvement through conquest in order to overcome ‘malevolent’ enemies out in the emptiness. The notion of ‘greening a brown land’ is synonymous with colonial visions of change that reduce indigeneity (Arthur, 2003). Langton (1998) also argues that Indigenous Australian knowledge systems have been denigrated so much that they have become ‘invisible’ within the self-imposed superiority of Western knowledge systems. Further, Langton argues that Western language systems literally write out alternative ways of understanding the Australian landscape and the means with which humans are connected to it both culturally, economically and socially.

The widespread cultural perception of the landscape being populated by enemies is shown in Lambert’s late nineteenth-century sketches for J.M. Whitfield’s (1910) children’s book on the Australian bush, which clearly depicts demons and trickster fire imps attacking delicate bush fairies and terrifying wildlife and stock (see fig. 4 below).
Placing vegetation in an historical perspective, it is necessary to also situate fire in historical narrative terms, since it is such a relevant element of the environment in south-eastern Australia. The largest recorded bushfire since European colonisation in Victoria occurred in 1851 and is memorialised in William Strutt’s vast painting (see fig. 6 below). The historian Kenny (2013), reflects upon his own bushfire experience in 2009. He describes this depiction of bushfire as an allegory, where the biblical and apocalyptic are shown as the ‘makings of a new Ark, the fire of damnation following behind’ (p. 119). In this image, Kenny states, we see nature rising up against the settlers, as well as the military connotation of forcing people
and things back to the relative safety of towns. Kenny argues that the early settlers battled fire with tenacity, not trickery.

Figure 5. *Black Thursday, February 6th 1851* (Detail). William Strutt, 1864. Image courtesy of the State Library of Victoria.
The histories and historians referred to in this section provide insights into the intellectual values placed on Australian environmental knowledge, as these histories are both scholarly and socially empathetic. The selected environmental histories and art are shown to synthesise local knowledge with broader scientific research of the day. Importantly, these forms of narrative provide another layer of understanding and interpreting the environment in the context of time. Referring to temporal scales can assist managers and researchers in reflective practice (Schön, 2009). Environmental or ecological histories are one method that integrates reflexive practice and at the same time, forms a register of social values, knowledge and attitudes over time in their very presentation and articulation. The writing of environmental histories embodies reflexive practice as well as the creation of another form of social-ecological narrative relevant to this thesis. Environmental histories that merge ecological science into the narrative (Bonyhady, 2000; Bonyhady & Griffiths, 2002; Clode, 2006; Dovers, 2000b; Griffiths, 1996; Rolls, 1981) demand that the reader question and challenge ways of thinking about environmental, social, political and cultural issues alongside human values. As an environmental historian during the late twentieth century, Cronon (1992) reminded scholars of the need to be mindful in narrating events and the meanings within histories. He suggested that narratives are essential to human understanding of history and therefore, also to historical constructions of nature.

Media

Media is another source for the public’s broad comprehension of the environment, according to Hansen (1991). Hansen suggests that media narrative encompasses our knowledge, beliefs, and understanding of problems or issues. In addition, media narratives are shown to influence how we relate to the micro- and macro-scale environment, and how we perceive, view and value the environment (Hansen, 1991). More recently, global ‘war and dominance’ metaphors have been widely adopted in the mass media, following an earlier focus on nuclear and global catastrophes. Applying a constructivist approach, this perspective shows how media and communications shape the environment, political agendas and public perceptions (Hannigan, 2006, p. 83). During the 1960s the modern environmental movement relied upon mass media for ‘contesting claims, arguments and opinions about our use and abuse of the environment’ (Hansen, 2011, p. 8). Hansen notes
that earlier environmental political decisions were based on scientific evidence or expert knowledge (as well as ‘economic development’), whereas now it is more about the response of the public and political communication aimed at ‘winning the hearts and minds’ (p. 8).

The media and environmental sectors are not static, and this contributes to disconnections evident between the study of media production and content and the study of broader social and political dynamics within media communication. Consequently, Hannigan suggests that we know a lot about the sources interacting with media and how stories are portrayed as well as how the public and political opinion understand these issues, but not enough about how the three interact (Hannigan, 2006, p. 10). If environmental issues are understood as a social construct they can be explored as a concept and created as a ‘domain’; they can be framed politically as a ‘problem’ or, become embedded in a more spiritual frame.

Depending on how the media is involved, manipulation of issues occurs via a framing process that influences the interpretation of the environment. Hence, the media plays a crucial role in shaping and constructing environmental issues and problems by providing ‘symbolic meaning’ combined with rhetorical claims (Hannigan, 2006), particularly using multiple forms of visual imagery and evocative language. Crucially, media is involved during times of crisis, where a fixed journalistic system provides a sense of order and predictability. In these situations, metaphors are important for framing constructions of the issues, combined with other devices noted by Hannigan (after Gamson and Modigliani, 1983:3-4, cited Hannigan, 2006, p. 82) such as exemplars, catchphrases, depictions and visual images.

Politics, as a key element of media narrative, is an unavoidable influence on environmental narratives (Arthur, 2003; Bonyhady & Griffiths, 2002(eds.); Eckersley, 1992) and involving conflicts over the use, control and ownership of land. Political influences on media can be in the form of lobbying campaigns, and extend to responses in environmental histories or in the form of more subdued and constrained nuances in research reports. Evidence of the environment as a politicised ‘issue’ since the late twentieth century has become one of the key concerns in media and public communications (Hannigan, 2006; Hansen, 2011), ever since NASA’s imagery of ‘spaceship earth’, where Earth is suspended in the vast and infinite galaxy, was widely distributed in the late 1960s in order to project a fragile image of the earth, subject to human impacts. In association with cultural theory debates (social
constructivist and positivist approaches in particular), metaphorical representations in media have provided a platform for communication research, as a development of discourse studies.

**Policy narratives**

The association between language and the environment is pivotal in the interdisciplinary linking of researchers, policy makers and communities, at a time of dynamic global change, in particular for post-positivist researchers such as (Fischer, 2003a; Hajer, 1995; Stone, 1989). The use of powerful symbols and mythic patterns in policy narratives produces a broad understanding, and acceptance of, information or an established status quo (Butcher & Atkinson, 2001; Hansen, 2011). Modern global environmental politics gained a legitimate place within environmental discourse during the 1960’s when public and political awareness campaigns dealt with pollution issues. A notable influence was Carson’s seminal book *The Silent Spring* (1963). This single text not only politicised the issue of how environmental pollution impacts on nature, but presented the argument in a format that educated communities globally and politicised the environment in Western nations. Jasanoff argues that Carson’s depiction of science also ‘reinforced archetypal fears about science and technology’ (1996, p. 63).

Since then, an interest in narrative and the social construction of the environment has continued to provide opportunities for social and political science to become more integrated with environmental research issues (Shanahan, Jones, McBeth, & Lane, 2013). Social constructionist approaches have a particular significance in policy narrative analysis, due to the richness of policy discourse, subjectivities and influence of power. Shanahan et al. (2013) developed a *Narrative Policy Framework* to counter criticisms that mainstream policy analysts iteratively derived their analysis of narrative and subjectivities within policy. On another level, Yanow (1996); (1997) explores how social constructionist approaches are integrated into policy analysis metaphors, which function as important nuanced cues from which policy intent and impact can be interrogated. Extending such analysis further, van Hulst and Yanow (2016) consider the role of framing in bringing forth certain issues, their naming and how people then make sense of them, as an extension of earlier discursive studies, such as Schön (2009) and Hajer (2006). Forest policy in the Pacific north-west of the
United States is arguably influenced by the types of narrative that are created within conflicted policy change settings (Winkel, 2011, 2014). Winkel’s research has strong methodological ties to Yanow (1996), Hajer (1995) and Fischer (2003b), via interpretative discourse analysis, which helps articulate what occurs within the political debates and, ultimately, within policy construction. These researchers also demonstrate how narratives can be reframed and reconstructed, and policy directions changed through close attention to language, and they explore what discursive elements such as metaphor, myth and rhetoric entail.

Climate change is a further example of how social constructivists have explored policy narrative in terms of framing, where the science behind climate change as a fact is considered alongside the interference of the framing by those who construct particular claims (Fischer, 2003b; Lefsrud & Meyer, 2012). Undertaking this type of research allows links between narrative, metaphor and policy to be assessed. What emerges from the narratives of climate change is that claim makers’ narratives also become polarised. By emphasising alarm, the use of certain terms such as ‘tipping point’ (Russill & Nyssa, 2009) contribute to a sense of uncertainty and communication of catastrophe.

The breadth of environmental policy narrative analysis that considers iterative, social constructionist methods supports the approach being considered in this research. There are valid reasons to move away from traditional objective policy analysis approaches and instead consider the influence of narratives. This research shows that better understanding the subjective constructs of people, conflicted, politicised environmental issues ultimately influences better policy making processes.

The Australian biophysical environment: A review of research into managing bushfire and native vegetation

Vegetation in fire-prone regions of the world, such as Australia, is susceptible to burning with uneven regimes, timing and locations (Bradstock et al., 2012; Fernandes, Rego, & Rigolot, 2011; Murphy et al., 2007; Pyne, 2001). As a consequence, fire is a naturally occurring element in approximately 13.4 % of Australia— equivalent to 103 million hectares — where native vegetation is protected in public land reserves as part of the
Commonwealth National Reserve System (DSEWPC, 2013e). The fire-prone nature of these reserves contributes to the complexity and problematic nature of native vegetation management in Australia, and these interconnected issues operated at multiple scales (Bührs & Christoff, 2006; Lunt & Spooner, 2005; Schirmer et al., 2012). As a consequence, the foundations for national biodiversity conservation, which ostensibly deal with loss of native vegetation, are also influenced by a naturally occurring process that can contribute to increasing native vegetation cover. This literature review will show that the framing of vegetation loss as a significant management issue contributes to paradoxical and confusing narratives and management responses.

Despite efforts to conserve native vegetation on public reserves, vegetation cover is progressively declining, nationally (State of the Environment Committee, 2011). To compensate for vegetation loss, there is increased awareness that expanding native vegetation and its conservation on private landholdings is necessary to improve the extent of vegetation quality and cover. Partly in response to this need, private land conservation programs have expanded this century (Halliday et al., 2012).

Native vegetation loss stems from historical land division and selection by English colonists, when the self-proclaimed land ‘managers’ of the nineteenth century rapidly divided up land fertile enough for pastoralism and removed timber from forests for building growing cities and towns. Since this time, native vegetation has retained a deep national cultural significance, essentially as a form of economic productivity (Commonwealth of Australia, 1999; Wallace, 1992). Vegetation removal increased during the mid-1800’s during the Gold Rush, when it was removed to burn and to make railways which transported materials to major cities (Department of Sustainability and Environment, 2006; Griffiths, 1996). The transformative scale of industrial agriculture transferred from Europe (Burdon, 2010) has been altering Australian landscapes ever since. Yet, in contrast with the Western reductionist scientific knowledge that underpins our understanding of native vegetation and its management (Allan et al., 2008), native vegetation, in particular trees and forests, has also long held spiritual, cultural, economic and political significance amongst many cultures (Trigger & Mulcock, 2005). More recently forests and trees have been symbolically powerful in political debates among environmentalists, creating metaphoric meaning for the whole of
nature (Eckersley, 1992; Trigger & Mulcock, 2005). The conservation movement in Australia dates back to the mid-nineteenth century when colonial governments were pressured by members of the public and by forest managers on the need to legislate for the reservation of timbered areas in order to conserve the dwindling resource. The conservation of vegetation with floristic significance developing at a later stage (Victorian Government Gazette, 1874; "Wildflowers and Native Plants Protection Act," 1958). During the latter part of the nineteenth century National Parks in NSW and Victoria were established, signifying the increasing public concern for indigenous vegetation management. In 1879 Royal Park became the first recognised Australian National Park. Despite their legislative status, reserved areas were still used actively by the public as a resource, in particular for timber collection, planting exotic species and stock grazing (Office of Environment & Heritage-NSW National Parks & Wildlife Service, n.d.). As public land reserves were gradually established, they were managed generally under ad hoc systems as the colony developed and different administrative personalities changed priorities (Bonyhady, 2000).

Over time, a growing awareness of environmental degradation on productive agricultural land became an issue, as farmers applied European farming techniques to a drought-ridden land, in response to pressures to be productive and economically competitive (Barr & Cary, 1992). In response to growing social and ecological problems in agricultural areas, specific agencies were established in the twentieth century to raise public awareness of an emerging environmental crisis (Barr, 2009; 1992). Much of the natural resource management effort designed to enhance and conserve native vegetation has been undertaken on private land within a particular scale across catchments in Australia. More recently, conservation programs have developed in partnership with other agencies, groups and organisational support structures (Allan et al., 2008) in order to respond to broader environmental degradation, in particular to salinity and soil erosion caused by widespread native vegetation loss. Partnership initiatives dealing with erosion and soil conservation peaked in the 1960s and 1970s (Barr & Cary, 1992). Since then, there has been a progressive shift from direct resource conservation on public land (focusing on individual species), to more holistic management programs designed to enhance existing remnant native vegetation on public and private land, which better support a suite of fauna and flora. The
Federal Government has initiated a series of programs to achieve these goals (Commonwealth of Australia, 1999).

Adding to the challenges of native vegetation management, Australia’s climate extremes and nutrient-poor soils means that native vegetation is specifically adapted to these conditions, and is therefore dynamic and more biologically complex than introduced species. The complexity and challenge of managing native vegetation is influenced by anthropocentric influences. Vegetation types are specific to particular ecosystems, but their distribution crosses socially constructed boundaries, such as political jurisdictions. Our current knowledge of native vegetation is influenced not only by the on-going development of scientific knowledge, but also by interconnected historical perspectives. A considerable amount of this Western scientific knowledge is elicited from site, landscape or species-specific studies (Lindenmayer et al., 2008) developed over a century typically within selected ecological categories, and much of this knowledge has been reported in terms of a negative future outlook (Lunt, 2002). Consequently, this scientific knowledge is not only framed negatively, but also in terms of the contextual framing of historical and political narratives (Cary et al., 2003). Another layer of difficulty exists because conservation policies are ‘predicated on vegetation benchmarks set at the time of European colonisation, including vegetation clearance legislation, ecosystem reservation targets and many reserve management plans’ (Lunt, 2002, p. 391), and are therefore limited by their failure to consider recent changes that continue to influence patterns of distribution and diversity. To more fully understand the dynamics of vegetation, there is also a need to understand and acquire information on vegetation changes over time and at different scales (Lunt, 2002).

As discussed, fire regimes are a process that significantly influences native vegetation. In response to some of the major fires over the past twenty years, ecological research has contributed to greater knowledge of how some of Australia’s unique plant species rely on and are adapted to fire (Cheal, 2010). It is now understood that frequent and hot fire regimes have unknown consequences on species diversity, distribution, composition and survival, and that they are detrimental for species of vegetation communities which are poorly adapted to fire (Cheal, 2010; Lunt & Spooner, 2005). Some plants thought to be intolerant of intense fire have responded well after the severe 2009 Victorian bushfires,
such as the threatened *Nematolepsis wilsonii* (Shiny Nematolepsis) and *Eucalyptus crenulata* (Buxton Silver Gum) (Cheal, 2010), and this indicates that they can tolerate infrequent hot fires. However, the repeated severe bushfires in Victoria this, such as those affecting the Great Dividing Range, Grampians and Wilsons Promontory, have burnt some areas three times in the past ten years (Department of Environment, 2015). The ecological consequences of increasing bushfire frequency on vegetation communities comprising sensitive and slow growing species (such as Alpine Snow Gum, Alpine Ash, Mountain Ash and many mid and under-storey woody species), are not yet known (Coates, Zimmer, Cullen, & James, 2012).

**Native vegetation in south-east Australia**

To explore research and management issues of native vegetation management in south-eastern Australia, it is useful to recognise that the milder more Mediterranean climate of the south-east has induced proliferating densely-settled, urbanised communities. The three most populous states, Victoria, New South Wales and the Australian Capital Territory, were actively settled by European colonists in the late eighteenth- to nineteenth-centuries. and intense industrialised economic agricultural production systems (Bryan et al., 2013) have spread along the coast and the Great Dividing Range’s forested hinterland. As a result of agricultural practices, forestry, urbanisation and mining practices, vast areas of indigenous tree cover has been cleared, as well as many native perennial grassland and understorey species. Consequently, the south-east is some of the most heavily cleared in Australia, due to its favourable soils and climate for agriculture, and its proximity to major cities for economic trade (State of the Environment Committee, 2011, p. 50).
Many conservation reserves which were legislated over time as a result of organised lobbying by politically motivated public conservation campaigns (see Victorian State Government, 1892) — such as Royal National Park and Mt Gambier established in the 1890s, Wilson’s Promontory in the early 1900s, and Wyperfeld in 1921 to name a few — are now in close proximity to major expanding human settlements and population growth into nearby scenic areas. As these regions become increasingly popular for ‘tree change’ settlers migrating from urban areas, migration to some areas has increased vegetation clearance in order to accommodate European Australian values and lifestyle.

There has been a long history of complex and divisive management issues being challenged by public demands for the conservation in forested regions, influenced by social values associated with the immense physical scale of trees such as *Eucalyptus regnans* (Mountain Ash). These towering trees have been revered both as ‘giants’ since the nineteenth century.
(Griffiths, 1996, 2002), and for the habitat they provide (particularly for threatened species such as the Mountain Pygmy Possum and the Leadbeater’s Possum (Driscoll et al., 2010; Lindenmayer et al., 2008), while they have been simultaneously valued as a source of timber and economic income. Ironically, a number of wet forest species such as the Alpine Ash are fire sensitive and have long needed careful management to preserve them after severe bushfires in the twentieth and twenty-first centuries (Stephenson, 2010). In the southeast region of Australia it is impossible to separate complex vegetation management issues from fire since there has long been a symbiotic relationship between the two, and this is particularly complex when human involvement is considered. The national Regional Forestry Agreement process in the late 1980s and 1990s was the culmination of a long and contentious historical conflict concerning political-ecological values of the forested areas (Dargavel, 1998). Intense lobbying for particular uses such as forestry, mining and agriculture has meant that clearing and use of vegetation on public lands are as vexed as the policy making process.

The national political structure has also been a factor in determining how native vegetation management is undertaken in the south-east of the continent. The authorisation of Federal and State native vegetation management responsibilities has been devolved through a number of public agencies across three different government jurisdictions. Federal administration of policies is currently through the Department of Sustainability and Environment, Water, Populations and Communities (DSEWPC) has been guided by the National Framework for the Management and Monitoring of Australia’s Native Vegetation Consultation Draft (Natural Resource Management Ministerial Council, 2001), which was reviewed and endorsed in 2009. At State and Territory government level, native vegetation management is conducted in the ACT by the Parks and Conservation Service, under the Territory and Municipal Services, while the equivalent in Victoria has recently been restructured and rebadged as the Department of Environment, Water, Land and Planning (DEWLP). Although vegetation management strategies in all these jurisdictions acknowledge the pressures of species loss, impacts of climate change and benefits of biodiversity, these strategies and policies are being reviewed at a State level to better meet financial constraints in undertaking management objectives (Department of Environment & NSW, 2010). As a consequence, uncertainty and concern has developed as a result of change in
the political values of environmental conservation at all levels of government, and this concern is reflected in a range of scholarly reports (for example: Bridgewater, 2013; Garnett, 2013; Marshall & Goldberg, 2013; Ritchie et al., 2013).

Adding to the complex layers of environmental management, local governments in each state are responsible for roadside verge management, land subdivisions and local laws. The Territories have only one level of government, which blends State and Local responsibilities. Private land management programs are delivered mostly through catchment-wide management authorities — Catchment Management Authorities (CMAs) in Victoria and Local Land Services (LLSs) in NSW — integrating principles of adaptive management and vegetation management on public land. Further contributing to the confusing context of native vegetation management is that many catchment-scale programs undertaken in partnership between government agencies (Commonwealth of Australia, 1999) and landholders have, since the 1970s, emphasised increasing native vegetation on private property in response to widespread native vegetation loss resulting from intensive agriculture, forestry and other degradation processes (Allan et al., 2008; Barr & Cary, 1992).

This research adds to the broader understanding of how such programs contribute nuanced layers to public narratives of native vegetation, which are associated with this dichotomy of public versus private land management processes.

The context of fire: planned, unplanned and uncertainty

The global setting of fire

Bushfire is a natural element in regions around the globe, such as in the United States, southern Europe and Australia. However, increasing levels of anthropogenic fire has resulted from human interactions with environments, based on colonial land use and management (Pyne, 2001). Although there have been many major bushfires in the past, those in the twenty-first century have received significant attention both in research and the mass media due to their frequency, physical scale and locations in proximity population centres which have increased their impact on humans. There is a global concerted effort to find out more about ecological fire by governments, researchers and the community, and this research is typically framed around changes in natural disaster (Weichselgartner &
Kasperson, 2010), population growth and human movement and social risk (Charnley, McLain, & Donoghue, 2008; Fernandes et al., 2011). Fire managers and researchers in the USA, southern Europe and to a lesser extent in Africa, have shared experiences and knowledge due to similar climates, management agencies and socio-cultural issues (Bradstock, 2010; Cheal, 2010; Driscoll et al., 2010; Eriksen, 2007; Penman et al., 2011; Williams, Wahren, Bradstock, & Müller, 2006).

The national fire setting

Fire in Australia has shaped the landscape over millennia through intentional and unintentional human application as well as natural ignition from lightning strikes (Bradstock et al., 2012; Griffiths, 2002; Hansen & Griffiths, 2011; Lunt, 2002; Pyne, 2006; Rolls, 1981). Fire is undoubtedly integral to ecological processes in many parts of Australia and is no less important in the south-east region (Cheal, 2010). Yet a patchy understanding of pre-European anthropocentric fire regimes has resulted in conflicting interpretations of how Indigenous fire practices have impacted Australian ecosystems, in terms of what then is appropriate for current ecosystems (Attiwill & Adams, 2013; Gammage, 2011; Horton, 2000; Jurskis, Bridges, & de Mar, 2003; Lindenmayer et al., 2008; Raymond et al., 2010). Over the past thirty years ‘fire-stick farming’ has become accepted as a frame for the deliberate fire-use practices of Indigenous Australians, a term coined in Rhys Jones’ hypothesis on Australian pre-1788 fire regimes (Horton, 2000). Based on the premise of widespread and deliberate use of anthropocentric fire, it is believed that Indigenous Australian fire regimes had significant impacts on plant species and allowed those more adapted to fire to extend their distribution, particularly in the drier temperate regions of the continent (Barr & Cary, 1992; Horton, 2000).

The ‘incessant’ (Bradstock et al., 2012, p. 307) frequency of twenty-first century fires is placing increased pressure on ecosystem resilience, and is causing significant disruptions and disturbances to human and natural systems, often triggering chaotic management situations. In addition, despite greater recognition by land management agencies, ecologists and policy makers that managing native vegetation has traditionally been done through the application of fire in some form, planned burning as a technique has become a contentious issue due to changes to agencies and policies (Attiwill & Adams, 2013), and land-use and
settlement patterns (Cottrell, 2005; Eriksen & Prior, 2011). Conflicting opinions exist despite increased national research efforts which seek to increase scientific and cultural bushfire knowledge in order to reduce risks for both human safety and biodiversity loss (Bradstock et al., 2012). Underpinning this conflict-driven research is an acknowledged dispute about the efficacy of applying planned fire across various vegetation types in Australia (see Jurskis et al., 2003; Penman et al., 2011). Fire ecology research and its implementation appears to fall into two broad categories: Rangeland management for cultural and biodiversity purposes and, the contentious issue of managing temperate fire ecology regimes in more densely populated areas of the continent (Eriksen & Gill, 2010; Eriksen et al., 2010; Gilbert & Brack, 2007). Contributing to the challenges faced by land managers and researchers is the need to update scientific knowledge, monitor records and data that vary across fire regions, vegetation types and history. Often fire ecology studies are focussed on small scales and specific species, and modelling techniques may vary from project to project (Lindenmayer et al., 2008; Lunt, 2002). As a result, assessing the efficacy of fire regimes for vegetation management across the south-east has been difficult (Penman et al., 2011).

Fire also fits uncomfortably in the ‘management portfolio’ of highly settled areas and significantly altered ecosystems, despite a general acknowledgement in scientific circles that fire is a significant element influencing the ecological dynamics of native vegetation growth, reproduction, distribution and physiology (Bradstock et al., 2012; Cheal, 2010; Stephenson, 2010). Consequently, the application of planned ecological fire for native vegetation management on private land is rarely undertaken and is poorly understood by landholders, despite their awareness that fire may be ecologically beneficial (Halliday et al., 2012). In contrast, broad-scale risk management works are more readily adopted as part of accepted bushfire awareness campaigns in Australia and internationally (Dale, 2006; Eriksen & Gill, 2010; Eriksen et al., 2010; Halliday et al., 2012). Community focussed environmental management and fire awareness programs have been designed to cater for this community knowledge gap (Department of Sustainability and Environment, 2013a, 2013b; Schauble, 2009b).

Many popular historical anecdotes describing ecological changes across the landscape are sourced from patchy snapshots by late eighteenth-century and early nineteenth-century
explorers and settlers. Consequently, these gaps and disconnects contribute to selective knowledge of the pre-European environment. The diverse interpretations of fire-sightings and post-fire grassland vegetation appearances have been cited by a range of researchers (see Barr & Cary, 1992; Gammage, 2011). Added to interpretation subjectivity is the influence of terms such as ‘fire-stick farming’. While such terms are now widely adopted, critics (Rolls, in Arthur, 2003; Cranston & Zeller, 2007, pp. 93-121; Hateley, 2010; Horton, 2000) suggest there is a post-colonial weighting embedded in them that legitimates Western production values over conservation (Rolls, in Arthur, 2003; Cranston & Zeller, 2007, pp. 93-121; Hateley, 2010; Horton, 2000). With the emphasis on ‘fire-stick farming’, Indigenous land use is framed in terms of ‘productive land use’ (Horton, 2000).

**Fire in south-east Australia**

Of all bushfire regions in the world, southeast Australia in particular is one of the most fire prone (Department of Sustainability and Environment, 2012a; Pyne, 2006; Schirmer et al., 2012). Associated with the devastating and dramatic changes in the distribution and quality of native vegetation as a consequence of European settlement, the increasing frequency of large-scale unplanned bushfires in forests and woodlands, particularly in the peri-urban regions and forested public conservation reserves during the twenty-first century has raised many questions, and provided impetus for deeper research into land management policy development (Driscoll et al., 2010; Forest Fire Management Group, 2012; Spennemann, Allan, & Laidlaw, 2007; Whittaker & Mercer, 2004), community resilience (Beilin & Reid, 2013; Eriksen & Gill, 2010) and fire ecology (Attiwill & Adams, 2013; Bradstock, 2010; Bradstock et al., 2012; Cary et al., 2003; Cheal, 2010; Driscoll et al., 2010; Lunt, 2002; Pyne, 2006). During the summer of 2003 alone, nearly four million hectares were burnt in bushfires across five south-east Australian States (House of representatives Select Committee on the recent Australian Bushfires, 2003). In Victoria, ecologists and public land managers are faced with the responsibility of fire regimes that serve ecological purposes, since ‘[inappropriate] fire regimes causing disruption to sustainable ecosystem processes and resultant loss of biodiversity is listed as a threatening process under the *Flora and Fauna Guarantee Act 1988*’ (Cheal, 2010).
To complicate matters, increasing planned fire in the landscape is a government priority in direct response to the scale of wild fires and to public calls for increasing planned burns in public reserves to minimise risks to human life and property (Penman et al., 2011). To put the scale of this task in context, between 2002 and 2009, 40% (or almost three million hectares) of Victoria’s public land was burnt by unplanned bushfires. Approximately 0.1% of fires (described by some as megafires (for example Attiwill & Adams, 2013)) during this period burnt ninety-five percent of the total area burnt and equalled approximately eighty-five percent of the total costs (2013). In the ACT a series of bushfires in 2003 burnt into suburbs of the national capital, destroying hundreds of homes, killing four people, injuring nearly five hundred, and burning more than seventy percent of the territory. While NSW has not had such tragic loss of human life and property, during the summer of 2001-02 large fires burnt 733,342 hectares of public reserves and private property, including 109 houses, over 7,000 livestock and other infrastructure (NSW Rural Fire Service, 2013). During October 2013 bushfires destroyed over 248 houses and killed two people in the Blue Mountains of NSW, and burnt over 118,000 hectares. Communities were surprised at the ignition of such severe fires in a populated region so early in the fire season (Rich, Booth, Rowlands, & Redd, 2016).

The social impacts on human communities from bushfires are an enormous and costly challenge for emergency services, land management agencies, health and community services, Local, State and Federal governments and communities (Cary et al., 2003; DSE, 2012b; Driscoll et al., 2010; Klomp & Lunt, 1997; Lunt, 2002). Those affected by the severity of catastrophic fires come from many different professions and backgrounds (Eriksen & Prior, 2011), and inevitably they have a range of political affiliations and values when it comes to dealing with the aftermath of such traumatic experiences. Ironically, and adding to the confusion of narratives of environmental management, fire and emergency management (including planned burn regimes) is undertaken by applying a classic command and control approach, which contrasts with efforts to adaptively and cooperatively manage catchment-scale and community based programs in order to encourage conservation of native vegetation on private land adjacent to public reserve systems (Allan, 2009; Allan et al., 2008; Holling & Meffe, 1996).
Environmental policy

While the previous section outlined the conflicted context of the issues of native vegetation and bushfire, the following discussion contributes an overview of global, national and regional policy perspectives which situate policy within the context of the environmental management research.

Global influences and how they affect Australia

The global influence of Western democratic political processes has evolved since the highly regulated post-World War II economic, political and physical reconstruction efforts during the 1950-60s (Bell, 1997). While some argue that this may be a progression of nineteenth-century Liberalism others claim this shift is a response to rise of a Neo-Liberal ideology, associated with the ‘return and spread of one specific aspect of the liberal tradition, namely economic liberalism [or] laissez faire economic policies’ (Thorsen, 2010, p. 189 and 199), which has affected the powerful dynamics of globalised free-markets, both expanding capitalism and empowering individual rights to free choice (Lockwood & Davidson, 2010). Consequently, they argue, a globalised state of pluralism has emerged (Scholte, 2005), which is challenged by the post-modernist thinking which has progressively spread among academic research disciplines. At the same time, an emerging global trend of participatory democracy or governance has replaced the secrecy of the Cold War period, which has produced ‘the attendant notion that each culture or voice has an equal right to be heard’ (Jasanoff, 1996, p. 63). This dualism has been noted by Van der Heijden who asked what the link is ‘between globalisation as an important constituent of our current “structure of thinking” and postmodernity as our present “structure of feeling”?’ (Van der Heijden, 2006, p. 490) The dilemma facing Western societies from the expansion of neoliberalism concerned not just degraded environments, but the post-modern influences of unsettled social-political reflections on who we are and where we belong (Jasanoff, 1996). When researching the US Environmental Protection Authority in the mid-1990s, Jasanoff noted the expected uncertainties in an uncertain world. Additionally, she noted there was an expectation of virtually unconstrained citizen voices within participatory governance in this scenario, which was further enabled by communications technology. Jasanoff questioned, however, whether participatory processes undertaken without trust, or a commitment to
support the provision of information and involvement, has been able to increase public knowledge, or the ability to work through complex environmental challenges. Global issues and events this century have continued to influence public perceptions of social justice, environment and science, particularly through media presentations (Russill & Nyssa, 2009). For instance, the Global Financial Crisis influenced international and local free trade and banking, and consequently affected social values and political stability in powerful Western nations (Nash, 2010). As Castells explains (cited pp35-36, Nash, 2010), intricate social networks have been established in fluid, global social movements and expanded across multiple boundaries. The implications of contemporary political sociology and associated cultural-political responses for particular interpretations such as the environment have expanded, and these social movements challenge the definitions, perspectives and identities of those involved. Policy decisions no longer stay within consider fixed geographical boundaries, but must also cope with the transient and invisible.

Another global scale issue that is impacting all levels of society is climate change. During the past decade the issue has become recognised in international policies and treaties, such as the United Nations Framework on Climate Change, the International Program on Climate Change and the Convention on Biological Diversity (Thomas, 2007). Even with increased scientific and government acknowledgement of the potentially catastrophic impacts caused by a changing climate should be considered as factual (Department of Sustainability and Environment, 2013d; Department of the Environment, 2010; Nerlich, 2010; O’Neill, 2013), a sense of uncertainty pervades political and institutional approaches to ways of confronting the challenges posed by anthropocentric climate change which threatens biodiversity. However, failure to confront these issues also threatens biodiversity to the extent that many species are predicted to become extinct (Driscoll et al., 2012) with the expected increased severity and frequency of bushfires in fire-prone regions of the world (Dale, 2006; Driscoll et al., 2012; Fernandes et al., 2011).

National policies and politics

The Australian political system’s complex hierarchy of Federal, State and Local government jurisdictions and dominant rationalist policy thinking is further complicated by the temporal dynamics involved in political cycles, directly effecting policies and legislation (Thomas,
On one hand, a dense layering and regular change of government and its institutions means that institutional change occurs only slowly and after considerable debate. On the other hand, it has been noted that ‘[changes] in government are likely to bring about changes in environmental policies’ (Bührs & Christoff, 2006, p. 238). The implication is that policy shifts occur every three to four years and depend on party politics and relationships between State and Federal governments. An example of the fragile and contradictory nature of environmental legislation is that while national laws have traditionally functioned as a ‘gatekeeper’ which overrides laws in lesser jurisdictions, the States can also implement policies that impact directly on environmental policies elsewhere (Bates, 2006; Bührs & Christoff, 2006). What may be threatened or valued in one jurisdiction or catchment can be quite different in a neighbouring area. For example, recent changes to the Commonwealth Environment Protection and Biodiversity Conservation Act (EPBC Act) (1999) which has effectively devolved additional authority to States (Australian Government: Department of Environment, 2013), has produced diverse policies which demonstrate the changeable nature and implementation of policy and legislation across jurisdictions. This state of flux has produced a sense of legislative and policy vulnerability and uncertainty which lingers in political deals made during elections in preference-battles between the Greens and traditional parties (also see Bührs & Christoff, 2006; Dovers, 2000a).

Policy funding is an additional and important factor that impacts on policy scope, delivery and decision-making. When considering the economic basis for prescribed burning, for example, policy decisions which are primarily associated with the management of risk to human life and property are prioritised over those dealing with ecological risk and biodiversity management (Penman et al., 2011).

Approaches toward managing public resources in Australia have been transferred from an English hierarchical and gentrified system to an utterly different environment (Bührs & Christoff, 2006; Griffiths, 1996). This has possibly led to a sense of ill-will between public land management agencies and private landholders, particularly around the issue of native vegetation management. These conflicts are currently represented by a set of complex debates around the implications of native vegetation management—biodiversity protection against human property and life— and public expectations of diminishing public land
management agency budgets and resources. Some of these conflicts can be witnessed in the shifting policy focus particularly over the past twenty years. The tendency to simplify the issues being considered in policy development has contributed to the contestation between interest groups (Schirmer et al., 2012).

The conflicting attitudes toward land tenure also appear in issues relating to Indigenous Australians and management of land. To make the issues more complex, due to low population density combined with vast natural resources has meant that since 1788 significant tracts of Australia have been consumed and its resources exported within a short timeframe. The vastness of the land and its mineral wealth has emphasised cultural perception of ‘an uninhabited frontier’ that overlooks the environmental fragility and rights of Indigenous inhabitants (Bührs & Christoff, 2006, p. 232). However, since the 1992 Mabo High Court Decision, Indigenous land rights have provided far more potential for the consideration of environmental issues social and cultural issues rather than economic and political alone (Bührs & Christoff, 2006). Areas rich in natural resources in northern Australia are now represented by local voices for promoting sustainable and ethical resource use.

The policy context in south-east Australia

To demonstrate the shifting dynamics of native vegetation policy in south-east Australia, the 2008 Victorian state policy, Living with Fire – Victoria’s Bushfire Strategy (Department of Sustainability and Environment, 2008) stipulated increased planned burn targets as part of a people and property risk management focus (Cheal, 2010). Following the scale of the 2009 bushfires impacts, Victorian vegetation management policy development since 2010 has responded to the findings of the 2009 Bushfire Royal Commission by increasing the total public land area identified for planned burns, in some areas by as much as threefold (Inspector-General for Emergency Management, 2015, p. 3). The Code of Practice for Fire Management on Public Land (Department of Sustainability and Environment, 2012a) was revised in 2011 to accommodate these policy changes. At the time of writing, the planned burning program is currently being reviewed by the incumbent State Labor government, but conclusions have not yet been reached (Inspector-General for Emergency Management, 2015).
The policy shifts described above did not occur in isolation, but are inexorably linked to a long history of forestry industry related changes and influences. The establishment of Regional Forestry Agreements form an historical policy link to the increased economic and political weighting of woodchip and forestry policies of the region. This has complicated vegetation and fire management because it is associated with aspects of traditional regional cultural identity in NSW and Victoria. The timber industry continues to retain enough political impetus to influence governments, assessments, and interpretations of legislation (Bührs & Christoff, 2006, p. 233). Complex and politicised debates continue in Tasmania which is a conflict-filled area of economic development, and recent attempts to develop woodchip mills have caused significant financial and political problems.

Another area of policy conflict in public land reserves are the protracted debates about the campaign to continue allowing Alpine cattle-grazing in order to ‘reduce blazing’, which is led by families with long associations with the region (Williams et al., 2006, p. 925). These debates have been in existence since the 1940s, despite research and evidence suggesting that cattle harm this fragile environment. But the recent debate is now more politically volatile than ever, due to the incidences of fires in the Victorian High Country this century (Williams et al., 2006). The perennial airing of such issues reveal the continuing significance of traditional, colonial agricultural values and their enormous political influence in vegetation management policies.

Recent land use policies, described as being ‘socially derived’, have introduced a disconnected institutional counterpoint against managing the ecological functions of bushfire (Gillen, 2005; Pyne, 2001); that is, the aim of regenerating vegetation, its structural distribution and of replenishing soils (Lunt, 2002; Murphy et al., 2007). Implementing such policies occurs in contradiction to the intense settlement in fire-prone areas which has increased the social impacts from loss of life and property, particularly over the past twenty years. Consequently, there is now more attention in research and community programs to how communities live in these landscapes with the prospect of bushfire literally at their back door (for example Beilin and McLennan in Beder, 2006; Dale, 2006; Eriksen & Gill, 2010; Lampin-Maillet, Jappiot, Long, Bouillon, & Morge, 2010; Murphy et al., 2007).
The confluence: Peri-urban amenity landscapes in south-east Australia

This section provides an overview of issues that specifically concern the proximity of humans in fire-prone environments in south-east Australia.

Amenity landscapes, such as hills, lakes, coastal areas and forests, are often found close to major cities and regional centres that provide aesthetically pleasing environments (Mendham & Curtis, 2010; Van Auken, 2010), and they have become significant global environmental and social issues. In more densely populated regions of the world such as the USA and parts of Europe, there are negative perceptions of environmental degradation in these areas caused by expanding developments centred on the visual ‘commodification’ of the landscape (Van Auken, 2010). In Australia, demographic and land-use trends are similar to worldwide patterns of change. Gurran (2005 cited Cottrell, 2005, p. 110) highlighted that more than 257,000 residents were adjacent to 533 national parks. In NSW alone there are over 8,000 landholders in suburbs, towns and country towns adjoining 162 national parks, which has complicated government agency land management and stretched limited resources in these variable and populated environments. While amenity landscape communities should not be generalised into a particular category (Cottrell, 2005), changing regional development and pressures on urban centres, communication technology, economic conditions (including changing terms of agricultural trade and taxation) and demographics (growing ageing populations) are all important in contributing to social-environmental consequences (Barr, 2009). Of particular concern in the fire-prone areas of south-east Australia, is that many people moving either permanently or temporarily to these areas have little or no direct experience of bushfires, or of managing large tracts of native vegetation (Eriksen & Prior, 2011; Halliday et al., 2012). Accompanying the in-migration value of aesthetics, these areas are becoming increasingly important for their ‘tradeable’ value, which ignores the original production values of the environments into which these people have moved (Van Auken, 2010).

The different types of native woody vegetation in south-east Australia has important flow-on effects for local community values and settlement patterns, economies and policies. The variability is shown in how the agricultural use of the environment on more gently sloping and alluvial or volcanic plains has been traditionally valued for cropping and livestock
grazing, whereas stands of tall Eucalypts in dense forests on ranges and alpine areas have long been prized for timber and tourism (Griffiths, 1996). In the latter part of the twentieth century and continuing to the present, there has been what has been termed a second industrialisation of hinterland environments (Bryan et al., 2013) involving considerable changes to communities and land use, particularly as a result of inter-urban migration. Rapid changes in the urban-interface and amenity land ownership are introducing a new spectrum in values and attitudes towards land use, and consequently in environmental risk-awareness and issues associated with native vegetation management (Eriksen & Gill, 2010; Eriksen & Prior, 2011). Shifts in land use and human connections to the environment have produced changes in the physical arrangement of townships and human settlement patterns, which in turn reflect changes in human value systems where trade-offs are made by landholders (Eriksen & Gill, 2010; Winter et al., 2009).

As population dynamics and demographics change, and generational environmental knowledge is no longer passed on within communities, programs are being introduced by long-term land management organisations such as Landcare and the Country Fire Authority (CFA) or Regional Fire Service (RFS) to help prepare amenity landscape communities for the environmental conditions that pose risks to human settlements (Eriksen & Gill, 2010; Eriksen & Prior, 2011). These programs usually entail feral fauna and flora control and community safety with an emphasis on risk management (for example Country Fire Authority, 2012b; Country Fire Authority Victoria, n.d.; Halliday et al., 2012; Regional Fire Service, 2012). These programs are undertaken despite the ‘well established [recognition] that changed behaviour does not necessarily result from increased knowledge or community education programmes’ (Eriksen & Gill, 2010, p. 819). Research in the field is also supported by risk management programs funded by organisations such as the Australian Bushfire and Natural Hazards Cooperative Research Centre (BNHCRC). Cottrell notes that programs of this nature need to consider the variations in community dynamics, environment, settlement type and proximity to other centres. Just as the migrants in these areas may have romantic notions of living in fire- and drought-prone areas, she suggests that there is a risk that service providers, policy makers and researchers generalise and romanticise what these communities are (2005).
In the more densely populated region of south-east Australia, a combination of altered ecosystems and changing population distribution and settlement densities raises many issues in relation to perceptions of environment, and how these are communicated. Social learning in these contexts becomes increasingly important, but also increasingly complex. Ison et al (2013) consider how the use of language and the framing of particular approaches by governments will need to shift to better accommodate social changes and increasing ambiguities within population dynamics. Mendham and colleagues (Mendham & Curtis, 2010; Mendham, Curtis, & Millar, 2012) found that increasing turnover in rural landownership in many parts of south-east Australia is altering land management practices as well as the extent of knowledge regarding biodiversity management in amenity landscapes. Flow-on effects include changing community structure and values associated with absenteeism and consequences for natural resource management extension for regional programs. Local community perceptions of community involvement in local-scale volunteer conservation projects have been analysed (Reid, Williams, & Paine, 2011), and the results show that in times of population shifts, communities create a hybrid knowledge that at times can fit between research approaches, government agencies and grass roots knowledge. Reid noted that local-level interactions in such programs create new social responses to the ecology of an area. There are implications for land management that is community driven and participatory in these regions, especially since programs emphasise the need for community involvement. Some of these changes arise due to budget constraints and reduction in agency capacities. Selman (2004) argues that genuine involvement requires some degree of devolvement in authority from agencies to communities. To achieve this organisational shift would mean adjusting approaches to the variability of community values so that policies change as well.

Summary of the complexities of native vegetation management in the context of bushfire

With the benefit of hindsight it has been possible to show that unintended and perverse consequences have occurred as a result of the historical approaches of land management and productivity across diverse south-east Australian environments. It is undisputed that as a consequence of European colonisation of Australia— in what was intended be a
productive outpost of England in 1788—widespread land clearing produced significant and
dramatic changes to unique, sensitive and dynamic ecosystems (Commonwealth of
Australia, 1999; State of the Environment Committee, 2011). Coupled with introductions of
invasive feral flora and fauna, urbanisation, altered fire regimes, mining and forestry, no
single problem resolution will alleviate the complexity or wickedness of native vegetation
outlined showed that complex issues have been symptomatic of confused and changing
management efforts. Increasing our understanding of contradictory consequences and
multi-scalar wicked problems can however be explored in terms of paradoxes.

The paradoxes

As demonstrated in this chapter, research, theory and the broader public have often worked
implicitly with explicit paradoxes, which have been referred to or identified as complexities
and disconnects. In south-east Australia, paradoxes can be understood as contradictions
between scientific knowledge and local, cultural perceptions; political and economic drivers;
and anthropocentric responses to impacts of climate on altered environmental conditions.

A starting point for enhancing our understanding of native vegetation management and
stimulating deeper exploration of critical complex or wicked problems associated with
bushfire in south-east Australia is to focus deeply on key paradoxes that have been
observed in research and practice.

The most frequently identified paradoxes and disconnects within native vegetation
management, identified from the literature reviewed above, are listed below. Many
paradoxes are interconnected and cannot function in isolation, due to the complexity of the
issues associated with native vegetation management:

- Living in one landscape while picturing and managing it as if it were another;
- Expecting to control the uncontrollable: fire management aims to restrict, eradicate
  or ‘manage’ wild fire in naturally fire-prone landscapes, including those fires that are
  of extreme intensity;
- More knowledge does not necessarily lead to better policy or management;
• The paradox of ecological restoration: restoring ecology to what? Ecological knowledge is uncertain, and this has implications for restoration goals and outcomes;
• Referring to history, but rewriting it as we go: the same history is referred to in one context, but in another situation it is treated in a contradictory way;
• Disconnect between research-based knowledge and policy, for example, amenity landscape migration and consequent transformation of landscapes is bringing more humans into historically fire-prone areas;
• Disconnect between economics and ecology: using economic drivers but referring to an ecological response. Ecological thinking does not fit neatly into classical economic thinking;
• Vegetation Research: Australia is the flattest, driest continent on earth, however research attention remains focused on the more temperate, mountainous and forested areas of south-east Australia;
• Media focus on native vegetation in terms of risk management reflecting crisis narratives in both the academic and public sphere: a contradiction is that the policy response fails to confront the nuances within systems of communication.

Conclusion

The review of literature has identified a significant amount of cross- and inter-disciplinary research that has contributed to an increased understanding of the complexities of native vegetation within natural resource management in south-east Australia. Some of this literature has had profound influences on policy development and its implementation this century. Reflecting on the diverse findings, opinions and theories, a range of issues have been identified as paradoxes that are associated with the regrowth of native vegetation after bushfires.

Based on this outcome, it is apparent that there is an important role for careful exploration and nuanced analysis of the range of inconsistencies embedded in diverse forms of public narrative. Species survival and adaptation in an ever-changing environment remains a critical ecological, social, political and economic issue, to which human life and property is
inexorably linked. While work continues in response to major bushfires across the region and internationally in response to this ongoing policy drama, there is even more reason to refer to how we communicate as a means of providing improved integrative support.
Chapter 3: Methodology and methods

Research methodology

Considerable exploration and reflection has been undertaken to position this research within a suitable methodological framework. The following section outlines the intrinsic elements that combine to best address the research questions.

It is necessary to be mindful that the social science field can be contentious and conflicted in itself, with differing opinions and understandings of the philosophical and pluralist nature of social science (Demeritt, 2002; Denzin & Lincoln, 2008; Sarantakos, 2013). Both constructivist and positivist epistemological frameworks were considered during preliminary stages of the research to evaluate which was the most appropriate research methodology to explore the research questions. This preliminary stage was important for deciding not only how to select a methodology that would guide the research, but how also to design a research process that would best reflect the nature of the research questions, using a framework of paradoxes. To address the thesis research questions, it was necessary to consider:

- The conflicted nature of issues concerning native vegetation; how it is perceived in a range of documents and publicly available sources;
- Multi-layered and discursive nature of potential data sources;
- Detail and volume of potential data sources;
- That the researcher is embedded within the physical and social landscape;
- The severity of impacts of major fire.

Considerations for an appropriate research methodology

The next section presents the rationale for the selection of the research methodology and embeds social construction literature with the selection process.

During the preliminary research it became apparent that constructivist approaches are more suited to the subjective nature of the knowledge to which this research refers (Demeritt, 2002; Denzin & Lincoln, 2008; Sarantakos, 2013). The next section will explore theoretical approaches of social construction as a way to consider the ambiguous nature of human-environmental relationships.
The dominant assumptions of late twentieth-century positivism —where understanding and describing the world is accepted as an established reality, based upon empirical observations obtained by scientific methods and an aversion to subjectivity (Carolan & Bell, 2003; Shotter, 2014)—have been challenged by numerous Humanities disciplines. Much of this challenge has been influenced by postmodernism, which has prompted a focus on, and interrogation of, more ‘ongoing, active, living interrelationships between people and the others and otherness in their surroundings, and on the creation amongst them all of what we take such things and facts to be’ (Shotter, 2014, p. 705). The source of truth and knowledge, and hence our existence within natural systems has been questioned (Demeritt, 2002). Upon this premise, the epistemological questioning of the nature of our surroundings has led to reality being understood as socially constructed and where human agency is central to our understanding of the world (Berger & Luckmann, 1966).

Arising from complex debates associated with postmodernist thinking, social and political scientists and theorists have considered the social construction of nature, and in doing so, have grappled with language used in the construction of facts in relation to philosophical and phenomenological perspectives (Demeritt, 2002; Potter, 1996). Social construction has been broadly defined as how humans construct perceptions of the world as multiple ‘realities’, and as the variable forms of knowledge and language on which this process relies. Thus, objective forms of knowledge and understandings of the world are challenged (Berger & Luckmann, 1966). Numerous theories concerning the social construction of reality have been developed in an attempt to clarify particular terminology, epistemology, ontology and processes for cross-disciplinary research. Consequently new sociological frameworks and opportunities have evolved for discursive analysis and reflection, and they continue to be adapted across research fields and organisational and Western management networks in the twenty first century (Alvesson & Skoldberg, 2009; Carolan & Bell, 2003; Doolittle, 2010).

As early protagonists of social construction, Berger and Luckmann (1966) felt it important to maintain focus on how members of society perceive reality —thus the knowledge such perceptions encompasses— and not just focus on the theoretical premises of this revised way of looking at the world. Hence, they argue that a social constructivist approach considers the ways knowledge is socially situated (1966, p. 28) and in this sense how knowledge embodies subjectivities, which may or may not be interpreted accurately since
perceptions of reality varies from one person to another depending on the social context (p. 43).

There is a growing body of research that identifies social construction’s active role in social science fields, such as communication and organisational studies, contributing a central role in claims-making and framing (Anderson, 1997; Hansen, 1991, 2011; Irwin, 2001). Hajer outlines the influence of discursive elements, such as narratives and others, listed in the following sections, and how this ‘constructs a particular problem’ (in van den Brink & Metze, 2006, p. 66, author’s emphasis).

Paradox

A significant contribution of this research is how paradox is explored in the narrative analysis methodology outlined in this chapter. As introduced in the ‘Terms’ section, paradox is applied in this research as something that is contradictory but which at first appears to make sense. Stone’s work on policy paradoxes (1992) is an important body of work in raising awareness of paradoxes within global policy making. When paradox is considered in conjunction with social construction and the influence of narratives, a whole spectrum of issues and opportunities emerge for reflective and iterative analysis of complex problems. It is the way this multi-layered approach that refers back to paradox that makes a significant contribution to the research methodology used. The confusion and creation of political problems described by Hajer (2006) suggests that the contradictory interpretations can be explored, therefore, through the paradox frame, in order to gain insights and nuanced understanding of the processes by which these understandings evolve and persist.

Language

As discussed above, social construction focuses on the importance of language in socially constructing knowledge and reality. Language is accepted by some as ‘the most important phenomenon, accessible for empirical observation, in social and organisational research’ (Alvesson & Karreman, 2000, p. 1126). Further, Hajer (2006) argues that ‘[language] has the capacity to make politics, to create signs and symbols that can shift power balances and that can impact on institutions and policy-making. It can render events harmless, but it can also create political conflicts’ (p67). The next section will explore some variations in language
terminology in the social sciences. Terminology tends to be fluid and confusing when adapted by different scholars due to multifaceted sociological approaches and thinking stemming from philosophy and social theories, into which social constructivism has been introduced. Terms referred to in this research, such as ‘discourse’, ‘narrative’ and ‘myth’ are no exception. These three terms and forms of language are outlined below, in discussing the relevance and application of postmodernism and social constructivist perspectives. Integral to the three discursive forms is metaphor, which contributes special nuances that enhance meaning through symbolism and powerful rhetoric. This section emphasises the relevance of language when developing a sound qualitative research methodology.

**Discourse**

A more pragmatic and practical understanding of discourse-based terms can be applied in postmodernist-inspired qualitative research. Discourses are important structures used to frame particular issues, especially in the problemisation of potent social-environmental issues. The selectivity and subjectivity of issues occurs because some aspects are included, while others lie outside the ‘frame’ of a particular discourse, or as Hajer states, some aspects are ‘distinguished’ rather than others (Gasper & Apthorpe, 2000). Discourse can therefore be understood as the practice of social interaction that is either textual and/or discursive in form. In terms of the social construction of our shared realities, discourse is a crucial component of how certain ‘realities’ are given greater precedence over others. Analysing discourse within context is undertaken in order to understand the institutional and cultural context, and therefore what is communicated and what may not be (Hajer & Versteeg, 2005).

In terms of applying discourse in the social sciences, various definitions exist, but there are commonalities. Alvesson borrows his definition of discourse from Potter (1996: 2002, cited p. 68) as the ‘study of text and talking in social practices and focus on medium for interaction...analysis becomes what people do with language in specific social settings.’ Fairclough (cited Marston, 2000 1992:4) defines discourse as ‘any instance[which is] simultaneously a piece of text (written or spoken language), an instance of discursive practice and ...social practice.’ In summary, Hajer’s (1995, p. 2), p.2) definition of discourse
encompasses the key aspects of ‘discourse’ applied in this research as ‘an ensemble of ideas, concepts, and categories through which meaning is given to phenomena.’

Discourse has been central to numerous researchers’ studies across a range of scientific disciplines in political ecology (for example Jasanoff, 1996; 1998; 1999), adaptive management (Ison et al., 2013; Ison et al., 2007; Schlindwein & Ison, 2004), participatory research (McClintock, 1996; McClintock, Ison, & Armson, 2003), Postmodernist social research principles (Doolittle, 2010) and systems theories (Gunderson & Holling, 2002). There is significant evidence of how language use in organisational studies and change management is crucial for relationships and developing concepts of organisational management (Butcher & Atkinson, 2001). Dryzek (2005, p. 9) explores discourse to make sense of the proliferation of many perspectives on environmental problems, as it is ‘a shared way of apprehending the world. Embedded in language, discourse enables those who subscribe to [that form of discourse] to interpret pieces of information and put them together into coherent stories or accounts. Discourse within stories and narratives construct meanings and relationships, helping to define common sense and legitimate knowledge’. Despite the positive aspects of referring to discourse to improve ‘a shared way of apprehending the world’ (p. 9:2005), the cross-disciplinary nature of communities and organisational interactions in the twenty-first century means that our communication covers different discourses, therefore making shared knowledge difficult, but not impossible to achieve (2005).

**Narrative**

By understanding that discourse is a foundational term, narrative goes a step further and is understood as ‘an ensemble of ideas, concepts, and categories through which meaning is given to phenomena’ (Hajer, cited Milligan & Binns, 2007, p. 144). Further, for social constructivist perspectives, the use of narratives assists in framing problems to emphasise particular issues over others. Environmental histories and media accounts frame issues successfully, as demonstrated in certain narratives that frame the environment as a problem (Cronon, 1992; Schauble, 2009b). References to environmental ‘crises’ of one sort or another are also found in a considerable amount of social research and policy development narratives (Horton, 2000; Milligan & Binns, 2007), so that this framing contributes to the
subjective, and negative, nature of environmental knowledge. Since narrative is constituted by language it has potential to influence decisions, behaviours and social practices, laws and policies (Arts & Buitzer, 2009; Lakoff, 1993; Ruiz de Mendoza Ibanez & Perez Hernandez, 2011). Language reveals much about issues, values and beliefs, and has been recently considered by researchers as a key influence on negative public perceptions of environmental issues globally and in Australia (Garnett, 2013; Marshall & Goldberg, 2013). Thus, it is necessary to not just consider the local context within narratives, but also the interpretative risks associated with these narratives, since ‘landscape does not just shape language, the land itself is transformed by words, phrases and ways of telling’ (Bonyhady & Griffiths, 2002, p. 12). Such diverse and powerful influences arise as a consequence of multiple subjective realities, stemming from different forms of narrative and differing versions within these narratives; social researchers must be particularly aware of such variation (Alvesson, 2002, p. 71).

The subjective qualities of the construction of narrative are noted in the work of the late twentieth-century environmental historian William Cronon. He identified differences between historical stories based on the same historical moments in 1930’s Dust Bowl America, thus challenging perceived truths accorded to historical references. This awareness influenced other environmental historians to consider the importance of narrating the natural world just as scientists do, while considering the:

> powerful commitment to the narrative form...to order and simplify those events to give them new meanings. We do so because narrative is the chief form that tries to find meaning in an overwhelmingly crowded and disordered chronological reality...we give [environmental histories] a unity that neither nature nor the past possesses so clearly. In doing so, we move well beyond nature into the intensely human realm of value. There we cannot avoid encountering the postmodernist assault on narrative, which calls into question not just the stories we tell but the deeper purpose that motivated us in the first place... (Cronon, 1992, p. 1349).

As suggested by Cronon, the postmodern ‘assault’ on questioning the narratives of the world has stimulated interest in narrative forms. Exploring the interface of narrative with management, elements such as policy can be analysed for ideologies, the roles of ideas, concepts and narratives within institutions, and differences and disconnects between practice and narrative (Arts & Buitzer, 2009; Stone, 2012). Unearthing new ways of viewing
complex social-ecological problems can be found in the more hidden attributes of narrative forms, as demonstrated by Allan’s (2007) research on language use associated with adaptive management in watershed-scale natural resource management programs. Analysing language provided opportunities to access otherwise ‘unspoken assumptions’ (p. 344) concerning participatory programs in regional New South Wales. Stone’s work on policy agendas in the USA explored the construction of powerful narratives that framed particular issues concerning environmental policy through the deliberate use of language and associated symbols. The successful use of persuasive narrative enabled the successful politicised framing of certain issues either as ‘problems’ or otherwise (Stone, 1989).

Myth

‘Human beings have always been mythmakers’ (Armstrong, 2005, p. 1), which results in myth being temporally and culturally prevalent, more than simply considered in terms of a fictional story or falsehood (Allen, 1990; Bliesemann de Guevara, 2014; Yanow, 1992), and are frequently associated with legends and moral tales from pre-modern societies (Armstrong, 1993, 2005; Fiske, 1872; Lévi-Strauss 1955). A deeper level of understanding myth is that it is a ‘narrative created and believed by a group of people that diverts attention away from a puzzling part of their reality’, and in the retelling contributes to ‘social construction, belief and incommensurability’ (Yanow, 1992, p. 401). For a myth to function it must be believed by those who retell it as an expression of something which exists, and it needs to be told repeatedly to function (Lévi-Strauss 1955), enabling history to cross into the present through the act of retelling. Myth is an important components of cognitive awareness, in that it is a means of sharing social learning, behaviour and emotions (Bliesemann de Guevara, 2014; Yanow, 1992), and thus assists in understanding, thereby constructing reality.

From a mythology perspective, Fiske (1872) and Dundes (1984) describe how ancient myths are repeated and carried through generations. Myth is differentiated from a story and legend in that though it deals with similar events, myth is transferred across many parts of the world. Fiske acknowledged the importance of myth as a cognitive frame of understanding reality:
we shall run no risk of being misunderstood when we define a myth as, in its origins, as an explanation, by the uncivilised mind, of some natural phenomenon; not an allegory, not an esoteric symbol,—for the integrity wasted which strives to detect in myths remnants of a refined primeval science—but an explanation (Fiske, 1872, p. 21).

Believers refer to mythic accounts to make sense of the world at specific moments in time (Slattery & Slater, 2008). Myth was an important way for sense making prior to the evolution of scientific thinking (Fiske, 1872, p. 21). What makes myth relevant and significant today is that numerous symbols and myths are still repeated in some form. The origins of the devil, for example, come from a number of early conceptions of what was understood as Panis ‘the enemy’, also as the night demon who wrought darkness and killed off vegetation in the form of the ‘evil one’, and in the mediaeval conception of a rebellious angel. There are equivalent forms of heroes as saviours and changers of the world found in Greek mythology, which transfer across cultures and eras (Fiske, 1872).

In contemporary settings myths have an important function in policy and organisations, where they have not just fictional, but important non-fiction roles that do not necessarily have plots and ‘transparent morals’ like their fictional counterparts (Yanow, 1992, p. 400). To better understand the complexity and contradictions of environmental management, policy myths are recognised as having ‘two or more equally valued but incompatible principles embodied within a single policy issue. Incommensurable values may produce verboten goals for which there is no explicit underlying public consensus. Were these goals to be spoken and discussed publicly, turmoil would result were the public not ready for this’ (Yanow, 1992, p. 402).

Myths feature rich imagery and symbolism, often in the use of common discursive traits such as metaphors. As an integral part of myth, metaphor is introduced in the next section.

Metaphor

Recognition of the significance of metaphors in qualitative social research is in part due to the timely work of Lakoff and Johnson (1980). Lakoff argues that metaphors underpin the way we conceptualise the abstract and the emotional (Lakoff, 1993; Lakoff & Johnson, 1980). Metaphors are a result of cognitive processes that establish symbolic associations or correspondences between linguistic source domains and target domains. Using metaphors
assists understanding between people through the use of shared symbolic language (McClintock, 1996, cited in McClintock et al., 2003), and is usually applied in circumstances outside concrete physical experiences (Lakoff, 1993, p. 203). Such metaphorical representations shape human perceptions of reality. Fairclough (1992, p. 195, cited Marston, 2000, p. 355) explains consequences of metaphor use as ‘[w]hen we signify things through one metaphor rather than another, we are constructing our reality in one way rather than another. Metaphors structure the way we think and the way we act, and our systems of knowledge and belief, in a perverse and fundamental way.’ Fairclough believes that word meaning and in particular, metaphor, have direct relevance to legitimate policy and identity construction. This is supported by more recent research in the area of policy and its interconnections with discourse (see Allan, 2007; Ferrari, 2007; Rogers, 2012). Constructions of reality linked to metaphors can be found in poetry, cartoons, art, myths, policies, historical accounts and literature.

Interest in metaphors and associated rhetorical and analogical elements has grown because of interest in the cognitive interpretations of communication in a number of disciplines (Butcher & Atkinson, 2001; Rogers, 2012; Schlesinger & Lau, 2000). Interpreting and exploring metaphor generally takes either a cognitive linguistic approach, or a contextually-oriented perspective. A linguistics approach refers more to structural properties of text, rather than the contextual which provides opportunities to explore relations between social groups, ideology and language. While some argue that there are theoretical frameworks well-equipped to make statements about why we speak and think metaphorically, only cognitive linguistics studies the motivation for individual metaphors, classes of metaphorical statements, and metaphorical inference patterns (Tendahl & Gibbs, 2008).

Within everyday language metaphors, allegories and rhetoric provide important elements that conceal, reveal and define meaning in discourse, particularly in times of great stress and change, where responses and order is significantly altered (see Demeritt, 1994; Landau, Meier, & Keefer, 2010; Rogers, 2012), and complex and novel situations are translated into something more familiar and therefore more easily understood (Schlesinger & Lau, 2000). Alvesson and Sköldberg understand metaphors as part of poetic hermeneutics in discourse, acting as an important rhetorical figure that indicates correspondence between two
different phenomena: ‘[the] better the metaphor, the more striking and surprising the correspondence’ (2009, pp. 124-125). Trigger events — such as catastrophic natural disasters and their aftermath — showcase metaphors to great effect. Allemeyer noted that in the seventeenth century, evocative religious metaphors were used to make sense of urban fires. Frequent descriptions of the fire’s cause were said to be ‘God’s wrath’, which associated an unknown physical cause of human disaster with the metaphor of an all-powerful, invisible spiritual entity (Allemeyer, 2007, p. 151). Similarly, Rohr (2007) identified how metaphoric biblical catastrophes are used in sixteenth- and seventeenth-century European records as a reference point from which to measure the experience of natural disaster, such as floods and insect plagues in Italy, Switzerland and northern Germany during the late Middle Ages. The language and imagery used is strongly associated with biblical passages and stories of apocalyptic events and redemption of sinners. The use of biblical metaphors helped citizens who were experiencing large-scale natural hazards to frame ‘catastrophe’ and make it comprehensible.

A contrasting approach to Rohr’s (2007) was undertaken by Carolan (2006), who undertook a review of the subtle ways environmental science used two forms of metaphors; analogous (such as ‘greenhouse effect’ and ‘sinks’) and descriptors to another object such as ‘wildlife’ (Carolan, 2006, p. 922). He noted that the connotations of metaphors influenced policy making decisions, depending on whether metaphors contained positive or negative associations. The benefit for social science is that there is now wide acceptance in applying a range of metaphor analysis methods. For instance, Allan (2007) explores examples of metaphor use in the participatory environmental management context in south-east Australia. In this case, natural resource management was described metaphorically as a journey. Further, the concept of adaptive management practice was defined and articulated through the use of imaginative language and a series of images relating to a journey where participants had ‘come a hell of a long way’, and were making adjustments ‘further on down the track’ or, being shown ‘different ways to go’. Finally, participants aimed to reach a ‘milestone’ (pp. 356-357). Bammer and Smithson (2008) approach the use of metaphors in another context, identifying ‘uncertainty’ metaphors as opposed to those that embody realism, also following Lakoff and Johnson’s (1980) approach. ‘Certainty’ is applied spatially as the ‘here and now’, and ‘uncertainty’ is positioned in the future, being spatially further
away and in a later time period. Researchers in policy and organisational studies apply additional theories in relation to power dynamics and communications (Schubert, 2005, cited 2010, p. 1048). Rogers (2012) explored the etymology and ethnography of ‘resilience’ metaphors and the consequences in development of British emergency management policy. Within a critique of United States Department of Defence training, metaphoric reliance on the ‘strategy’ metaphor was found to imbed powerful and limiting consequences, which was related to top-down hierarchies, cognition and operations (Paperone, 2013).

Applying constructivism as an appropriate methodology will allow for questioning how something, which can be taken for granted, may actually not be inevitable, and that there are alternate ways of understanding and constructing our knowledge of reality (Foucault, 1980). As a qualitative research paradigm, constructivism has enabled social science researchers to consider and support subjective, interpretative and intuitive approaches to qualitative work, which is particularly suited to and associated with discursive-based data, (Alvesson & Karreman, 2000; Foucault, 1980; Nikander, 2012). Berger and Luckmann also note that knowledge is historically developed, and is influenced by our observations; knowledge is based on ‘what we expect rather than what is there’ (p. 20). Following this approach allows reference to be made to how members of organizations, social hierarchies, cultural and gendered groups contribute to the construction of meaning (Berger & Luckmann, 1966).

The literature studied for this thesis’ research frequently notes the prevalence of positivist ways of comprehending the world in areas of environmental policy and management. Noting this difference in epistemology, it is important that this research approach works with divergent views as part of the methodological considerations, since they reflect the range of complex considerations and interpretations of social issues. In this sense, the physical environment mirrors the complexities of the research problems, particularly the complexity of how humans interpret and influence scientific knowledge. In considering the methodology and the literature, I understood that in practice there are two general streams of epistemological thinking: realism and constructivism.

Positivism, encompassed by realism, centres on establishing empirical facts that reflect sensory observations, which are in turn understood to represent the objective reality of the
world, and can be repeated to test hypotheses (Berger & Luckmann, 1966, p. 29; Sarantakos, 2013). Whereas realism uses quantitative methods based on fixed research designs, constructivist approaches are broadly based on subjective concepts of reality, or on how we see the world. Reality is not a given truth, since our perceptions or understanding of reality are actively constructed (Bold, 2012). Constructivism implies there is inherent power, ambiguities and minutiae in our concepts of knowledge and understandings of the world (Borer & Fontana, 2012). This is in direct opposition to widely held views of positivist scientists (upon which much of environmental management processes and disaster management processes are based), whose knowledge is based upon objective and deductive methods of ascertaining the ‘truth’ (2012, p. 5). As Cronon explains, ‘our colleagues in the sciences, whose models, however imperfectly, try to approximate the mechanisms of nature’ (1992, p. 1349).

After considering the potential methodologies and challenges which are presented in the literature, hermeneutic —that is, interpretative — perspectives were considered most appropriate for exploring the research questions, as well as complementing my interests and skills. Hermeneutics considers the meanings that exist between an object and subject, including opposing theories and perspectives (Alvesson, 2002; Alvesson & Skoldberg, 2009). There are many ways of applying hermeneutics in social science. For instance, Brockmeier and Meretoja (2014) interpreted fiction in order to focus on the healing nature of medical narratives.

As part of the constructivist paradigm, inductive-iterative methodologies linked with hermeneutics also enable layers of insight to foster greater awareness and to broaden perspectives on improving the research process and the theoretical outcomes (Thomas, 2005). Induction is broadly known as the gradual process of developing categories from the data, involving ongoing analysis and construction of categories (Sarantakos, 2013). Inductive processes include iteration, or repetition of analysis and reflective processes in developing categories and self-checking. Iterative processes allow the researcher to seek out meanings and bias within each reading of data:

*When a pattern from one data source is corroborated by the evidence from another, the finding is stronger and better grounded. When evidence conflicts, the researcher*
can sometimes reconcile the evidence through deeper probing of the meaning of the differences. At other times, this conflict exposes a spurious or random pattern, or biased thinking in the analysis (Eisenhardt, 1989, p. 541).

The presence of such variable representations of experiences described by Eisenhardt have been (and continue to be) expressed and recorded by way of media reports, histories, interviews, bushfire inquiries, artistic expressions such as sculpture and poetry, and by governments in the form of policies and strategies. Consequently, inductive and iterative methodologies have been considered appropriate for this research, to support the exploration of the data, including the reflections that I contribute as the researcher.

As the data for the thesis is narrative with multiple perspectives, the research method must consider the subjectivity of the analytic lenses which is being used to frame the constructions of reality within these narratives. A constructivist approach enables a meandering and reflexive consideration of the issues, methods, the researcher and the participants to ensure that the influences of potential interpretative bias and subjectivities are monitored and acknowledged (Charmaz, 2003). A reflexive approach is also necessary, because of the nature and impacts of major fire events, to ensure transparency and clarity, which is essential for the social researcher working with, and bound by, ethical considerations (Bold, 2012; Dahlstrom & Ho, 2012). Lastly, by using an iterative and inductive process in this research, theory building can evolve.

**Developing Case Studies**

The creation of data in this thesis is founded upon the development of two comparative case studies. This section outlines the important aspects of case study methodology and continues to explain how each case study has been developed in terms of bias, human ethics, data creation and some key points pertinent to each case study bushfire. Analysis of secondary literature had identified a number of paradoxes from which I structured research questions relating to native vegetation management in the context of bushfire.

Case study methodology has been described as ‘indispensable to the progress of the social sciences’ (Feagin, Orum, & Sjoberg, 1991, p. 1) and is defined as ‘in-depth, multi-faceted investigation, using qualitative research methods, of a single phenomenon … conducted in great detail and relies on the use of several sources’ (p. 2), and it is highly contextual (Yin,
The richness of data developed through case study methodologies provides considerable detail for comprehensive hermeneutic analysis. Using two case studies provides points for comparison of phenomena, development of new theories, data analysis and validity of findings (p. 17). Yin (1986) suggests that case studies are particularly relevant as a method if the research is dealing with ‘how’ and ‘why’ questions that concern complex social situations, such as those examined in this research. The method is also useful for studying contemporary events, combining both historical and contemporary situations to strengthen the research approach. As my own bushfire experiences, presented in chapter 1, could potentially bias both data creation and analysis, I felt it important to consciously integrate an ‘arm’s length’ approach toward my own involvement in the research process. Building in comparison using a second case study meant there were restrictions in place which would automatically limit the data manipulation that was possible, as well as providing triangulation of viewpoints; thus was a useful safe guard. Cases study research accommodates multiple sources of evidence which can be collected according to earlier theoretical work which is used a guide in order to allow particular points of interest to be investigated from multiple sources of data (Yin, 1986, pp. 13-14). Hence, when conducting the literature review for this research, a guide was developed for use in evaluating the range of evidence. Equally relevant for this research is the clarity required to define not just the geographical boundaries, but the interplay of the unit of analysis. This technique is advised by Yin Yin (2009), who cites studies where there has been confusion about whether the case study is concerned with an object within the case, or with the dynamics of the people working with the object.

Narratives relating to bushfires are selected as the contextual unit of analysis in order to explore the presence of paradoxes in native vegetation management in the twenty-first century. The comparison of two case studies also allows for in-depth interpretative thematic analysis, because storytelling which is inherent to narrative, is important for attempting to make sense of situations that are complex, confusing, and challenging (Brockmeier & Meretoja, 2014). The narratives relating to major bushfires are a very good example of such situations. Following the recommendations of Yin (1986) and Clandinin (2007), a range of data were considered to best present narratives that contained a breadth of views, historical perspectives and technical information relating to the research problems, and to
open up the possible perspectives to which I could refer back to the research questions. The nature and impacts of major bushfires provides considerable material in a range of sources for analysis.

To help refine the case studies for this research the geographic boundary was considered when selecting the bushfires. Bushfires within the south-east region of Australia were chosen because of the similar climatic conditions, vegetation types and proximity to large metropolitan centres. As I am based in Victoria, proximity to the case study regions was also an important factor to be able to undertake fieldwork. I also had experience of the Victorian 2009 bushfire so that event was selected as an obvious region to establish as an exploratory base, due to the questions I had considered and been confronted with prior to undertaking the research.

Since there was a personal connection to the Victorian bushfire of 2009, it was felt that a second case study would assist in maintaining an unbiased perspective so as to check my personal responses, and to also test validity of the questions further.

Two of the most costly and intense, and therefore discussed, bushfires this century have been selected. Due to the scale of the bushfire impacts, considerable public attention evolved following the 2003 Canberra and 2009 Victorian Black Saturday-Murrindindi Kilmore bushfires (see figs 6, 7 and 8). These fires provide opportunities for comparisons between urban and regional fire and native vegetation management issues in south-east Australia, as well as integrating a longitudinal component for analysis between different jurisdictions which had different responses by agencies and communities.

**Introducing the case studies**

**Victorian Black Saturday - Murrindindi Kilmore area bushfire case study**

In Victoria on the 7\textsuperscript{th} February 2009 hundreds of bushfires ignited in some of the worst bushfire conditions on record in Australia (Terms of Reference, Teague, McLeod, & Pascoe, 2010). One hundred and seventy-three people died and hundreds more were injured. In the combined Murrindindi-Kilmore bushfire area of Victoria alone, numerous small towns were almost completely burnt, 1780 houses and properties were destroyed, and 159 people of the total 173 human deaths occurred (Country Fire Authority, 2012a). 168,542 hectares of
land were affected by fire in this region (Country Fire Authority, 2012a), including fire-sensitive rainforests, and Mountain Ash (*Eucalyptus regnans*) (Campbell, 2009; Department of Sustainability and Environment, 2009). The bushfires caused Australia’s second worst civilian losses from a natural disaster in recorded history (Cameron et al., 2009) and the largest recovery program in the State of Victoria’s history (Teague et al., 2010).

As discussed in chapter 2, south-east Australia has experienced numerous major bushfires and the most severe have been investigated through Inquiries and Royal Commissions, such as the 1939 and 1983 fires. The most recent Inquiry prior to 2009 was for the 2002-03 Alpine bushfires in north-east Victoria. Some acknowledgement of these earlier Inquiries is considered for this research as historical context; however the case study focuses on the impacts of the 2009 fires of Central Victoria. A bushfire Royal Commission was established soon after the fires, led by Justice Bernard Teague (Teague et al., 2010). Recommendations were handed down in July 2010, many of which concerned land and emergency management policies, organisational responses, land management, communications and knowledge. Of relevance for this research is the introduction of an annual rolling planned burn target of a minimum of five percent of public lands (Recommendation 56). Local Government roadside clearing regulations were also amended to allow for removal of vegetation deemed as a risk to egress (Recommendations 60 and 61). Non-compulsory land acquisition was also recommended but was later repealed by the State Government due to public complaints.

Fire recovery programs established following the fires meant that significant on-ground works were undertaken by a range of agencies, to assist in the social, economic and ecological recovery of these regions. A number of community memorials were constructed as part of the recovery programs, to which this research refers.
ACT Case study

In 2003 south-east Australia experienced very dry conditions similar to those reported for 1938-39 and 1982-83, but what differentiated the extreme fire danger in 2003 was increased temperatures during the year, which were reported to be three degrees warmer on average than previous bushfire-drought conditions (House of representatives Select Committee on the recent Australian Bushfires, 2003, p. 118). During the summer of 2002-2003 numerous lightning strikes in Alpine areas ignited bushfires in Victoria, New South Wales and the ACT (see figs 7 and 8).
Figure 7. 2002-03 Victorian, New South Wales bushfires.

On the afternoon of 18th January 2003 south-west Canberra was severely impacted by bushfires that had been burning for ten days, ignited by lightning strikes, in public forests in New South Wales and on the border of the ACT. Suburban development in the south-west of the city was burnt by what is now understood as a fire tornado (Camilleri et al., 2007). The bushfire ignited plantations of *Pinus radiata* adjacent to suburbs and resulted in 501 houses destroyed and the deaths of four people. Approximately seventy percent of the ACT was fire-affected (House of representatives Select Committee on the recent Australian Bushfires, 2003, p. 332). There was a contentious process of public Inquiries conducted after the fires. A Coronial Inquiry led by Maria Doogan (Doogan, 2006) was protracted over three years after the then Territory Chief Minister, John Stanhope, alleged bias. An Operations Inquiry was completed in 2003 by Justice Ron McLeod (McLeod, 2003). A Federal Government Inquiry was also conducted (House of representatives Select Committee on the recent Australian Bushfires, 2003). Considerable restructuring of emergency communications, and land and fire management departments responsible for public land management and bushfire were adopted following recommendations from these official Inquiries. A comprehensive five-year bushfire operations plan was introduced (SBMP), and the most recent version was completed in 2015. Increased short-term funding supported
not only the development of the comprehensive strategic bushfire operations plan, but also resourcing of planned burns and the establishment of inner and outer Asset Protection Zones in nature reserves adjacent to suburban areas, in order to manage bushfire risk adjacent to ‘vulnerable’ (often human) assets associated with bushfire (Emergency Services Agency, 2009a). As an outcome of the fires, forestry zones were removed from areas close to the city and in some areas recreation areas have been established (Bartlett, Butz, & Kanowski, 2005) — the National Arboretum being one of the most significant in scale and cost. A bushfire memorial was created near Mount Stromlo at the Cotter Dam as part of the bushfire recovery program, with contributions by local communities.

Figure 8. 2003 ACT bushfire area.
Data creation

Data from the two case studies were created to capture a range of bushfire and environmental management narratives as described by Chase (2005), who notes that data may be formal, informal, textual, fictional and/or visual. The data were selected to reflect the diversity of narratives existing in the field that included policies, news media, environmental histories, memorial sculptures and reflective conversations in the form of interviews. This range of narratives provides different voices over an extended period of time, and helps capture the development of the bushfire narratives this century in south-east Australia. Media, histories, spoken accounts and artistic expressions in the form of sculpture all encompass broadly held views that are storied accounts. Each form of narrative provides a different construct and interpretation of an event, perceptions and reportage that are referred to in later events (Bold, 2012; Chase, 2005; Clandinin, 2007).

Newspaper extracts relevant to the reportage of the two bushfires, official bushfire Inquiries and major legislative changes preceding the fires were sourced from Territory and State newsprint media between February 2003 and October 2014. Newspaper editions were sourced from archives at the State Library of Victoria, Melbourne, copied onto USB storage devices and transferred to a laptop. Articles, cartoons, editorials and letters were selected from relevant editions from approximately two to three weeks following the events, in order to follow the impacts of the fires, and including major post-fire processes such as Royal Commissions, Inquiries and the release of reports, until no new material was found. This process is described by Wodak and Krzyżanowski (2008) as reaching ‘saturation point’. All newspaper files were printed for manual coding. Selected text was then transcribed verbatim and transferred into the NVivo 10 project for thematic coding, consistent with all other text documents from the data. Photos and cartoons were thematically coded in NVivo 10 as whole images.

Secondary literature were sourced from key Commonwealth, Victorian and Australian Capital Territory policy documents, vegetation and bushfire management strategies and management reports — as well as major bushfire Inquiry reports from the twentieth and twenty-first centuries — were sourced from Departmental websites and State Library online resources. To contrast these official government narratives, three environmental histories
of the twenty-first century concerning south-east Australia were chosen (see Bonyhady, 2000; Gammage, 2011; Griffiths, 2001). From these histories, sections of text concerning discussions and analysis of native vegetation and bushfire were identified, transcribed and included in the thematic and textual analysis. Images from these texts that illustrate the authors’ points were also included as data.

Memorial sculptures commemorating the 2003 and 2009 bushfires in Canberra and the Central Highlands of Victoria (Kinglake, Kinglake West, Marysville and Strathewen) were visited and photographed for analysis of symbolic, metaphoric imagery. Criteria for selection was based on the art works being displayed in public places such as parks and community gardens, and those constructed and funded as part of community recovery programs. The imagery and notes were also stored in NVivo 10 and areas of images coded thematically.

The data referred to in the case studies is listed below in Table 1.

<table>
<thead>
<tr>
<th>ACT CASE STUDY</th>
<th>VICTORIAN CASE STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Print media:</strong> the Canberra Times</td>
<td><strong>Print media:</strong> The Age; Herald Sun</td>
</tr>
<tr>
<td><strong>ACT Government documents:</strong></td>
<td><strong>Victorian Government documents:</strong></td>
</tr>
<tr>
<td>2014 The ACT Strategic Bushfire Management Plan</td>
<td>2008 Living with Fire: Victoria’s Bushfire Strategy</td>
</tr>
<tr>
<td>2005 A vision splendid of the Grassy Plains</td>
<td>2012 DSE Future Directions for Native Vegetation(Review)</td>
</tr>
<tr>
<td>Extended Action Plan No. 28</td>
<td>DSE &amp; CFA Roadside Management Guidelines</td>
</tr>
<tr>
<td></td>
<td>2013 DEPI Preparing for bushfire: 10/30 rule</td>
</tr>
</tbody>
</table>

**Federal Government: other key documents referred to**

COAG State of Environment Report, 2011

COAG Australia’s Biodiversity Framework (Summary and Framework documents)

2009 DSEWPC Native vegetation clearance, habitat loss and biodiversity decline

National Biodiversity Strategy 2010-2030

2012 Federal Native Vegetation Framework
### 2014 National Bushfire Management Policy Statement for Forests and Ranges

<table>
<thead>
<tr>
<th>Bushfire inquiries:</th>
<th>Bushfire inquiries:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003 Bushfire Operations Inquiry</td>
<td>1939 Victorian Bushfire Royal Commission</td>
</tr>
<tr>
<td>2006 Coronial Inquiry</td>
<td>1983 Victorian Bushfire inquiry</td>
</tr>
<tr>
<td>2003 Federal Government Bushfire Inquiry</td>
<td>2003 Victorian Alpine bushfire inquiry</td>
</tr>
<tr>
<td>2009 Bushfire Royal Commission</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Memorial Sculpture</th>
<th>Memorial Sculpture:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt. Stromlo Memorial; National Arboretum</td>
<td>Marysville, Kinglake West and Strathewen</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interviews (see table 2)</th>
<th>Interviews (see table 2)</th>
</tr>
</thead>
</table>

### Environmental histories:

- Griffiths (2001), *Forests of ash*
- Bonyhady (2000), *This colonial earth*
- Gammage (2011), *The greatest estate on Earth*

**Table 1 Case study data types**

Seeking the perspectives of public land management staff and researchers directly was particularly important, as government land management practitioners have been unable to speak publicly about their own experiences, knowledge and histories of implementing policies on the ground. This is due to the Public Sector Code of Conduct which prevents individuals’ stories being publicly presented (see Commissioner for Public Administration; State Government of Victoria, 2015). Personal stories from government staff, other than accounts provided to bushfire Inquiries, are noticeably absent in public discourse following major bushfires and are not represented in community recovery programs. This is in contrast to the public, who are represented throughout this research in the media narratives either through interviews, quotes and Letters to the Editor sections of the newspapers that were selected as data.

Interviews with thirty land management staff and local Indigenous Australians (the Ngunnawal and Wurundjeri clans respectively) were conducted in the ACT, Queanbeyan, NSW and Victoria. Roles included public land managers, rangers, emergency fire services,
fire communications, community environmental engagement and education (including Indigenous Australian representatives), fire and ecology research and fire planning. All interviews but one were conducted in 2014, with the latter undertaken in early 2015. Living in the Victorian case study region, I undertook field trips to fire-affected communities to conduct interviews and visit memorial sculpture sites. For the ACT case study a total of five field trips were made to the ACT between April 2014 and March 2015 to undertake interviews and visit sites. Table 2 below outlines the breakdown of professional roles in each case study.

<table>
<thead>
<tr>
<th>Agency type</th>
<th>ACT</th>
<th>VIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public land management</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Public land fire planning/Management</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Emergency fire management</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Indigenous community education/land management</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ecology/Fire ecology research</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Community education/engagement</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Case study total:</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Total interviews:</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Interview participant roles and locations

Selection of interview participants for the Victorian case study was initially based on personal contacts made when I worked in the 2009 bushfire recovery program. The roles selected from agencies capture a range of narratives that included fire ecology and related research, fire planning, fire recovery, public land management, volunteer fire services, indigenous land management, media and community engagement. Indigenous Australian interviewees did not work directly for land management agencies but they consulted regularly with government departments and staff in their education, archaeological and promotional work. It was useful to have their perspectives from outside agencies to gauge
how European and Indigenous Australian working relationships in this particular area of inquiry are perceived and experienced. All interview participants had a minimum of ten years of experience in their field, with a mix of genders and regional/urban employment bases sought in order to provide a range of experiences and perspectives.

Interviewees often referred me to other potential interview participants, particularly in the fire and emergency services agencies. This intuitive process is described as ‘snowballing’ (see Sarantakos (2013)), where new contacts, who are understood to have valuable perspectives, are referred on by others. Participants are outlined above in Table 2. Similarly, in the ACT case study, once I made initial connections with interview participants, they then referred me to other potential participants.

All interview research was conducted in accordance with the approval granted by the CSU Human Research Ethics Committee, protocols 2013/134 and 2014/016 (refer to Appendix for a copy of the protocol details). All participants were contacted by an introductory email and by phone. Arrangements were made to have preliminary informal meetings to discuss the research topic and their experiences. This was also an opportunity to develop relationships with interviewees, and to set a date for the recorded interview. A hard copy of the letter of introduction and information about the research was presented at these meetings to assure interviewees of confidentiality and that their well-being was considered from the start of the process. (Refer to Appendix where these documents are provided.) For the few interviewees who did not have the opportunity to meet me in person beforehand, phone calls and email conversations were undertaken as an alternative, in order to form a connection prior to the interview.

**Interview method and protocols**

Obtaining personal accounts from people in the field through in-depth, semi-structured interviews is understood to contribute to the construction of narratives through the act of social interaction, as described by Herzog (2012), Holstein and Gubrium (2003) and many others (see Johnson & Rowlands, 2012). Galletta (2013) describe semi-structured interviews as incorporating both open-ended questions and those derived from theory to help elicit responses from interviewees’ personal experiences, as well as responses that are guided by,
and engaged with, the research subject matter. Questions and associated prompts are more variable in this interview technique to allow for a progressive development of the questions and their order (described as part of ‘trial and error’ (p. 45)), in response to the interviewees, while maintaining consistency with the interview guide. This technique allows for in-depth exploration of research issues: in-depth interviews are useful not only to expand on the depth and type of data being collected, but to ‘broaden and deepen the concept of knowledge and its sources’ (Herzog, 2012, p. 209). In-depth interviews can also be understood as ‘intensive interviews’ that are less structured and more flexible to allow for rapport with the participant, requiring the researcher to have a sound background knowledge of the topic and well-developed listening skills (Sarantakos, 2013, p. 292), as well as to maintain a connection between the questions and the research as the protocol is amended (Galletta, 2013). Open-ended questions are a feature of this technique, to encourage reflective responses that allow participants to express themselves freely.

The topics selected to structure the semi-structured interviews centred on land management history, policies, on-ground experiences and nuances of communication, research and organisational experiences:

- To discuss a range of interviewee experiences in relation to:
  - Bushfire.
  - Native vegetation management.
  - Their involvement with policy development and/or its implementation.
  - Working in organisations responsible for land and emergency management.

- Explore their responses and experiences regarding communication of bushfire and native vegetation management following major bushfire.

- Explore issues relating to bushfire and native vegetation management research.

- Reflect upon the organisational responses to bushfire and native vegetation management issues.

- Explore the interviewee’s perspectives on particular vegetation management policies.
Indigenous Australian interviewees’ experiences of working with land management organizations.

- Their programs and priorities.
- How they connect to country and what this means for them as individuals.
- The role of language in their work.
- Other important issues relating to their approach to communicating and working on land management issues.
- The role of art/education.

Johnson and Rowland (2012) and others (see Lillrank, 2012) provide useful advice in approaching the methods most suited to particular inter-personal skills, where a mix of intimacy and feeling of friendship makes in-depth interviews most effective, but also challenging. In seeking out deep personal responses in this type of interview, ethical conduct of the interviewer and the nature of the questions are of great concern when conducting the interview. As a consequence, Lillrank highlights the process of knowledge creation when collecting data from in-depth interviews as ‘emotional labour’ (p. 281). Both participants in the interview experience work together in an intimate relationship during a set period of time. Considering these reflections as salient reminders of my own personal conduct, I was conscious of the need to listen actively to how the interviewees not only articulated responses, but also how they responded to my interview technique. This awareness of personal conduct extended to how the process of engagement continued in the follow-up questions, to ensure that we were able to explore issues relevant to the research objectives. Each interview meant that different techniques for supporting the interviewee were needed, since each interview was a new relationship with different emotional and power dynamics, described as ‘give and take’ (Lillrank, 2012, p. 4). Doing this enabled me to consider how the interviewee might most comfortably express their perspectives without me challenging them, and being able to manage emotional responses. Active listening required supporting the interviewee and responding empathetically to allow for a collaborative atmosphere in creating the dialogue- or a co-construction of a narrative. Gaining my own confidence, and that of the participant, enabled the participant to provide their own deeper reflections and share views from their ‘virtual window of experience’
This process required me to be truthful and genuine within the social encounter (Gubrium & Holstein, 2012, p. 32).

Permitting digressions away from the central topic (Riessman, 2012) contributed to new knowledge being shared that would not have otherwise been considered, and it also allowed for more lengthy open-ended responses and for the interviewee’s own voice to be the principal focus (Gubrium & Holstein, 2012). Maintaining mindfulness is also necessary, since narratives are produced subjectively and reflexively by the interviewees, who choose how they create their narrative (Gubrium & Holstein, 2012, p. 34). The subjectivity of responses is explained further:

An equalized and unstructured interview environment does not so much guarantee narrative authenticity as help make its accomplishment and sources more visible. It opens to view the complex work and sources of subject positioning in storytelling ... In practice, respondent subjectivity emerges out of the give-and-take of the interview process, even while the researcher might hope for a particular form of agency or footing to emerge out of an interview format designed to explore a specific research topic (Gubrium & Holstein, 2012, p. 37).

When establishing trust and comfort during the interview there is much to consider, being aware of gender, professional experience, cultural background and age differences contributed to interactions between me and the interviewees. Considerations also extended to how externalities to the topic might influence inter-personal relations. Through the interview process, I consciously worked at maintaining a neutral presence, while at the same time being appropriately engaged with the interviewee. I gradually learned to balance an awareness of these externalities, while not being so self-conscious as to inhibit interactions.

Meetings with interview participants were conducted at times and locations that were convenient to participants, as recommended by Herzog (2012); Johnson and Rowlands (2012); Warren (2012). When arranging communication and meetings with interview participants the advice of Seidman (1991) was followed:

The place of the interview should be convenient to the participant, private, yet if at all possible, familiar to him or her. It should be one in which the participant feels comfortable and secure (p. 49).
The majority of interviews followed preliminary informal coffee meetings with individual participants. During these meetings broad research issues were discussed. The participant’s and interviewer’s own experiences were shared to develop trust, in order to try to reduce the unease of researcher/interviewee dynamics. Whilst extending the time required to undertake the interviews, the additional time spent discussing ideas and sharing experiences appeared to assist in strengthening relationships and obtaining additional referrals from many of the interviewees. This phase of the research also proved significant for understanding the issues, and led me to place greater emphasis on more personalised narratives. Repeated contact also provided a thorough way of understanding and respecting the sensitivities of working in the post-bushfire operational and psychological situations, and for negotiating ongoing consent with the participants.

An interview guide was developed in consultation with my supervisory team prior to being trialled on two participants who were known through former my employment in the field. During this process I worked according to the interview guide and was able ascertain the limitations of set questions when undertaking in-depth interviews. The interview guide is provided in the Appendix. Both participants were comfortable knowing that they were able to provide constructive criticism regarding the range and style of questioning. This experience led me to reassess the option of allowing more fluid development of discussions that related to the protocol, to allow interviewee reflections to be more honestly and independently expressed, and to allow them a more interactive role in the conversations. As interview experience developed and individual personalities of interviewees were considered, the questions became more of a thematic guide worked through informally throughout the interviews. This approach allowed a more conversational feel to develop and more personalised insights to be shared than if I had committed to adhering to the protocol. The range of guiding questions is presented below. As the interview progressed these questions were framed to reflect the case studies and expertise of each interviewee:

- Can you discuss your own experiences and interest in the field of native vegetation management and bushfire?
- What are some significant moments that you feel have shaped their management?
• What are some of the consequences for working in a land or emergency management agency following bushfire?
• From your own experience, what are some of the consequences for implementing policies following bushfire?
• How would you describe the influence of the media on bushfire/native vegetation management stories over time?
• What are/could be appropriate stories regarding bushfire and native vegetation management?
• If you had unlimited resources, what would be some of the things you would like to see to work through some of the problems we have discussed today?
• Have you any other thoughts relating to issues we have discussed today?

Each interview had a slightly different format due to the many backgrounds and experiences of the participant, and the varying inter-personal relationship that existed between me and the participant. Interviews ranged in length from one hour to approximately two and a half hours. All were recorded on a hand-held digital dictaphone. Handwritten notes were taken during the interviews and during preliminary meetings. Notes from the meetings were used to inform some of the questions and follow-up topics for later in the interview process. These notes were later transferred to NVivo 10 as memos for future reference. The interviews were transcribed verbatim before being transferred to NVivo 10. The process of transcribing each interview provided me with an opportunity to closely engage with and reflect upon the interview, the interviewee and my developing interview technique. The time spent transcribing each interview also made me more confident in recalling who said what regarding the issues that were emerging from these discussions.

Providing empathy and care for participants in interviews and case studies

The research topic refers to not only emotionally sensitive issues, but also those which concern political and social sensitivities. These considerations were presented and assessed in the Human Ethics approval process. The two bushfires around which this research centres impacted greatly on communities and land management agencies, and the consequences still reverberate. Therefore there has been a considerable emphasis on conduct prior, during and following the interviews. There have also been decisions made in regards to
interviewees and the range of questions discussed which allow for careful consideration of interviewee’s experiences. Interviewees were presented an introductory letter that contained an overview of the research topic and purpose of the interview, but also an emailed and hard copy version of the human ethics protocol to which I was working for this research. Each participant signed this document prior to the interview being recorded (refer to the Appendix for a copy of this document).

The particular nature of the physical environment and population base in the ACT means that social and professional networks are close-knit and well-defined. As a consequence, during the interview fieldwork and follow-up communications, it was necessary to consider additional confidentiality regarding the sensitive ethical considerations of relationships when engaging with people. These considerations extended to reflections on the relevance of the research questions and observations of sites and people’s interactive responses. Interviews and conduct with Indigenous Australian participants was based on establishing genuine and trusting relationships prior to interviews taking place. The participants were willing to provide their stories as part of an ongoing two-way relationship. The interactive and genuine interest of the participants’ responses— at times it felt as if there was a collaborative sense of involvement— has been viewed as critical for shaping the work to better reflect the on-ground issues. Following the completion of the interviews I thanked the interviewees and reassured them of confidentiality. I also reiterated that if they had any further comments or concerns to contact me.

Reflections on methods and data creation

Spin, social connections, trust, honesty and cultural empathy; these factors have all been foremost considerations when undertaking interviews in my role as both a narrator and a researcher. My personal experiences of the Victorian bushfires of 2009 and my role in the post-fire recovery work in central Victoria meant that I had to be particularly aware of behaving authentically and respectfully of the interviewees’ bushfire experiences. As a number of the interviewees were former colleagues, I experienced an additional layer of responsibility. Requesting the sharing of personal accounts from people working in highly sensitive spheres of work following bushfires means that while trust is essential and respect between researcher and interviewee has been proven to be established — indicated by
offers of friendship, a plethora of contacts and additional data — the ultimate outcome is that ‘when an in-depth interviewer talks to an informant, the goal is to collect data’ (Johnson & Rowlands, 2012, p. 100).

At times it was necessary to ‘self-check’ to prevent hyper-sensitivity to the interview process. This reflective self-monitoring was done in response to an awareness of possibly responding and behaving unnaturally, or feeling too self-conscious when being aware of interviewee responses or of the line of inquiry used during the interviews. I found that there is a risk that the focus of the interview could fall back onto the researcher’s state of mind, rather than on assisting the interviewee to articulate and reflect on their stories and on providing them direction to feel comfortable in sharing narratives.

In addition to ‘self-checking’, reflexivity helps the researcher to become aware of what lies outside current constructs. Bold (2012) notes the value of reflection in maintaining awareness of the interaction dynamics between the researcher, interviewee and research material. Within all these relationships, a range of interpretations and multiple understandings of an issue exist. These interpretations may result from influences that inform the process of narrative creation, interviewee interpretation of the researcher’s questions and responses to their stories, including facial expressions, audible responses and body language. It is also likely that preliminary interview discussions also informed the choice or structure of shared interview narratives provided by participants.

While the human ethics application considered factors such as those discussed above, the real test for my interviewing skills and techniques was through experiences during the interview process, and being consciously present during these moments. The ability to handle multiple considerations when undertaking in-depth and open-ended interviews was a test that I faced consciously during each interview. Bold suggests that identifying where and how the researcher fits and develops in the research process over the research period is an important part of reflexive work which she terms ‘auto-biographical self-reflection’ (2012, p. 10). Keeping a journal was an important aspect of undertaking this type of self-monitoring for future incorporation into analysis (p. 11). Johnson and Rowlands (2012) describe the interviewer as an ‘active sense maker and interpreter of what is seen or heard’...[each] inevitably depends on the researcher’s own standpoint and place in the
community as well as his or her own self-understandings, reflection, sincerity, authenticity, honesty and integrity’ (p. 100). While the data being obtained through the interview process is not the only data considered for analysis, the act and processes involved in interviewing provided a valuable point from which to base future analysis, in order to ensure that personal bias and former ‘hunches’ have been actively challenged. This reflexive practice helped me fully appreciate the quality and breadth of data required to make analytical reflections.

According to Warren (2012), the interview process can risk ‘losing’ the interviewee, particularly when the researcher interprets perspectives as being representative and the sense of individuality is missing. I became conscious of the need to create a sense of connection, and of how the inter-personal perspectives may differ according to the context in which the interview took place, and would continue to do so during the recording and transcription of the interaction. Raising the issue of how to consider contextual variables and ethics in the encounters, Warren reflected that ‘[even] the lone-wolf dissertation research interviewer may read up on how to present herself in the best light to locate, pin down, and actually interview the respondent’ (p. 134). Considerations for ethics applications take significant planning, but ultimately personal intuition is required for preparedness whilst in the field.

Data analysis

An outline of the inductive-iterative and interpretative approach undertaken to analyse diverse and complex data is presented below. There is an inherent challenge in presenting personal and complex cognitive analytic processes, where interpretations, inspirations and personal responses became part of a deeply personal and intuitive approach. The process that I undertook has been simplified in order to highlight the key points that are relevant in the development of the narrative-based results.

The thematic, iterative discourse analysis approach

Narrative, or storied accounts, contained in the cultural, gendered, autobiographical elements of a person’s or group’s life, are shaped by the telling to a particular audience (Chase, 2005). As noted earlier in the chapter, I have avoided defining ‘narrative’ as a
singular term to avoid the risk of reductionist thinking that would restrict various ways of interpreting and working with narrative. An ever-widening interest in using qualitative research to study storied accounts of life using narrative analysis has led to various understandings and uses of the term ‘narrative’. For something that is so essential in people’s construction of meaning and thus representing realities in all their subjective and changeable forms, it is not surprising that there should be such diversity and development in how the term is approached. To avoid ambiguity I have adopted Polkinghorne’s definition of narrative to refer to content within the data: ‘narrative can denote any prosaic discourse, that is, any text that consists of complete sentences linked into a coherent and integrated statement’ (Polkinghorne, 1995, p. 6). Specifically, Polkinghorne differentiates between the types of data available to the social scientist as numerical, short answer or narrative. Sculptural data sources are omitted from this structure because they embody not only symbolic ‘narratives’ but also some textual forms. However, for consistency, I have classified my interpretations of sculptures as a form of narrative.

Once the data was transferred to NVivo, coding themes and discursive motifs — including metaphor — commenced. Themes and issues were identified inductively, based on recurring categories and ideas found within what were later understood as the storylines and myths. Iterative sorting and review of themes was undertaken as analysis progressed over a period of time and as my reflexive interpretations developed with greater familiarity of the data.

During the interview process, and later during analysis of data, I also considered particular aspects of my own background that could possibly influence my interpretations in the interviews, and thus the research material. I was most concerned about my professional background in environmental management, as well strong connections to the geography of the Victorian bushfire case study and communities. In terms of other potential biases and interpretative influences, being a white female in a male-dominated field, gender could also be one area of concern (Eriksen et al., 2010; Nightingale, 2006). However, when self-checking my responses and the themes I was exploring, it became apparent that the more influential of my own responses were associated with my professional and emotional responses to the fire-affected landscapes. Thus, while there are other factors that
researchers explore, such as gender, race and age, I chose to consider themes from an encompassing perspective in order to capture the multiple layers and links between themes provided in the narratives.

**It’s not just about narrative: exploring storylines and myths**

**Explaining storylines**

To share ideas expressed in a narrative—so as to capture the attention of the receiver—the narrator (understood to be the person telling the account) constructs storylines to progress the intent and message of the narrative. Storylines are the way that discursive order, or responding to disorder, is achieved linguistically. In the context of this thesis, identifying the relevant storylines is important for stressing particular aspects of paradoxes. The interactions of the storylines within particular narratives create what is understood to be storied meaning-making (Fischer, 2003b). As Hajer notes in his research into the acid rain debates of the 1990s in Europe, and the rebuilding of Ground Zero in New York (p. 69, 2006), reflexive analysis of discursive elements shows that storylines function as a ‘condensed statement summarising complex narratives’, similar to ‘short hand’, used to build up the narrator’s storied understanding of an event. The interpretative and often-misunderstood sharing of these storylines when communicating are important he says, as they are used as ‘measuring statements in terms of whether they ‘sound right’, which ironically, does not guarantee mutual agreement.

To show this complex, iterative and inductive approach, a sample of text is presented below (see fig. 9). Some explanations are provided below to indicate the interpretative processes I used as both the interviewer reflecting upon the interview, and the analysis of the narratives. Iterative reflections on the multiple layers of interpretations assisted me in understanding the paradoxes of native vegetation management from an emergency manager’s perspective.

The following sample interview narrative features a storyline of planned burning, yet there is another storyline that concerns how particular perspectives, including organisational frames that reflect actions and decision-making, can be reframed. Within that storyline there are other sub-stories. During the sharing of this narrative by the interviewee, there
were shifts in what they told me. This process allows for a dynamic evolution of the interviewee’s overall narrative on planned burning.

The thinking and interpretative reasoning which justifies the coding process is explained in detail below:

This narrative is a non-linear and creative progression. The narrative relies upon the narrator (the interviewee) deciding how they want to tell their ‘storied account’ of working in the field, to provide their expertise on the research topic. A number of storylines exist within the excerpt:

- The paradoxical organisational hierarchies of land management agencies (highlighted in red)
- Alternate ways of learning and doing (highlighted in mauve);
• Individual’s knowledge and learning over time; complex systems of management simplified into singular agency responsibilities, or ‘silos’ in traditional metaphoric terms (highlighted in blue);
• Themes noted in this text are the role of organisational authority and power (highlighted in blue), complexity, knowledge, respect and interpersonal relationships;
• Earlier thematic coding identified themes of ‘change in practice’ (linked to highlights of mauve).

I followed this process for the case study data and as a result, the number of thematic categories was gradually co-ordinated and re-grouped to reduce repetition between the original themes. As I became more familiar with the material I was also able to define the themes to better reflect the stories and issues I was seeing, while still making links back to the research questions. The broad coding themes that I worked with are:

• Paradoxes;
• Historic moments;
• Narrative types;
• Metaphors and other discursive examples;
• Social mechanisms;
• Management issues.

As the particular interest for my own study is paradoxes, the iterative coding exercise enabled me to identify the emerging paradoxical storylines and associated themes. This research methodology concurs with that of Hajer (2006, 1993) and acknowledges his significant contribution, but it is adapted to seek out the paradoxical aspects of storylines and the overarching narratives identified in myths. The complex ambiguity and contradictions of particular storylines in the native vegetation and bushfire management context led to the realisation that there were multiple myths that contributed to the paradoxes. It is imperative to understand that the research findings, in terms of the myths identified in the data, are not analytic arguments by me as a researcher, but are instead presentations of narratives that are circulating publically following major bushfires.
Identifying myths to understand paradoxes

After identifying the storylines in narratives, iterative analysis enabled me to understand that the storylines are concerned not solely with policy conflicts and management problems, or with the logical presentation of an historical moment, but that they often went deeper into culturally derived ‘baggage’ that was retold and stimulated after each bushfire. As a result of the reflexive and interpretative analysis, it became apparent that the storylines function as important sense-making myths. This is because the mythic storylines are static cross-temporal boundaries and places, and they encompass ambiguity (Dundes, 1984). In the context of paradox, it is noted that myth relies upon contradictions and perverse storylines (Yanow, 1992). Further, scholars have described myth as being able to ‘[hold] together binary opposites that enrich [myth’s] study and enliven its discussion. Perhaps myth’s major paradox may be that it can mean neither “truth” nor (particularly in casual conversation) “falsehood”’ (Gentile, 2011, p. 85). A further reflection on the complexity of issues within research problems is that a complex and fuzzy circularity exists, with myth as a central feature: for a paradox to function it must be based upon the articulation of a myth; and for a myth to function, it relies upon the paradoxical. This realisation provided a key link in establishing the paradox frame which I undertook in the next stage of narrative analysis.

The myth-paradox relationship

To help explain the rationale behind the myth-paradox relationship in this research, some context is provided to explain the innately ambiguous nature of narrative-story-myth that is specific for this case study exploration.

While the retelling of a static storyline is one point of difference from stories, myths (like stories and other discursive forms) also assist in understanding the world and constructing a sense of reality, as discussed in chapter 2. Traditionally myths have been influential in the moral values that they prescribe, as a means of controlling social chaos and bringing together those who subscribe to the myth (Cuthbertson, 1975; Dundes, 1984). The myths provide roles believers can adopt during crises; the provision of simple and timeless, or static, storylines (often where the good atone for the wrong-doing of others), articulate a way of creating social cohesion and making sense of a moment in time following great
upheaval. What makes myths particularly relevant for this research into environmental crises and policy is that as a discursive vehicle, myths focus on making sense out of chaotic events such as catastrophic bushfires. The situation has been described in the following way:

    Myths are the product of cultural crises; they are a response to the challenges of politics...Natural catastrophes cause myths of “divine” wrath and appeasement (Cuthbertson, 1975, p. 159).

During times of crisis myths help direct attention away from equally valued but contradictory societal principles (Yanow, 1992), using storylines that are rich in symbols, allegory and emotion.

This thesis research refers to myths found embedded within contradictory narrative data, using policy studies by Yanow as a model, when she shows that myths have a role in temporarily resolving ‘the contradictions [which] are only revealed explicitly when analytic focus yields up the competing values that underlie the myth’ (Yanow, 1992, p. 402). Hence, myths are a useful guide for policy, organisations and culture analysis. As myths are associated with stories, histories and biographies, they can be considered an important component of broader narrative forms researched by social scientists. This approach is also supported by the growing awareness in academic circles of the value of the narrative approach (Clandinin, 2013).

Yanow’s observations on myth provide a useful structure for approaching paradoxes identified in this research, in such a conflicted public policy area as native vegetation management, since myths can ‘mask tensions between or among incommensurable values’ (1992, p. 402). Pre-existing conflicts are ‘suspended’ when social groups have a belief in particular myths, but these myths are only perceived by those who believe in them (p. 403), as will be shown in the analysis of the paradoxes. Similarly, myths help bring calm, bring people together, and bridge tensions, particularly when people are working in the context of contradictory issues (Kuhlicke, 2010).

To structure the reflection on the myth-paradox interactions in this research, I refer to the work of Honko (1972), who devised twelve theoretical criteria for working with myth in a contemporary theoretical setting. His criteria consider the form, function, content and
context of myths. According to Honko (1972), the variability of myth means that myth can be analysed selectively using the most appropriate criteria, according to the nature of the particular myth and questions being considered. In the context of this research, ‘the ordinary reality of everyday life recedes’ following bushfires, and is ‘superseded by the reality of ritual drama’ as portrayed in the myths that are generated (p. 18). Of the twelve categories of myth function devised by Honko (1972, pp. 13-14), four are particularly relevant in this discussion concerning the consequences of myth- and paradox-construction as:

- an ‘adaptation to life’;
- to justify our behaviour;
- to form a ‘marker of social relevance’;
- to ‘mirror’ particular aspects of social structures and culture.

The paradoxes and associated myths are often connected to one another in a complex overlapping pattern; myths rarely function in isolation. Honko’s criteria help inform the exploration of key links between the main findings, in order to present how the five case-study myths deal with multiple and complex contexts concerning native vegetation management and bushfire.

Literary and narrative-based analyses by Stone, Roe and Fischer provide additional guidance and confirm the approach being undertaken for deeper analysis of the myth-paradox framework identified in the case studies. In particular, Roe’s four-stage policy narrative method (Fischer, 2003a; Roe, 1992, pp. 3 & 155-156) informs the approach undertaken in this particular research.

The methods used in this research follows the four stages outlined below:

**Stage 1:** A wide range of narrative sources across the spectrum of temporal and cultural representations are considered for analysis, as well as those directly related to policy. This approach is supported by Fischer (2003b), who recommends this as an important step in working post-empirically once data is collected. He promoted Stone’s policy analysis approach, which is based upon the need to ‘reach beyond the stories being told
in a particular place and time and include other available narratives discourses that bear on the analysis’ (Fischer, 2003b, p. 147);

**Stage 2:** Paradoxical stories within narratives are identified, and they are understood to function as myths;

**Stage 3:** Those narratives which do not conform to the dominant storyline of a myth are identified as contradictions. Thus, contradictions influence the way a paradox functions in terms of policy-making, public responses to the environment or constructions of histories;

**Stage 4:** Finally, the myths’ contradictions are explored to ascertain alternate ways of looking at the problems. This stage reflects upon how the problem is articulated or constructed at certain moments in time, and whether these constructions are helpful in dealing with particular issues concerning bushfire and native vegetation management.

The stages of interpretative analysis that led to defining the myths is presented below in a summary form (see fig. 10). Examples of metaphor are provided to indicate their emphasis in the paradoxes, and thus, in the myths. The results of this myth-analysis are presented in detail in the following chapter.
Figure 10. Data analysis approach: how there was a shift in the analysis from identifying narrative to myth.
Chapter 4: Understanding paradoxes by exploring myths in case-study narratives

Results of thematic coding

The initial coding categories were chosen in relation to the issues being explored in the research questions (see previous chapter). The list below reflects how the categories were refined, the more I undertook deeper analysis of the material. This approach assisted in shaping my focus within such a vast and diverse amount of data.

- Paradoxes as identified in case study data;
- Historical moments noted by interviewees, in contrast to published events;
- Moods and emotions relating to landscape, bushfire, experiences;
- Metaphors and other discursive examples;
- Social mechanisms such as neo-liberalism, religion, scientific knowledge and risk. I also included war, due to its global prevalence;
- Major environmental management issues.

From this stage of thematic coding, I proceeded to identify other paradoxes from the data. To explore the details and links between these paradoxes I undertook secondary iterative analysis. I was able to collect similar issues and storylines into a group of overarching paradoxes, presented below. I derived twenty-three different paradox groups from the data, as shown in the sample data sheet which was derived from the coding process (see Tables 3 and 4).
<table>
<thead>
<tr>
<th>Paradoxes</th>
<th>Number of coding references</th>
<th>Number of items coded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controlling the uncontrollable</td>
<td>193</td>
<td>51</td>
</tr>
<tr>
<td>One area of government contradicting another</td>
<td>125</td>
<td>34</td>
</tr>
<tr>
<td>Not learning from history</td>
<td>124</td>
<td>53</td>
</tr>
<tr>
<td>Disconnect between research and policy</td>
<td>112</td>
<td>35</td>
</tr>
<tr>
<td>Contradictory risk priorities between public and agencies</td>
<td>91</td>
<td>43</td>
</tr>
<tr>
<td>More technical knowledge in response to public demands doesn't lead to good environmental management</td>
<td>69</td>
<td>33</td>
</tr>
<tr>
<td>Disconnect between economics and ecology</td>
<td>63</td>
<td>32</td>
</tr>
<tr>
<td>Research into vegetation</td>
<td>56</td>
<td>27</td>
</tr>
<tr>
<td>Indigenous control over their culture</td>
<td>44</td>
<td>12</td>
</tr>
<tr>
<td>Community responsibility expectations and objectives whilst expecting to be rescued</td>
<td>38</td>
<td>16</td>
</tr>
<tr>
<td>Reframing Indigenous history</td>
<td>38</td>
<td>16</td>
</tr>
<tr>
<td>Not everyone is community</td>
<td>34</td>
<td>23</td>
</tr>
<tr>
<td>The threat of the bushland haven</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>The urbanised bush capital</td>
<td>26</td>
<td>8</td>
</tr>
<tr>
<td>Conservation policies predicated on vegetation benchmarks of European colonization</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>Greening a brown land</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Media focus on native vegetation in terms of crisis narratives</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>Looking busy but achieving what</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Fuzzy planned burn targets</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Self-destructiveness of ecological cycles</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Killing the environment ‘softly’</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 3 Coding for paradoxes. This list was refined down to three overarching paradoxes.
## Metaphor coding

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropomorphising the environment: that is, Beauty, Nature is cruel</td>
<td></td>
</tr>
<tr>
<td>Things are precious: that is, Knowledge as treasure, Networks as luxury</td>
<td></td>
</tr>
<tr>
<td>Construction and building metaphors: that is, Wall as a communication,</td>
<td></td>
</tr>
<tr>
<td>Negotiating a barrier, Creation as management</td>
<td></td>
</tr>
<tr>
<td>Vegetation and nature associated by metaphors: that is, Forest as</td>
<td></td>
</tr>
<tr>
<td>candle, Bush as devil, Bush as enemy, Bushland island, Cleaning up</td>
<td></td>
</tr>
<tr>
<td>vegetation, Environment as alien, Roots of knowledge, Vegetation as</td>
<td></td>
</tr>
<tr>
<td>fuel, Vegetation as rubbish, Wicks, Hiding under a rock, greenies,</td>
<td></td>
</tr>
<tr>
<td>Fingers of bush</td>
<td></td>
</tr>
<tr>
<td>Container metaphors</td>
<td></td>
</tr>
<tr>
<td>Fire metaphors: that is, Fire as an organism, as Nightmare, as Terrorist</td>
<td></td>
</tr>
<tr>
<td>as Tool, Monstered by fire, Spooked by fire</td>
<td></td>
</tr>
<tr>
<td>Illness or bodily function metaphors: that is, Birth, Decision-making</td>
<td></td>
</tr>
<tr>
<td>paralysis, Ease distress, Gut feel, Madness, Drunkenness</td>
<td></td>
</tr>
<tr>
<td>Journey metaphors</td>
<td></td>
</tr>
<tr>
<td>Heroes, Legendary</td>
<td></td>
</tr>
<tr>
<td>Theatre metaphors: that is, Balancing act, Working behind the scene,</td>
<td></td>
</tr>
<tr>
<td>Forests as magical</td>
<td></td>
</tr>
<tr>
<td>Social mechanism metaphors: that is, Knowledge metaphors, Bottom line,</td>
<td></td>
</tr>
<tr>
<td>Intangible process or outcomes, Networks</td>
<td></td>
</tr>
<tr>
<td>War metaphors: that is, Battles, Hijacking ideas, Struggle, Triggers,</td>
<td></td>
</tr>
<tr>
<td>War and winning, Wave of hostility, Wrestling with issues, Prostitution</td>
<td></td>
</tr>
<tr>
<td>of self, Targets, Vandals</td>
<td></td>
</tr>
<tr>
<td>Religious metaphors: that is, Beliefs, Faith, Havens, Positive</td>
<td></td>
</tr>
<tr>
<td>relationships as marriage, Sacredness, Sacrifice, Spirits as judge,</td>
<td></td>
</tr>
<tr>
<td>Transformation, Nature as sacred or spiritual</td>
<td></td>
</tr>
</tbody>
</table>

**Table 4 Metaphors that were identified in the data.**

Once the structure of the metaphor, paradox and issues-based codes was developed, over time the interactions between these discursive elements were repeatedly analysed and reflected upon to refine my understanding of the narratives. The metaphors and their connections with paradoxes, under which I could group all the other forms of paradox as
listed in table 3, were identified as belonging to one of the following over-arching paradoxes:

- *The more we learn from history, the less we seem to know;*
- *The more we mitigate for risk the more risk we perceive;*
- *Trying to control the uncontrollable.*

My interpretations of paradox are presented in an example below (see fig. 11) in order to outline the stages of how the paradox of ‘trying to control the uncontrollable’ was explored and defined.
Figure 11. An example of how a paradox was identified through interpretative thematic coding.
Due to their discursive influence on paradoxes and storylines in general, through strong associations with symbols and rhetoric, some of the more frequent themes identified in the storylines were:

- **Blame**;
- **Politicisation of issues**;
- **Complexity**.

As discussed in chapter 3, the iterative analysis of the paradoxes and related themes led me to understand that as the content is paradoxical, this storied sense-making functions as an important cultural process following disaster. The myths’ storylines concern various ways the public, agencies and media depict events, in an attempt to understand the enormity of the environmental, political and social shifts following the two major bushfires, using a particular choice of language and mythic concepts. The storylines of myths have been grouped according to:

- **Cultural awareness of the Australian landscape**;
- **The subjective interpretations of conservation**;
- **Perceptions of the community**;
- **Government responsibility, or control**;
- **Achieving a sense of certainty through acquiring more knowledge**.

Once the themes and various myths had been grouped into a coherent structure that was linked to the three paradoxes, I noted that there are often complex layering and overlaps between myths and paradoxes. However, to better explain the myths in this chapter I present each myth as a separate entity, but also provide references to where more obvious links exist between myths.

The full results of the analysis of these five myths are presented in this chapter. The connections between myth and paradox are then discussed in chapter 5. Figure 12 below
presents the approach used for working with myth and relates to the presentation of the myths in the following sections.
Figure 12. Analysing themes and storylines to understand how myth is structured and functions in association with paradox.
The myths

Five myths are firstly presented in the context of environmental history in this chapter. This presentation of the myths constitutes the findings of iterative and reflective analysis of contradictory storylines, which capture the various ways humans attempt to define wicked problems, and the subsequent ways of responding to these complex social-environmental problems. The results are presented following reflection on the three popular and commercially successful twenty-first century environmental histories written — written by prominent male environmental historians — to provide context for the myths, and exploring the research problem of: which paradoxes are reflected in key moments in native vegetation management in the context of bushfire in south-east Australia since European settlement. This discussion considers the ways certain paradoxes have been understood as a result of key historical moments in south-east Australia since European settlement, and how the generation of myth around bushfire has therefore come to shape native vegetation management.

The five myths are presented in the following order:

- The ‘cultural landscape’ myth;
- The myth of ‘community’;
- The myth of ‘conservation’;
- The myth of ‘certainty through knowledge’;
- The myth of ‘government control’.

The presentation and discussion of the last two myths differ from that of the previous three myths, because the first three myths feature archetypal and dramatic roles portrayed in a scene that has classical mythic references. In contrast, the myths of ‘certainty through knowledge’, and ‘government control’, are affected by extremely politicised influences on the storylines, and use a different type of language and symbolism. This myth analysis is presented in response to the research questions:
2. How do social mechanisms build and reinforce paradoxes of native vegetation management following bushfires?

3. How do these social mechanisms and paradoxes influence native vegetation management thinking and practice?

Environmental history: setting the paradoxical scene

The following section presents historically contextual elements of societal learning noted in the selected environmental history narratives. The perspectives presented here extend beyond the immediate paradox- and myth-analysis to provide context for how paradoxical historical influences have shaped native vegetation management and the representation of bushfire impacts since the early 1800s.

Each of the selected twenty-first century environmental history narratives (Bonyhady, 2000; Gammage, 2011; Griffiths, 2001) cite nineteenth-century colonial records, which describe the Australian landscape as ‘ugly as they are monotonous’ (the eucalypt trees as described in Bonyhady (2000, p. 69)), ‘funereal, secret, stern’ (forests according to Marcus Clarke, noted in Moore (2015, p. 253)) but also ‘park-like’ (grasslands and woodlands as noted in colonial explorations, see Bonyhady (2000), Gammage (2011); also Hateley (2010) for a comparative interpretation). The narratives construct an environment which, through its challenging aesthetics, was also psychologically disturbing.

The term ‘park-like’ was widely adopted to counter the sense of despair of the environment, to appease an overseas audience. The phrase was inherited from England as a sign of nobility and associated with carefully constructed ‘natural’ landscapes by ‘Capability’ Brown’s great legacy,... ‘[which] appeared natural compared with the formal surroundings of great houses in continental Europe’ (Bonyhady, 2000). The colonial preference for fashionably contrived ‘natural’ forests was transferred with the settlers’ values for an open, controlled landscape in which to shelter and harbour cultural myths.

As Bonyhady (2000) states, artists have over time shifted our perceptions and values in how we look at nature. For instance, nineteenth-century Swiss immigrant and landscape painter, Louis Buvelot, was credited for making the landscapes feature tree portraits to ‘prove’ they
had their own ‘charm not previously recognised’ (p. 167). Bonyhady observes that the colonial settlers and artists responded to the trees as a significant environmental feature, in order to express their environmental discomfort with terms of ‘beauty’, through their expressions of despair in the broad-scale ugliness and monotony. Such value-laden aesthetics introduce the character of a landscape or place as defined by the aesthetics of a species, in particular the form of its trees, rather than by the complex melding of light, diverse vegetation, geology or climate. Oddly, despite the colonial preference for open landscapes, the historical cultural importance of woody vegetation is a central theme in all three histories; the conflicted use and loss of the resource, and the role of fire for regeneration amid variable ecosystems. Industrious Westerners are documented in these histories as settlers who elicit environmental changes through their need for mastery and control:

These sclerophyll trees, shrubs and grasses made up what colonists quickly called ‘the bush’, a vegetation so dominant and ubiquitous that this amorphous phrase gestured to any uncleared area, and, indeed to the vast void beyond any Australian town or city (Griffiths, 2001, p. 1).

Griffiths, in his account of the Mountain Ash Forests burnt in the 1939 bushfires, frames Australian society explicitly in terms of unfathomable scales of human loss from bushfires and their associations with forests, in that:

[the] eucalypts in particular seemed to have the country in their grip: no other comparable area of land in the world is so completely characterised by a single genus of trees as Australia is by its gum trees (Griffiths, 2001, p. 1).

In particular, Griffiths proposes that long-held values towards the environment shifted dramatically following that single momentous bushfire event in 1939:

It was a moment in the environmental history of Australia when people had to confront — and reform — their whole relationship with the bush. Black Friday collapsed more than a hundred years of colonial history into one horrific event; it welded humanity and nature into a unique and bewildering amalgam; it reminded Australians of the enduring power of fire on their continent; and it demanded greater understanding of the past of both people and trees, not only the shared past, but the deep past stretching back millions of years (Griffiths, 2001, pp. vii-viii).

The evocative, rich imagery of the trees provides structure to the portrayal of the landscape as an actor, and an actor with a story from which the twenty-first century reader can learn.
Griffiths’ particular environmental history constructs a narrative of human relationships with Eucalypts, especially the giant Mountain Ash’s physical strength and nobility, as symbolic for shaping human character. In doing so, Griffiths equates the transient magnificence of a tree with the bush men who attempted to either exert control over nature as a consequence of native vegetation removal, or to adopt nature as a mythical element in a timeless landscape.

Bonyhady (2000) provides further examples in art of the polarised response to native vegetation and the Australian environment during the nineteenth century. As exploration of the physical spaces brought more people into closer proximity to the ‘bush’, more recordings and artistic representations were created for others from which to learn and therefore appreciate characteristics of the environment other than a sense of foreboding and harshness. Until 1827, colonial settlers adopted the English term ‘wood’ to describe native vegetation. As this was found to be inadequate, the word ‘bush’ was applied loosely after 1804 to try and depict the new environment (Moore, 2008 cited in Bromhead, 2011, p. 446). Bromhead notes that language evolved, ‘as the settlers made their way in a new country the bush acquired meanings related to culture and human geography’ (2011, p. 446). It is from representations and recordings such as these that historians frame their own understanding of cultural responses.

Gammage (2011), in a more recent environmental history — commercially popular, though contentious — explores pre-1788 Aboriginal fire, presenting a detailed representation of the nature of fire across many parts of Australia. Referring to numerous colonial records, he describes the frequent planned use of fire to maintain safety and to provide food sources for Indigenous Australians, and he uses this analysis to critique European Australian fire management of the twenty-first century:

*Five features marked 1788 fire. It was planned; it was precise; it could be repeated hence predicted; it was organised locally; and it was universal — like songlines it united Australia. People accepted its price. They must be mobile, constantly attendant, and have few fixed assets ... It was scalpel more than sword, taming the most fire-prone country on earth to welcome its periodic refreshing, its kiss of life. Far from today’s safe and unsafe fires, campfire and bushfire were one; far from a feared enemy, fire was the closest ally* (Gammage, 2011, p. 186).
Much of Gammage’s binary and simplistic argument frames native vegetation as needing more frequent burning so that it emulated the perceived landscape prior to 1788. Further, a central tenet of Gammage’s history is that more frequent burning would reduce risks to humans and restore the ecological processes of the past, thus enabling closer engagement with the environment through an act of anthropogenic control.

Possibly because the Eucalypt is the central actor in his environmental history, Griffiths is more uncertain than Gammage as to the overall influence of Indigenous burning in the pre-European environment. Griffith’s narrative is couched in terms of ‘possibly’ and of reinterpreting old ‘facts’ with new insights and values:

*There is little doubt that [Aboriginal] systemic fire management was an important influence on the distribution of rainforest in Australia, and it seems likely that Aboriginal burning led to the extinction of some fire-sensitive species. … Bowman suggests that in our excitement at the discovery of how ancient the rainforest in Australia was and our eagerness to recognise (belatedly) the extent of Aboriginal environmental manipulation, it is possible that the antiquity of eucalypts has been unintentionally belittled* (Griffiths, 2001, p. 7).

Both this excerpt and Gammage’s work celebrate the increasing, but belated, desire by late twentieth- and early twenty-first century non-Indigenous Australian society to better recognise the important influences Indigenous Australians had on the physical and ecological environment.

Other useful environmental and cultural historical moments of learning are recorded in the form of fictionalised experiences that document nineteenth-century cultural attitudes towards the power of bushfire and its transformative impacts on the environment and humans. Nineteenth-century Australian literature depicts how European settlers and visitors experienced the uncomfortable and disturbing extremes of the environment, as a means of learning about their homes. Referring to historical non-fiction accounts of Australian landscapes, literary historian Moore (2013, 2015), believes that in nineteenth-century fictional depictions of the Australian bush and bushfire, fear of bushfire and the uncertainties experienced during summer were ‘mediated’ through the depiction of narrative themes and memes that were far more ‘tameable and tractable’ (2015, p. 252). She cites the Christmas story set in the Australian summer, in contrast to the usual northern-hemisphere winter, as a ‘safe space in which to rehearse and overcome the deep
rooted anxieties that ... form a backdrop to settler engagements with the landscape’(p. 251). Further, Moore argues that using fictional bushfires as plot devices assisted settlers who were experiencing a sense of unease and displacement in the new landscape. This fictionalisation provided a sense of ‘command’ over the landscape and a means to anthropomorphise fire, therefore making the environment more understandable. Moore also states that European settlers of the late nineteenth century ‘[became] a more cautious people, with a clearer insight into the temporariness of their new homes’ (2015, p. 257) following experiences of major bushfires such as those of 1851 and 1898. These histories present a formative period where polarised European responses arose, in which the landscape was both terrifying and peculiarly beautiful.

Exploring mythic attributes of native vegetation management and bushfire through the lens of environmental histories

Dargavel (1995) notes that contemporary environmental historians — such as Flannery (1994) and Pyne (2nd edition, 1998), and their predecessor, Rolls (1981) — seek to understand the environment as a key actor in Australian history. Shifting the lens onto the environment positions native vegetation and bushfire as ‘politically potent’; for example Indigenous Australian use of fire as a land management ‘tool’ played an important role in their efforts to claim land rights and recognition as the original inhabitants of the continent (1995, p. 121). This view has subsequently been reinterpreted, and quite possibly reappropriated, in great detail by Gammage (2011). Narrative ‘potency’ has ramifications for the myths we refer to when making sense of environmental change, particularly after bushfire.

Environmental history can be understood as a specialised and influential but, subjective, component of human history, which includes the study and construction of social-ecological relations. Accordingly, historians’ accounts present the frequently politically charged role of the environment. Histories are constructed and reconstructed over time, changing with cultural, philosophical and political interpretations, depending on personal biases of both authors and readers.

Shaped by these particular European Australian historians’ own experiences and knowledge, environmental histories this century have attempted to give voice to Indigenous Australian
and settler experiences and perceptions of the Australian environment. While aspects of Indigenous Australian cultural-ecological histories have been lost following 1788, much is repeatedly reframed by subsequent Western authors who re-write the early history of the Australian environment. The environmental history narratives acknowledge this conundrum: the irony of ‘re-historicising’ history. These histories also represent the foundations of the persistent myths identified in this research that have formed the basis of the over-arching paradox ‘the more we seem to learn from history, the less we know’.

In conclusion, this analysis of selected environmental histories and supporting literature indicates significant personal discretion in presenting key historical stories of the Australian environment and fire. Some of the same sources are interpreted differently by other authors who present a particular frame of past human activity in the Australian environment. In particular, different interpretations of nineteenth-century colonial interpretations of Indigenous Australian fire by Griffiths and Gammage are examples of where it is possible to conceptualise significant variation in histories, and therefore, to perpetuate certain myths associated with fire, environmental components and land use. Language is a most important element used by historians to present not just historical ideas, but also to reinterpret the ideas behind the myths as layers of evidence, passed on from one generation of historian to another. The construction of histories has taken place within the context of broader ecological research that relies on different research methods to develop empirical-based understanding of the Australian environment. Environmental histories contribute an emergent cultural-archetypal framing of the environment by repeating references and historical anecdotes. In so doing, environmental histories evoke and contribute to the Western construction of societal values and myths, which are referred to particularly in times of crises where they function as important reference points for social reflection.
‘Cultural landscape’ myth

The exploration of environmental histories sets the scene for presenting the cultural landscape myth, as noted in the case study narratives. The contradictions of various storylines and themes are explored in detail, of how history has presented current environmental management issues within a paradoxical setting. The presentation of this myth attends to the questions of identifying significant historical moments that contribute to paradoxes, as well as mitigating factors in contemporary land management, affected by social mechanisms that are embedded in our understanding of the Australian environment.

Summary of the ‘cultural landscape’ myth

The cultural landscape myth refers broadly to the contradictory and contrived realm of a designed and constructed ‘natural’ environment, where revered aspects of Australian nature are described as the ‘bush’, providing both spiritual and economic benefits for humans. The case studies exemplify this by referring to idealised and mythologised Australian landscapes, encompassing three forms of mythical landscapes:

a) preserving the gentleman’s park landscape;

b) the Bush Capital as haven;

c) and in Victoria, the peri-urban retreat as haven.

The storylines within the myth provide support for an ongoing belief in human intervention in the environment. Both case studies concern the historical influence of artistic interpretations of an idealised Australian environment, portrayed in landscape paintings such as those by Joseph Lycett, or in the case of Canberra, the impressive and moody sketches of an imagined bush capital city by Marion Burley Griffin for their Federal Capital Competition entry in 1902, shown below (see figs 13 and 14).
Figure 13. Competition drawings by Marion and Walter Griffin for the 1902 Federal Capital Competition. Significant areas of native vegetation to preserve the treed ridgelines and mountain backdrop from built development. This vision has since been respected by Canberra’s National Capital management committees (Griffin & Griffin, 1912).

Figure 14. Aborigines hunting kangaroos, Lycett (1817).

Lycett’s painting (fig. 14 above) depicts the convict colonial painter’s view of Indigenous Australians hunting in a ‘park-like’ landscape, according to Gammage, who features the
image in his popular environmental history (2011, p. 91). This particular interpretation of history supports the contemporary articulation of the ‘park-like’ landscape, which describes the use of fire in late eighteenth and early nineteenth centuries by Indigenous Australians as:

The frequency of these fires is the principal cause of the absence of underwood, that renders the forest so pervious in all directions, and gives to Australia the park-like appearance which all agree in considering its characteristic feature (Gammage, 2011, p. 161).

The perceptions of ‘park-like’—used interchangeably with ‘gentlemen’s park’—landscapes incorporate the transferral of English aesthetic values to a more contemporary understanding of Indigenous Australian use of fire.

The myth group is associated with the paradoxes of ‘controlling the uncontrollable’, and ‘the more we learn from history, the less we seem to know’, and ‘the more we mitigate risk, the more risks we perceive’. The myth group also provides some background context for other myths, particularly ‘community’, ‘government control’ and ‘conservation’ (see below), since the perception of the ideal and idealised landscape construct forms the basis for a number of European settlement patterns; associated with a particular way of living in the broader landscape, and as a sign of the tamed wilderness.

Construction of the myth

Different landscapes referred to in environmental histories and media stories are reflected in the myth, based upon popular eighteenth- and nineteenth-century depictions of romantic environments that are described in terms of landscaped English gentleman’s ‘park-like’ estates. The taming of European nature is an important unifying concept that refers to the ordered and controlled landscape that denotes civilised environmental mastery. The popular description of ‘park-like’ has evolved from interpretations of selected colonial records, such as paintings and accounts by explorers and squatters.

Contemporary environmental histories attempt to use the concept of ‘park-like’ to correct the lack of acknowledgement by many colonists of the Indigenous Australian people’s long term role in shaping the environment. The following example explains this association to European landscapes:
Yet most colonists failed to take the next, obvious step and explicitly acknowledge that at least some of Australia’s ‘parks’ were an Aboriginal creation. This failure probably resulted from colonists’ conception of parks as products of civilisation. As ‘Capability’ Brown’s great successor Humphrey Repton put it, landscape gardening distinguished ‘the pleasures of civilised society from the pursuits of savage and barbarous nations’. If colonists credited Aborigines with making these landscapes, they would implicitly be recognising them as civilised. Instead Australian settlers repeatedly declared the parks ‘natural’— a significant conclusion not just because of its denial of Aboriginal agency and ownership but also because it suggested that, at least in this respect, Australian nature was comparable to British culture (Bonyhady, 2000, p. 79).

The influence of colonial attitudes prevails today; an extension of this cultural landscape perception manifests when people aspire to acquire their own ‘park’ through private land ownership.

The impression that colonial Australia, as an idyllic landscape, consisted largely of park-like scenes also exists outside of historical references. Following severe impacts from the case study bushfires, these cultural landscapes, long-enshrined in the European-Australian cultural psyche, became the topic of public debate. Since park-like landscapes are valued as desirable and safe, other types of more forested landscape heavily impacted by the bushfires are contrasted with this ideal. Park-like landscapes are preferred, to justify the clearance of native vegetation in order to make the landscape appear controlled, and therefore safer. In the case of the Canberra landscape, a more complex perception existed due to the city being referred to as the ‘Bush Capital’, designed as a bush parkland for residents to enjoy.

There is evidence that the prevalence of the myth also influences land and emergency management agency thinking:

VIC Emergency Manager 1: The agency talks about living with fire and living in the bush.

S: So what’s the image that’s associated with that? Or is there one?

VIC Emergency Manager 1: Is there one? I don’t know. I think the image would be, it’s the gentleman’s park: So it’s the manicured garden around the house and the forest is a wall, not a wall, but it’s on the edge. It’s a peripheral, which is not a bad scenario fire wise. It’s probably an image that we cultivate. Manage, policy and dogma. You have defendable space, we create that and if you choose to leave, it’s still worth doing because the likelihood of a house surviving is greater if you’re able
to, then that gives you the physical circumstances you can do it. So living in the bush means you got wild bush around you, but by the time it gets to your domain, it’s managed, it’s the gentleman’s park, it’s the dotted trees with grass. Keeps coming back to that; we keep talking about it. Park-like. How do you describe that? ‘Oh, it was really well-managed, it was park-like.’ It is so persistent.

The Bush Capital as ‘haven’ is a similar storyline of creating the controlled landscape. Canberra, as the ‘Bush Capital’, was originally established as a designed environment to improve the city, and thereby benefit an urbanised community. The rationale behind this design ethos was influenced by the northern hemisphere ‘City Beautiful’ design foundations of Walter Burley Griffin’s city design competition plan. Subsequent work of city engineers since the mid-twentieth century continued to develop the city according to many of these influences. The landscape has been deliberately structured to provide not only protection from the harsh climate, but recreational and health benefits through close proximity to nature. These early design principles were reflected upon in the post-fire media:

It was a reaction to the squalid cities that arose out of the Industrial Revolution. ... Griffin wanted a city that had open space for relaxation and relief. His plan decreed that there should be no building on the hills so people anywhere in the national capital could look up and see green. It has resulted in a lot of bush in the city. Until now that has been managed well. ... The treeing of the capital was critical to the Griffin plan. Fifty million trees have gone out of government nurseries into suburban Canberra. The Government issued 10 trees and 40 shrubs to each new leaseholder (Hull, p. C1, Canberra Times, 25.1.2003).

As described above, the intent of the city’s planning deliberately linked the human and physical environments. Looking more broadly at the environmental context of the ACT, this identity is very different to the landscape prior to the city’s establishment. The early ACT landscape has been described both as a barren and wind-swept paddock, or a waste of a good paddock, depending on one’s perspective. It is the gradual revegetation of this treeless landscape that has seen a shift in cultural attitudes. The current pride in the city is something that challenges perceptions of what a city can be in terms of connecting the surrounding environment with its cultural identity. The following comment from a newspaper editorial presents the sense of pride and cultural identity that residents have adopted, when considered in the context with the 2003 bushfires:

We are proudly the bush capital, and we are proud to live in an environment in which the tree canopies over-shadow our tiled roofs, even our suburban roads. Perhaps that
makes living here somewhat more dangerous than in an intense (sic) urban environment of bitumen and brick. It is a risk people embrace, in much the same way that we accept risk on the roads. That does not mean we do not learn lessons, or try to engineer some of the risk away, but it does not mean ruining a natural and human environment (Editorial, p. 12, Canberra Times, 20.1.2003).

Pride in the Bush Capital cultural identity has persisted following the 2003 bushfires, as described below by an interviewee:

It was the old joke, ‘waste of a good sheep station’, whereas that seems to have gone now; people are really starting to show the city to visiting friends and that’s because [of] things like the National Arboretum, and all these projects which are incredibly expensive, but which are really imaginative, and ultimately, it’s going to be breathtaking. So the Bush Capital idea really does seem to fit with the inhabitants to me (ACT Emergency Manager 2, interview).

Even though the cultural landscape identity was challenged after 2003 and amendments to land management have occurred, the cultural identity has persisted, highlighting how the myth ignores dynamic shifts in conflicted social values towards the natural environment following social-environmental disasters.

The Victorian case study’s persistent bush haven mythic storyline also endures following repeated bushfires in the foothills of Melbourne, exacerbated by an increasing number of people choosing to live amongst the forested peri-urban fringes north of the capital:

Like other Australians, Melbournians are predisposed to what is known as the ‘treechange’ lifestyle. This is the idea of escaping the city and living in the bush generally within striking distance of work in Melbourne. Treechange is a growing lifestyle segment beyond the edges of many large cities. But nowhere across the continent are there as many people living this lifestyle as there are around and beyond Melbourne’s edges (Salt, pp. 28-29, Herald Sun, 10.2.2009).

Some of the subscribers to ‘living’ the myth do so in order to seek ways to connect with the biodiversity within the environment:

We tree-changers like to live in the forest. It’s attractive, the air is cleaner, it’s cooler and with all the native flora and fauna around we feel like we’re ‘getting back to nature’ (Cant, p. 14, Letter to the Editor, The Age, 17.2.2009).

Others live the myth quite differently, by managing their own land according to public perceptions of private tenure rights to create the mythic ‘park’. All these forms of landscape are referred to in the media as ‘havens’ or ‘God’s own Garden’ to denote the biological or
socio-cultural significance of the region. Social and economic attachments to the regions have links to the nineteenth and early-twentieth centuries, when tourism and the forestry industry were ways for people to make use of the landscapes of Mountain Ash Forests in Victoria, and of the grassy plains in the area now known as the ACT.

The romantic perceptions of the environment are expressed in the media, as in the extract below, to portray tree-change lifestyles as more than just a means to connect with the environment in some way:

*It is a time to rebuild anew, like regrowth after a fire. While most of us live in Australia’s cities, the burnt bush of the small towns and rural communities is still where the heart is* (Editorial, p. 28, Herald Sun, 10.2.2009).

The rebuilt environment is compared metaphorically to the ecological and ‘rightful’ cycles of the environment, where not only growth of native vegetation occurs, but of human settlements that merge with the landscape. Extending this metaphor further, the extract also presents the connection to the bush as metaphorically associated with a healthy human body, and regeneration analogous to human recovery from illness. Since Canberra is presented as a haven, people do not need to escape into nature, as they are surrounded by and literally designed to be a part of nature. Both case studies’ myths reflect how the ‘heart’ of the nation is depicted in terms of connections to contrived and controlled forms of native vegetation.

The major themes associated with the myth are politicisation and control.

**Contradictions of the myth**

*This section explores a number of contradictions that are found in the storylines pertaining to the cultural landscape myth group. Iterative thematic analysis shows that by exploring the inconsistencies there is an opportunity to seek alternative ways to consider paradoxical elements to the myth group, and how they have developed. The contradictions concern subjective understandings of environmental and population changes, planning regulations and community environmental awareness.*

a) The notion of a ‘haven’ is misleading due to the extremes in environmental conditions;
b) The havens represent a place where people are disconnected from the environment;
c) Population densities are increasing in peri-urban bush environments causing challenges for agency management efforts;
d) There are inconsistencies between state and local government land management and planning objectives.

Articulating the contradictions

a) The notion of a ‘bush haven’ is misleading due to the extremes in environmental conditions

Overview: What has been more-recently understood as a haven is criticised for being dangerous to human life, once bushfires destroy human property and life. Earlier planning concepts of Canberra did not fully consider bushfire and the interface with people. For example, the Burley Griffin bush capital concept had not made a provision for impacts of bushfire in the early twentieth century. Even after the 1939 Victorian bushfires Royal Commission recommendation to move settlements out of forested areas, population densities continue to increase in the foothills of the Great Dividing Range near Melbourne despite repeated bushfire experiences. In such cases, the concept of a bush haven contradicts the notion of a long-term idyll.

Nineteenth-century Arcadian visions of ‘Australia felix’ (Goodman, 1988) espoused by explorers, writers and early colonisers (Lansbury, 1970), stated that there was bountiful grassy, lush green open space for profitable new agrarian land use, likened to English ‘parks’ (Griffiths, 2001). While these landscapes were described in such terms for readers of another era, contemporary interpretations of historical records give more prominence to Indigenous land management processes influencing native vegetation distribution with the additional benefit of creating a safer landscape in which to live.

The re-framing of Indigenous Australian and south-east Australian landscapes as a form of Arcadia is in both cases based upon fragmented records and snap-shot perceptions of the past. Through the piecing together of efforts, not just to describe a place with insufficient language, the nineteenth-century Arcadian vision represents the selective desires of occupiers seeking to acquire new status and influence far from the industrial depravity of England, where land ownership was restricted by inherited social status (Goodman, 1988;
Lansbury, 1970). The current mythical interpretations prove to be far more dynamic than their origins, having evolved over time, and influenced by progressive political, social and economic situations.

The catastrophic bushfires of 2003 and 2009 (and before, those in the ACT of 1952 and in Victoria of 1939, 1983) elicited significant questioning of landscapes where people live in nature ‘havens’. In the case of the Canberra bushfire, despite the landscape in the ACT being deliberately designed to bring people in contact with the environment, the bushfires stimulated public debates recommending a cultural shift away from how the landscape has long been framed. New, alternative storylines describe nature as being uncontrolled due to treed ridges and ‘spines’ of vegetation threatening human life and property. Some of these perceptions are also identifiable in other myths, such as the myth of ‘conservation’, but here, the focus is on control.

![Figure 15. The Bush capital is described metaphorically as being ‘at war’. The Canberra Times, 25.1.2003, p. C5.](image)

Descriptions of how treacherous havens could be were not part of the environmental *lingua franca* in early twentieth century, when the original capital city layout was proposed, or romanticised excursions into the Mountain Ash forests became popular. These early mythic depictions of the bush came as a precursor of these lifestyle settlements, later supported by a shift in values favouring conservation of bush haven landscapes. For example, the rich 2003 media debate regarding the Bush Capital identity articulates a fusion of perspectives,
including reflections on the contradictory psychological, philosophical and social connections to the environment:

_Home among the gum trees has big risks. The much loved eucalypt is untidy and unpredictable and has a cosy relationship with fire ... But we see bushfires almost proudly as an Australian phenomenon, because mixed up in our attitude to bushfires is our attitude to the eucalypt, the characteristic tree, and one we correctly enough, claim as our own_ (Aitkin, p. 11, Canberra Times, 3.3.2003).

It is after major bushfires that these widespread cultural responses to the environment are challenged. This paradoxical phenomenon concerns how people seek out ‘havens’ where homes are located amidst the uncontrolled ‘litter’ of a ‘wild’ landscape, and according to critics, the ‘fuel accumulation is scary’ (see Taylor, 2003). The same can be said of similar media reflections following the 2009 bushfires in Victoria. The debates raise issues that challenge existing cultural perceptions about the placement of people in the Australian environment. The Cultural Landscape myth avoids considerations of what the urban capital city environment is within the Australian landscape:

_Could we have prevented it? If we are to remain a bush capital we have to think as the bushies do about fire danger. Canberrans have to ensure the lessons learnt from this tragedy will be integrated into the lifestyle choices we make_ (Lake, p. 22, Letter to the Editor, Canberra Times, 23.2.2003).

Responses such as this apply also to the Victorian case study. This research suggests that there is also a disconnect between the haven-seekers’ understanding of fire, and the environment, compared with that of the traditional, long-term rural inhabitants: there are those who feel that they know how to live with fire, even when they do not. This disconnect exists despite both the Bush Capital and peri-urban settlements representing a symbolic merging of humans and environment. The scale and proximity to interface settlements of the bushfires of 2003 and 2009 however, represent a psychological tipping point, where a sense of urbanised nature became suddenly threatening. When interpreted in terms of the desirability of the bush haven, the concept of the idyllic landscape is culturally intangible. The shared space and the interrelationships with the bush shifts; so these places come to be described in terms of requiring controls of significant cultural and physical magnitude in order for human existence to persist. The media and land managers’ reflections repeatedly
present storylines of frustration; that a growing urban population in both case studies still revere notions of the bush haven:

*We can insulate people from the effects of wildfires like those that occurred in Canberra by eliminating available fuel. The problem is that many people want to live intimately with something that approximates nature. The result is an interface between settlement and bush that is so extended and diffuse that it is impossible to defend* (Hoggett, p. 21, Canberra Times, 31.3.2003).

The physical reality of the environment is that it is, occasionally, neither a haven nor benign, yet the persistence of the haven myths seems to defy reality and rationality, as population densities in fire-prone areas continue to rise. Consequently the concerns noted by Hoggett have direct implications for land management agencies legislated to oversee risk mitigation.

![Figure 16. The death of a haven: Herald Sun headline, 9.2.2009, p7.](image)

The power of myth-making to maintain an interpretation of the landscape as haven demonstrates how effective this process of human reasoning is, thus maintaining myths in human populations. The haven as a particular form of the imagined landscape persists because myths have the ability and purpose to defy logic, and paradoxically to present stability and sense (see Honko in Dundes, 1984). The contradiction between actual and mythic realities demonstrates the strength of Western values and perceptions of what Indigenous Australian managed landscapes would have been like, before Indigenous Australian practices were utterly disrupted.

The next contradiction explores the interface of management and landscape perceptions.
b) Population densities challenge agency management efforts

**Overview:** Increasing populations in the haven areas create significant conflicts and challenges in managing fire risk through planned burning — due to conflicting aesthetic and ecological values and health impacts. However, at a local level urban development policies contribute to internal management conflicts due to revenue-raising from private land sales and rates. A perverse consequence is that population increases in high-risk areas result in the need for additional mitigation measures to provide public safety.

Both the ACT and Melbourne’s peri-urban populations are growing. Since the early 2000s the population in high-fire-prone fringe areas of Melbourne has exceeded fifty nine percent of all growth in Victoria (Department of Sustainability and Environment, 2012b) and in the ACT the population has risen from 310,800 in 2000 (Statistics, 2001) to 390,700 in 2016, with most of this is in the northern areas of the city zone (Australian Bureau of Statistics 2016). Despite ongoing bushfire awareness research and education provided in response to the increasing frequency of bushfires in high fire-risk areas (see Blair, Campbell, Campbell, & Lowe, n.d.; Department of Sustainability and Environment, 2013a; Gibbons et al., 2012; Gill, Stephens, & Cary, 2013; Stephenson, 2010) the myth of a bush haven persists. The paradoxical situation is not solely associated with these case studies. Other researchers such as Lübken (2015); Pawson (2011); and Wachinger, Renn, Begg, and Kuhlicke (2013) note that populations in Europe, New Zealand and the United States of America are also at risk from living in land development areas prone to hazards such as floods and earthquakes. Assisted by mitigation measures, the problem of servicing large numbers of people in high-risk areas is compounded by technology that enables development in such areas to expand. Following the 2009 bushfires the question of urban expansion into the bush was publicly questioned, for example:

> The question again rears its ugly head as to whether we are smart to let our cities sprawl into that flammable and, many say, unsustainable leafy, rural-urban mix at the edges. It’s here where many of us are vulnerable (Nichols, p. 15, The Age, 16.2.2009).

Similarly, in the ACT areas abutting nature reserves, designated as Asset Protection Zones, have increasing human populations; areas in the south-west of Canberra are being rapidly developed despite a history of bushfires in this area. Compounding the problem of
individuals benefiting from and influencing peri-urban development, the ACT government benefits directly from land sales, and in Victoria, local governments raise revenue from land rates. An additional land management conflict has arisen due to the land tenure system in the ACT, which has unintentionally protected Temperate Grasslands and Grassy Woodlands, described below by an ecologist interviewee:

... the interesting thing about how land tenure and policies had an impact on biodiversity ... because they shut up a lot of land; or they took it away from people and gave it back to them on a short-term basis. So that meant that it was not worth their [time] while investing in pasture and so on. One of the reasons that we have got quite a substantial area of Temperate Grassland for instance is because just as an artefact of that tenure history. People weren’t prepared to invest in fertiliser and seed, and just ran a few sheep at a subsistence level, and that allowed all the associated fauna as well to survive amongst it. And at least until the twenty-first century and then we seemed to have been able to reduce them recently with our own practices ... That’s meant the woodlands have been reasonably intact. Well, certainly good examples of what it must have been like. So the conflicts of course, it’s the most arable land at the same time it’s the flattest land so it’s the land that lends itself to development and of course, that’s what’s happening now. A lot of that’s happened, and now they’re sort of in-filling (ACT Land Manager 12, interview).

As a consequence of benign neglect, the management of these now highly valued and ecologically significant ecosystems contributes complexity to management of bushfire and native vegetation. Another layer of negotiation is required, in terms of gaining public acceptance of bushfire management practices. Since the introduction of the Asset Protection Zones following 2003, management of nature reserves through planned burns is disputed, not by just those who are smoke sensitive, but also by ecologists and other professionals, a number who live adjacent to these areas. The sensitivities of the situation are summarised by the interviewee below:

I think [in the] ACT ... there’s a lot of burns done, but it’s not just in terms of bushfire management planning; a lot of is also grazing and slashing, clearing of some areas. Some of that is very controversial, in terms of clearing within some of the Nature Reserves where they back onto housing, or housing backs onto them, shall I say. So that’s been a difficult one to deal with, but after 2003 there just has to - that was the point that there was heavy vegetation coming down to back fences and backyards full of heavy vegetation, up to the houses, and surprise, surprise, a lot of them burnt. I mean almost anything would have burnt that day; in fact a lot of nothing, including air, burnt. There was no safe area for people to fight fires; there was no break between the houses and the bush. So it had to happen. Within the Conservation Council and volunteer conservation community groups were pushing really, really
hard to ensure that fire-fighting zones — the outer asset zones in particular — are not in reserves where they’re set up now. But even now that’s a difficult one ... You know it’s peoples’ safety of course that comes first, but it also goes for fire fighter’s safety as well (ACT Land Manager 10, interview).

After the bushfires of 2003, a change occurred in management priorities of nature reserves. These areas are now deemed bushfire protection areas in order to protect human assets. Consequently, major shifts have been required in professional values, objectives and priorities for some who manage areas of significant flora. Applying these changed planned fire regimes has been a confronting process for those who have attempted to maintain what may be seen as entrenched intellectual and professional positions. Human populations are having a direct impact on not just the quality of significant ecosystems, but the way ecologists must work, in terms of the confrontations virtually occurring in their own backyards. The shifts in policy to reduce biomass in Asset Protection Zones has ironically occurred during a similar time when the national biodiversity values of the Temperate Grasslands has become more critical due to ongoing loss through human activities such as urban development. This is a paradoxical storyline of accidental conservation, where both biodiversity values and human knowledge of these values increased through the establishment of the reserve system, but which now are perceived as a threat to the very people who want to protect them.

Analysis of the ACT case study interviews shows that people who had been closely associated with the preparation of the Strategic Bushfire Management Plans (SBMP) shared a greater respect for the need for planned burning and for one another’s knowledge and experience. As a result, compromises have been reached in order to apply changed management priorities, methods and approaches. This shift is gradually transferring across to negotiations with some land developers who have also compromised their designs as a result of the mandate to include Asset Protection Zones within the urban area, rather than in existing conservation reserves. Consequently, the SBMP can be understood to represent a unifying process of healing following the intense period of blame, loss and disruption.

c) The disconnect from the environment

Overview: Bushfire risk is presented in the narratives as something not fully understood, in part due to a belief that an outside agency will control the risks. Yet other forms of risk are
accepted without question by those living in these areas, such as daily life and health issues, or risks to biodiversity if impacted by what are perceived as negative management practices. As shown in the previous discussion of how people persistently live in close proximity to high fire risks, the disconnect from environmental responsibility is also a disconnect from history and time: ignoring the likelihood of bushfire represents a desire to experience an idyll while it exists.

The media effectively presents bushfire disasters to the broader public, but fewer residents are directly involved in experiencing bushfire. In a number of interviews regarding this environmental disconnect, Victorian land and emergency managers in particular provided accounts of how skills and volunteer numbers in Victorian volunteer brigades are actually decreasing in what are defined as high risk areas, despite the increasing population density in these areas:

*If you look at a landscape like the Dandenongs, with super high risk, there’s very little brigade activity. In fact if you look back to the 70’s, it’s argued that volunteers’ experience and capability to burn have gone down. And that’s probably a mixture of changing land-use, demographics, decline of rural use of fire; all sorts of factors have contributed to that. And yet in the Dandenongs perhaps we should have more capability, because that’s very high risk, difficult country (VIC Emergency Manager 1, interview).*

This phenomenon can be understood as a converse relationship between population, risk and active involvement in acknowledging the risks. According to interviewees the social-environmental disconnect in the ACT differs from that in Victoria. This is in part due to the associated culture of expecting government to manage risks, particularly those associated with fire, and also because of the urbanised population:

*In New South Wales and Victoria where you’ve got strong links to the land, people are very vigilant in those conditions. From farm machinery, all those sorts of things, and I think that can sometimes be lacking here because there’s that disconnect from actual land use, and actual land experiences, because you have got that defined urban edge. So we’ve got the greater urban area with whatever the population is, I think it’s 400,000 now or something in the urban area ... So, you haven’t got that mindset. It’s a more disconnected mindset from ‘every spark is a bad spark, and we’re not going to have any sparks today (ACT Emergency Manager 2, interview).*

This is an ironic situation, since residents have ready access to nature reserves and to planned burns. With such large numbers of people in developed areas on the fringes of
Canberra, the direct experience and sense of history related to bushfire, even that of the magnitude of 2003, appear to barely resonate with new inhabitants. A further example from an ACT emergency manager reiterates this observation:

I think as people [say] ‘oh, it won’t happen to me.’ I think particularly anybody who lives on the urban edge now, apart from the people in Duffy and O’Connor where they got absolutely hammered in 2003. But even then there are no scars, because everything’s been rebuilt. Often in rural areas, you can see the scars for a very long time; we could go to Kinglake today and you and I could walk around and almost see the fire reach and you would see an old chimney and you’d see the foundations of a shed in a paddock and things like that, but in urban areas, that disappears into the landscape very quickly (ACT Emergency Manager 1, interview).

The regenerative nature of the urbanised haven-bushfire interface, as noted in this interview, rapidly removes the physical traces of even the most recent bushfire history. Perhaps as a result of the rush to recover from the bushfire impacts, the physical links to dramatic and destructive environmental dynamics are transformed into a paradoxical appearance of predictability, hidden under the stability of an urbanised ‘haven’. It is in these haven-interface regions that it is also most difficult to undertake planned burning programs due to the risk, notification process and likelihood of objections.

As a consequence of a range of factors, complex contemporary social disconnects with the environment are amplified. A further irony is that the Bush Capital’s population and residents in areas on Melbourne’s fringe are perceived as being poorly prepared for bushfire despite their proximity to and pride in the bush. An interviewee discussed this issue in terms of the 2003 bushfires:

I catch up with a few of the locals over a few beers now and again. And one old bloke ... he’s probably in his mid-70’s [said], ‘Oh, it’s got me buggered what happened in there in town [in 2003]. If those people had gone out and had a piss out off their veranda like any other normal person, they would have seen it coming.’ And I thought, OK, yeah, he’s right; he’s dead right. And I remember saying to my wife after it all, ‘if people don’t understand their intimate relationship with the environment now, then they never will.’ And they didn’t. People were angry at the environment because it had done this to them. [The environment] is not necessarily benevolent, [but] I don’t think it’s out there to get us necessarily (ACT Land Manager 13, interview).

From this observation, it could be argued that the mythic haven landscape is perceived as a static experience, rather than one of dynamic and extreme shifts. The anger that many
expressed after the bushfires, in both case studies, contributes further to the desire to
detach from the perceived harm, and is a way that fire is anthropomorphised.
Anthropomorphised, emotive intrusions into the mythic landscape are associated with
environmental disconnects. They become magnified outside of the crisis phase because of
how people perceive everyday risks in their own lives. Risks, such as bushfire are rarely
prioritised over more frequent everyday risks:

*I’ve almost accepted the fact that people don’t plan for emergencies. There’s fifty
other things to worry about. We’re reactionary; we’ve got too much other stuff going
on in our lives; people are sick, people have got problems in the family and he’s
arguing with him and I’ve got to get Johnny to school. And we’ve got too many other
things to worry about. The scale of risk perception is highlighted by the fact that, we
don’t worry about getting in our car every day and [yet] we’re far more likely to be
killed in a car accident* (VIC Emergency Manager 3, interview).

This way of thinking persists despite the immediacy or seasonality of bushfire and
environmental changes. The resultant, and perverse, sense of detachment from the
environment is associated with the influence of the park-like landscape myth, which makes
for a very confusing and inconsistent cultural landscape to manage and with which to
engage.

The next discussion of a contradiction in the cultural landscape myth is associated with this
consequence.

d) There are inconsistencies between state and local government land management and
planning objectives in terms of how to maintain havens

Overview: Following catastrophic bushfire, historical notions of maintaining havens are
challenged. On the surface, it appears that inconsistent local government planning
establishes a confusing set of objectives that enables the haven myth to perpetuate. There
has been a tendency for local-level planning decisions to permit development in high fire-risk
areas, while creating unintended consequences for State and Territory government
departments in their management of bushfire and biodiversity adjacent to these areas.
Looking more deeply at these inconsistencies, there has been a policy shift that places
responsibility on individuals to be directly involved in risk mitigation for both bushfire and
biodiversity management. This is explained by the scale of uncontrollable human and
biodiversity losses shown in the two case study bushfires. Yet local-level policies promote
land use where both these losses will be exacerbated. This contradiction reveals how the myth depends upon reinterpreting facts to help support humans remaining in havens.

Both case studies indicate that it is not just cultural perceptions which influence people’s decisions and attachments to environments, but that planning and environment policies also have a role to play. The impacts change as policy changes, as described by a land manager:

[You] ask me what needs to be done: I think people will need to sit up and take notice of the research that’s coming out, saying, ‘are we prepared to allow people to live in these fire-prone regions’? I don’t think we should, really. Especially if like what’s happened now with the [NSW] Premier saying, ‘you can ... clear fifty metres into the bush.’ Well why do people move out into these places in the first place? Because they like the bush and now he’s saying, ‘get rid of the bush. It’s a danger. It’s a risk’. I would have thought the best thing to do is to say, ‘no, let’s not build into these areas.’ [It’s] still happening (ACT Land Manager 9, interview).

This policy example of cultural and political denial of the complexity of bushfire risk is associated with the belief that havens can be risk-free if vegetation is removed. Following the findings of the 2003 bushfire inquiries, a policy shift occurred in order to manage bushfire within the city’s extensive interface with nature. Consequently, there are conflicted outcomes in the attempt to balance biodiversity management with preventative measures regarding harm to humans within the Bush Capital. This situation is reiterated in the Strategic Bushfire Management Plan (SBMP):

Bushfires are an inevitable part of living in the ACT. Canberra is described as the bush capital for good reason with forest and grassland woven through its urban areas. ... living in the ACT means we live in or near an environment in which bushfire is a natural occurrence. Living in this environment exposes us to an increased risk to the effects of those bushfires. We have added to this risk by changing the nature of bushfire fuels in the landscape and by increasing the number of bushfires that occur. Climate change only increases this risk further (Emergency Services Agency, 2009b, p. 6 Minister’s forward).

Land and emergency managers face challenges directly associated with the reframing of Canberra as a fire risk, to better engage with citizens and bureaucracies about the consequences of developing the ‘Bush Capital’. In the Minister’s Foreword to the SBMP, the challenges are shared directly with the public by referring to the societal impacts on bushfire behaviour and frequency. The example above states that it is because people have
chosen to live in these environments that they must accept that fire is an inevitable part of this choice.

In the case of maintaining the Bush Capital identity — while an undisputed urban design concept — a far more conflicted understanding of this concept emerged following the 2003 bushfires. A radically changed physical environment has meant the city’s planning ethos has been complicated further by an increasingly urbanised population and changes in cultural values. Bushfire provides an opportunity to voice concerns about the incompatibility of merging the Bush Capital into a bushfire-prone environment:

*The disastrous event at the weekend dramatically illustrates the folly of importing a European urban design concept to fire-prone Australia. ... While aesthetically attractive, and pleasant to live in, it was a disaster waiting to happen* (Bullen, p. 24, Letter to the Editor, Canberra Times, 22.1.2003).

*If you build a bush capital bushfires come with the territory* ...(Hull, p. C1, Canberra Times, 25.1.2003).

Shifting social perceptions of the constructed Bush Capital haven in the context of bushfire impacts have been debated further in the media; the author below deconstructs the bush capital as haven myth through their criticism of native vegetation conservation:

*S ometime after self-government the name was changed to Canberra Nature Park. For some managers and environmentalists that signalled a philosophical shift in the function and meaning of the system. It became and remains a quasi-national park: a kind of ersatz wilderness where fuel-reduction burning and sensible management as an urban open space are compromised* (Taylor, p. 11, Canberra Times, 4.2.2003).

In this extract, rather than being revered for positive attributes for humans, native vegetation in the context of the 2003 bushfires is politically framed. A temporal shift in political and cultural understanding of environment is criticised as an obstruction to the ‘sensible’ function of Canberra’s public open spaces, and in doing so the author ignores the range of social uses and values people seek in natural environments. Taylor articulates the belief that some aspects of policy implementation are somehow expected to be historically static, that human responses to the environment should remain as a fixed interpretation of both place and environment.
Considering the contradiction further, in both case studies policies intended to manage fire risk in order to protect human life and property (and societal expectations to do so) are perceived by ecologists as perversely creating a worse fire problem. One interview explained it as:

[Regeneration after a fire is] probably no worse since year seven than it is now in year twenty or thirty. It’s just a perception I suspect, most of the time. There might be some change in veg structure, but again I’d like to see the science behind that, or is it just again, like a lot of things are, often driven by a notion. Is it any worse than it was ten or twenty years ago, just because it hasn’t been burnt for thirty, doesn’t mean it’s worse. In fact recently I had discussions with a couple of RFS people, who actually said to me, ‘well we now realise that burning grassy woodland perhaps isn’t a great idea, because it turns it into a shrubby understorey, which is more a fire hazard than if we just left it — as grass.’ Again, a lot of this stuff is done without any consideration into ecology, and what will be the succession; if you turn it from grassy groundcover, and relatively low biomass, and much easier to control to a dense shrubby understorey which is going to persist for probably twenty years, you’ve just created a worse problem. And then you’re locked in, ‘oh we’re going to keep burning.’ That’s I suppose why I do get frustrated. People don’t stop and think about what are the consequences of doing this? We might get rid of the grass now, but crikey in two years’ time we’re going to have all these shrubs! Which for a fire hazard perspective is going to be a higher risk (ACT Land Manager 6, interview).

This example reveals how the issues identified in the contradiction of the myth remove the scientific perspectives from particular agency staff in their management efforts. The unintended consequence described above is a worrying irony, particularly when it compromises agency attempts to redress impacts on, and by, humans.

The influence of subjective values on objective science, described above as notions, is tied to a timescale of immediacy as well as hang-overs from past interpretations of the environment and cultural influences; such decisions, critiqued by this interviewee, are made in order to create the park-like landscape. The tightly held belief that more fire will create fewer risks appears to be at odds with some who prescribe a ‘less is more’ approach. Some of the thinking behind ‘more fire is good’ stems from two contrasting cultural perspectives. The belief that more fire is better is closely associated with one version of the park-like landscape myth, where Indigenous Australians are believed to have used more frequent fire across many parts of the region, based on interpretations of early colonial settler and explorer records:
So what the explorers were seeing were signal fires from this group telling the next group down the line, ‘that there’s weird pale humans who have just been through our country and just about to enter yours’. That’s what the explorers were seeing. Now that, when you think about it, is basic science: Make sure the observer is not affecting the observation, or partially determining it ... So what was happening was the observers, the early explorers, were changing the frequency of fires and smoke that they were seeing simply by their observation of the landscape; the fact is that they meant more fires were lit as signals to the next black fella group down the line ... So that meant that a lot of those early observations about fire, you have to interpret them thoughtfully and with knowledge of the social context. ... we often interpret things very simplistically (VIC Land Manager 5, interview).

Described here as ‘simplistic’, the readings of these colonial records have provided considerable impetus for those who argue for increasing planned burning in a very different social, political and ecological context; white European males are interpreting the history of Indigenous cultural use of fire for the purposes of contemporary land management.

This process of embedding mythic aspects of the landscape into a scientific framing persists in terms of how these mythically benign landscapes have continued to be so highly valued. An example of the debate about maintaining the park-like landscapes is outlined below, where a landholder in a forested area near Kinglake cleared over 250 mature eucalypts from their property prior to 2009. The landholder was fined for illegal tree removal, and then the house was saved during the 2009 bushfires. Subsequently, the tree-clearance was interpreted by the public to show how they thought it was possible to survive such a catastrophe. Simultaneously, the way those on the other side of the debate were confronted by the incident shows how bush havens had come to be viewed differently as cultural and environmental values were adapted to new circumstances:

Conservation or council idiocy? It is constructive to debate the ‘what ifs’ — dugouts, flee or stay, clear or conserve — but what I find disgusting is to hear of Liam Sheehans’s battle with Mitchell Shire bureaucracy (Age, 12.2.2009) in implementing his own obvious fire defenses. To be victimised for clearing his private property of combustible material is just one example of the single-minded application of senseless rules by faceless petty officials who are never held accountable. These cowards hide behind their desks, long lunches and company cars and clearly enjoy making life difficult for ratepayers. Easy to say in hindsight, but may Liam’s survival when others perished prove the idiocy of conservation gone mad (Hartnett, 2009, p. 24, Letter to the Editor, the Age, 13.2.2017).

Live with the risk or leave — The Sheehan family and all those others who bought bush blocks presumably did so because they were bush blocks and they wanted the
ambience of living in the bush. So why do they then expect to have the right to cut down and destroy the trees and vegetation in order to build a house? Regardless of whether or not Mr. Sheehan’s house is still standing, he broke the law and rightly paid the price. If you don’t want to face the fire danger, stay away from the bush (Wheeler, 2009, p. 24, Letter to the Editor, The Age, 13.2.2017).

These two media examples exemplify the binary views of what havens now represented as the cultural identity of this type of environment. Adding to the confusion, the romanticised mythic portrayal of the bush haven prior to the Royal Commission shifted into a more emotionally-conflicted point of conjecture regarding how European Australians identified with, and perceived, the environment. Similar concerns were found in the ACT cases study narratives. Another role these narratives of blame had can be seen in the first quote’s reference to ‘faceless’ officials who harm innocent civilians. The depiction of government agency staff as ‘faceless’ is an important aspect of both this myth and the myth of ‘government control’, as it denies people with official responsibility an identity and dehumanises them even further during the moment of crisis. Public debate during this time framed agencies as liable for human loss. The timing of this type of public debate is important when considering the lead up to the Royal Commission.

In response to the public voices arguing for the need to control haven landscapes, the Victorian State government’s change toward enacting native vegetation removal regulations. This supports the cultural myth of colonial-era park-like landscapes; havens are where you can do what you like on your own property, and this is expressed as a twenty-first century version of the contrived estates created by newly arrived English colonial gentlemen. The comment above also articulates the narrative theme of ‘vegetation is a danger’ that re-emerges after each major bushfire. This frame is at odds with the ecological perspective that the more vegetation and species following fire, the better the environment. Because of the mythical link to the safety of open park-like landscapes, native vegetation becomes a focus for debating biodiversity conservation issues in terms of blame, and native vegetation is ultimately politicised as a danger to be controlled and removed.

The following interview suggests that some of this stems from what has previously been discussed by another ecologist, the misreading and misrepresentation of Indigenous fire so that it can be used as a political tool in order to introduce the controlled landscape:
There are many people who believe that the open grassy woodland environment is not only attractive, it’s natural. That this is because of Aboriginal fire, that’s the way Victoria was, and they’ve gone to these historical records and found the proof and written about it. They find historical evidence for their belief that, because of legislation, the Greenies and the bush, the trees have taken over what was a grassy system, a woodland system. So they’ll say, ‘we’ve got to reintroduce Aboriginal fire’, as one solution offered. ... So you see people hijacking ideas and historical records, just carried by their beliefs. But it’s not necessarily how the landscape is or was (VIC Emergency Manager 1, interview).

As this myth’s contradictions suggest, there are now a range of interpretations of what havens can be; avoidance of the controlled landscape is something people desire; or they want to create the contrived park amongst the remnants of forests and woodlands near major urban centres. As has been shown, however, bushfires become a turning point, and the landscapes become a scene for the negative and contested framing of native vegetation due to conflicts between changing perceptions of what a haven represents.

### Myth of ‘community’

**Summary of the myth of ‘community’**

The case study myths describe the bushfires typically as a metaphoric fight to protect civilisation, or national identity. The myth of ‘community’ comes into this, as defence is undertaken by volunteer heroes who encapsulate innate bravery and an ability to confront terrifying battles. The importance of the mythic community volunteer hero during bushfires is that the role resonates with public shock and fear of the unknown. The enemy confronting civilisation is fire of vast and seemingly immeasurable scale combined with ‘nature’s unleashed fury’. Protection from this horror is due to the skills and tactics of the heroic volunteers. Such a storyline sets up roles of ‘goodies’ and ‘villains’, that are typical of myth’s captivating power. The case study storylines that describe communities rising to meet the challenge helps makes sense (and bring logic to) an event indescribable and unbelievable. Classic mythic heroes help calm crisis events (Cuthbertson, 1975), and the volunteer hero is a useful example we can explore to enhance our understanding of the influences on broader community responses to bushfire and environmental management.

The case studies contain a variation of the myth, as listed below:
a) Community heroes are volunteers (ACT and Victoria);

b) Community heroes are needed to battle and confront risks (Victoria).

The myth is relevant to the ‘cultural landscape’ myth and myth of ‘conservation’ due to the strong presence of community which is protecting and articulating private land tenure management issues.

Background to construction of the myth

As noted in the methods chapter, myths express moral values that guide societies during moments of chaos (Cuthbertson, 1975) in order to prevent social disruption (Dundes, 1984). This particular myth forms an important aspect of such sense-making, as a guide for the public through historic moments of great social, psychological and political duress. The ‘community’ myth encompasses spiritual beliefs which the community seeks to uphold during the metaphorical war against evil that contrasts with those that, elsewhere, are broadly secular. Volunteer heroes help to protect what is understood as being civilised: national pride, private property ownership and regaining control of the environment.

Both case studies portray community members in the media as heroes, to honour and applaud their efforts in fighting the fires and defending private property faced during the crisis. The myth frequently characterises actors and storied elements in terms of nineteenth- and early twentieth-century heroes with the nationalistic attributes of Australian Infantrymen, or Diggers, as a battle-ready force (see figs 17, 18 and 19). The following examples from the media appeal to this national spirit using powerful metaphors, with imagery of brothers-in-arms and battles that make historical associations with World War narratives.
Figure 17. Promotion for Australia Day following the Canberra fires. The *Canberra Times*, 24.1.2003. p23.

Figure 18. An Aussie battler proud of their achievement after the 2003 bushfires in Canberra. The *Canberra Times*. 27.1.2003. p. 1.
Figure 19. Herald Sun tribute to volunteer heroes. A double page spread listing all the brigades involved in the bushfire battle (22.2.09. pp. 32-33).

News media is very important in disseminating and maintaining this myth since it is the main medium for vividly promoting the storyline where volunteer heroes confront the uncontrollable. The following examples from the Victorian media in 2009 show how the community volunteer hero role is actively constructed and retold in the media:

*Stories are emerging of incredible bravery and heroism, tales of amazing escapes from the infernos* (Editorial, p. 20, Herald Sun, 9.2.2009).

*Heroes and tears inside the inferno: As nature unleashed the full force of its fury, Victorians stood strong against the sheer horror of it all* (Dallinger, pp. 8-9, Herald Sun, 9.2.2009).

This type of dramatic narrative filled with metaphors emanating from a terrifying version of a boys own manual, where a sense of ‘daring do’ contributes to the impact of the myth. Research into media and disaster has noted the impact of exaggerated media discourse in broader perceptions of social crisis events such as bushfire (Hansen, 1991; Schauble, 2009b). In fighting the uncontrollable ‘forces of nature’ in 2009, the then Prime Minister Kevin Rudd appears to have encapsulated age-old religious beliefs when describing the nation’s experience of grief and shock after the firestorm when he said:

*Hell and all its fury has visited the good people of Victoria ... many good people now lie dead* (Rudd, quoted by Rule, p. 1, The Age, 9.2.2009).
The voice of an authority figure, such as the Prime Minister, helps to emphasise the metaphorical imagery due to the effective use of rhetoric. The language used by Rudd in articulating a response to a bushfire of this magnitude shows how the unfathomable relies upon references to what is founded upon culturally accepted moral norms to provide a sense of order. While many in modern society do not believe that an actual place called ‘Hell’ exists, the metaphorical association nevertheless provides people with visions of the underworld. Such descriptors become the accepted way for people to describe ‘reality’ because the repetition of this evocative metaphor frame appears to resonate with real-life experiences. Contextually, the media narratives integrate confusing, anthropomorphised metaphorical imagery in an attempt to depict the scale of the fire with images (fig. 20) and headlines such as:

*Inferno terrorises communities as it rages out of control* (Egan & Holland, p. 3, The Age, 8.2.2009).

The fantastic (as in fantasy stories) imagery of fire as an uncontrollable organism helps construct the need for the brave volunteer bushfire hero in the storyline in order to confront a societal fear on behalf of those less able. The sense of unreality exacerbated by the use of rich and dramatic metaphors, contrasts with the earthy, honest and innate bravery of volunteer heroes who help guide society toward an emotional and moral state of
control. The willingness of ordinary people to commit themselves to this terrifying task makes the storyline even more appealing.

Many volunteers depicted are masculine (see previous photos in figs 17-19), which creates an obvious comparison with war heroes in the newspaper visual imagery following the 2009 bushfires, particularly in the Herald Sun tabloid. The imagery is subliminally supported by text from authority figures such as the Victorian Premier:

*Amid our devastation, Victoria’s volunteers have risen heroically to meet the crisis. Help is at hand. We all grieve, but we will rebuild our communities. Tragedy has come to our state. Now, as much as any time in our history, our resolve as Victorians is being severely tested* (Brumby, pp. 20-21, Herald Sun, 9.2.2009).

Volunteer heroes are particularly depicted during the fire-fighting phase, embodying desired societal attributes to confront risks. Government (that is, paid, rather than volunteer) fire fighters are obvious in their absence in media coverage, despite their professional roles being a feature of the management effort.

*VIC Land Manager 9*: Oh but [volunteer fire-fighting] is a great story though. You know that’s the stereotype of the Aussies: The volunteers that keep this show alive. You know, who do so much. It’s a great story. You know, we volunteer heaps! Whether it’s neighbourhood houses or, op shops, whatever!

*S*: So you think it’s the volunteering factor?

*VIC Land Manager 9*: Oh yeah! Oh I reckon, but there might be other things on the go. But I mean, just the fact that someone’s giving their time, and effort to fight a fire, hasn’t got the same story as someone who’s getting paid to do it.

Following the interviewee’s reasoning, the cartoon below extends this perspective by showing the media’s emphasis on volunteers as heroes:

*Figure 21. CFA volunteers depicted as having superhuman qualities. Herald Sun cartoon, 10.2.2009. p. 26. (ROY, 2009)*
Fire is presented in the media as a ‘battle’, and thus relies upon war metaphors and the history of Australians-at-war to help define community responses which centre on hero roles, and a sense of individualism, to support national spirit. The bushfire event is also referred to as a ‘tragedy’. Bushfires, as tragedy, can thus be seen to have formed a continuum of challenges throughout history. Tragedies are synonymous with myth, according to Hillman’s observation, since they are ‘often awash in excess’ (in Slattery & Slater, 2008, p. 166). Considering the tragic-mythic association, societal learning can be understood to emerge from tragedies. Catastrophic bushfire events are also defined as tragedies because of all their turmoil, excess in emotion, environmental changes and vivid storied accounts. These events also become culturally defining moments, as described below:

*Picking up the pieces of a city’s broken heart: Stanhope says Canberra will be forever changed by the events of last Saturday, but work must continue on rebuilding the suburbs devastated by the fire ... But some good has come out of the tragedy, with our sense of community strengthened ... [Stanhope says] ‘And our commitment to Canberra is something that shows a level of spirit and a level of resilience and a degree of strength that will be with us forever. ...it can never after this ever again be said that this is not a city with a large and powerfully beating heart and a deep and clear soul’* (McLennan, p. CS, Canberra Times, 25.1.2003).
The Victorian case study provides a complementary understanding of the myth of ‘community’. Differing from the ACT case study that centres on the Bush Capital setting and its consequences for the population, the Victorian case study’s hero in the myth of ‘community’ is influenced by the context of large tracts of Mountain Ash forests, which are a cultural icon. These forests reflect a Western belief in human command over nature, juxtaposed with the emergence of the nature conservation movement, landscape art and tourism (Bonyhady, 2000; Griffiths, 2001; Hansen & Griffiths, 2011). The volunteer bushfire heroes of the Victorian myth resemble the bush-men of the nineteenth-century forestry stories who ‘tamed’ the landscape, as well as reflecting strong associations to World War 1 Australian Infantry Force soldiers.

**Summarising the myth’s storyline and narrative themes**

The narrative themes are strongly aligned with moral values and social hierarchies, such as good fighting evil, and masculine strength which is needed to confront risks. Hence, expectations of atonement and redemption are presented to the broader public using numerous media examples. Volunteers assist in righting the wrongs of nature and confronting the beast which exists within, and which feeds off public land reserves (as described in the account of the myth of ‘conservation’). A narrative theme of blame is linked to this myth following the high levels of public anger and shock expressed at extremely high levels of human loss. The emotional responses facilitate broader public discourse not only linked to the contradictions of the myth (discussed below) but also to other associated myths of ‘government control’ and ‘conservation’.

**Contradictions to the myth**

*The alternative, confusing storylines that exist alongside the hero myth contradict the notion of heroes and brave deeds. However these contradictions are also at times at odds with one another, increasing the degree of confusion associated with the portrayal of ‘community’. Subsequently, these contradictions form important contributions to the paradoxes of controlling the uncontrollable, learning from history and perceptions of risk.*

a) Community is presented as being complacent;
b) Communities present different and complex narrative themes which do not blame and are apolitical;

c) Who is community?

Articulating the contradictions:

a) Community is complacent

Overview: The broader community is criticised for being ill-prepared for bushfires, and for making choices that place them in danger. It is believed that these people expect to be rescued by authorities or by rugged volunteer heroes. They can be framed as anti-heroes to the cause; vulnerable, naive and often described as being urbanised and out of touch with the bush. As a consequence of moral claims that call for a strengthened authority to manage and remove risk, the community is perversely given authority to become further detached because risk is aligned with a bureaucratic organisational process.

As noted, the theme of brave communities is confused by an alternative storyline that portrays communities at risk as complacent and ignorant in the sense that they lack long-term understanding of the risk of bushfire. This alternative storyline is identified in the reflections of agency staff, policies and some news media, and suggests that the community has not learnt how to live in the Australian environment. The alternate storyline is particularly strong in the ACT, due to associations with the urban nature of not just fire management in the ACT data, but the perceptions of there being a designed and therefore a controlled form of nature placed around the Bush Capital (see ‘cultural landscape’ myth). Such criticism of community even comes from those within the community who are understood and respected as heroes, frequently from the bush, or outside urban areas of the ACT and Melbourne. The following example of criticism from the Canberra Times is from a respected volunteer firefighter:

This old man from Tharwa’s nobody’s fool: Val Jeffrey knows what he’s talking about, yet few people, except for those in his village, heeded his warning about the blaze....The many reports into local fire practices which have been dusted off in the past week show he was not alone in considering the danger. But, Jeffrey believes, a complacent populace thought little about it. ... ‘People get complacent about these things, and you lose generations of knowledge’ (2003, p. 8, Canberra Times, 1.2.2003).
It is possible that such an environmental disconnect is affected by the limiting types of roles available in the myth’s storyline, thus, the myth is complicit in providing the authorisation to be complacent. Interviewees in both case studies noted that what the public has learned from experience is that someone will come to their rescue. The myth authorises this thinking since according to the storyline, volunteers throughout the community are portrayed as fulfilling the need of being rescued. The following example from an interview describes the domestic nature of fire management in Canberra:

> People still absolutely feel that [emergency services will turn up to help the public]. Because...we do that 99.9% of the time, we set that bar.... People have no contact with emergency services and then a whole lot of fire trucks turn up and ambulances and police and by and large do a pretty good job; everybody in that street just sees this amazing machine, as in the combined arrive, make it better and go again, because that’s most of our work (ACT Emergency Manager 1, interview).

With such an increasingly domesticated character of peri-urban or bushland-suburban interface areas — particularly in the ACT that has a Bush Capital identity where the interface of well-vegetated areas meets domestic space — it is fitting that the metaphoric concepts referred to in this example are described in terms of being part of a well-functioning machine. In the Bush Capital there is also the belief that the reserves are part of people’s homes:

> You get some middle-Europeans who back onto a reserve and then are petrified of it, what comes out of it; you know, snakes and fire and things like that, and try to get it modified. Other people want nothing to happen outside their back fence, and for a lot of them, that nature reserve is an extension of their backyard; anything that happens over the fence, on our side of the land, they have a fundamental right to challenge that (ACT Emergency Manager 12, interview).

As a consequence, understanding the scales of fire and risk may also be confused with a sense of creating a secure domestic space. However, in terms of the final and enormous toll on human life and property in these two cases reflections in other media pieces express frustration at the historical precedence of communities’ inability to learn from their past:

> ... the benign past has gone forever. We should not applaud as ‘heroic’ residents who — ignoring survivor’s reports of massive firestorms exploding like nuclear bombs — say: ‘I won’t be beaten. I’ll stay and defend my home.’ Like Gallipoli, a retreat from an impossible mission can be honourable and save lives. If we accept the reality of the new world order we will not rebuild settlements in forests. The 1939 and 1983
fires should have told us that. Let us learn from history ... (King, p. 11, The Age, 14.2.2009).

The example above manipulates the myth’s reliance on war analogies and metaphors for framing societal learning, by offering a metaphoric blameless, diplomatic retreat from the war-torn forests to maintain societal and individual honour. The metaphoric ‘new world order’ of climate change is something that surpasses human capabilities in its magnitude: climate change is depicted as a ruling agent that has contributed a level of ferocity that no human tactics can defeat.

Other authors in the media also consider more broadly the contradictory social aspects of history that are at stake. Some examples of the contradictory storyline present complacency as a form of forgetting the disaster:

Similar words have been written after each serious fire event in Victoria’s history. Intentions are good. They’re always good. But the paradox is that after a calamity comes a period of forgetting, rebuilding and selling out. New people move to the area. The following fire seasons are less severe. Complacency sets in. The cycle is repeated. After five years, the status quo has pretty much returned. All this in place for the next major calamity, with deaths (Incoll, 2009, pp. 22-23, Herald Sun, 16.2.2009).

This raises issues that confront how the emotion-laden human-bushfire learning cycle reflects a societal expectation that, somehow, learning from history should be achieved because humans have the capacity for being clever and logical; they should be able to circumvent the repetitious, inherent ‘status quo’ of complacency. As Incoll suggests, ‘forgetting; as the historical precedent is a paradoxical, but deeper means to recovery. The following also reflects on this process of needing to forget:

To describe some of the things we saw on Black Saturday. So it has happened before, but that tendency, well people want to ask that question, ‘had it happened before? Is it a freak?’ And almost by asking the freak question, if it is a freak, ‘oh good, we can just leave that and go on with our lives as if it won’t happen in our life time, or may not happen again. Because it’s an out of the boundary, [an] outlying freak’. But the reality of course is fire is natural. And inevitable and not something you can class as a freak. You can’t turn it into a demon or a person, it just is. That’s getting extremely esoteric. But it’s that helplessness you get when you can ah park it in a ‘freak’. People search for meaning of course don’t they: A fire experience would be so horrifying, so traumatic, that you are actually defending your home or waiting at home. It touched
everybody, Black Saturday. And you want to make sense of it somehow, an explanation, a cause. Sometimes you’re looking for blame, I don’t know, but meaning-making. Maybe it’s easier to blame, blame the bush, blame the greenies. Ah, [I] don’t know. But it’s driven by wanting to make sense of what’s happened to you, the unfathomable, the amount of pain you’re suffering (VIC Emergency Manager 1, interview).

As described here, forgetting is understood to be mixed up in themes of blame and applying powerful metaphoric categories to the experience. Hence, the fire experience becomes what could be understood as a perverse societal learning; when in a state of grief and desperation the fire is framed as abnormal, an aberration. The metaphoric term ‘freak’ has connotations associated with a being that is unusual and unpredictable, something to lock away out of sight. This example shows how fire is literally demonised, and those who fail to control it are blamed for releasing this harm onto the community.

The persistence of perverse public perceptions of risk in a mythic, controlled environment perplexes some agency staff. In the interview below an emergency manager describes a distorted sense of urgency that a new mother experiences to care for their infant:

I attended my local community fire guard meeting ... the summer before and I looked around the room at one of the [residents]. There was a lady and her husband there with a very, very new baby, and she was ... saying, when we were talking about leaving [if a bushfire approached], ‘but, how — how would I leave? When would I leave? But, I can’t just leave my house; I’ve got a young baby. A really new [baby]'. And I thought, isn’t that the reason you’re leaving? (VIC Emergency Manager 3, interview)

This indicates that longer-term contextual considerations of where people may live, or the need for seasonal bushfire preparation to be able to protect the infant, are not considered in the same way as day-to-day survival. Such examples provide a cue to understanding how people give priority to risks which they perceive as temporally closer over those perceived as more temporally distant.

b) Regenerative storylines of communities lack heroism

Overview: Members of the community who contribute to the regenerative storyline, in contradiction to the myth of ‘community’, use a different metaphoric and symbolic vocabulary to represent their experiences of bushfire and the Australian environment. These storylines emerge following the fires and record the tragedy from another perspective that
acknowledges the regenerative forces of nature for human and biophysical healing. These alternative storylines are apolitical and therefore blameless.

The presence of sculptures memorialising the case study bushfires, provides a storyline that contradicts that of the mythic community hero. Bushfire memorial sculptures are distinctive because they lack reference to battles or heroes, and they avoid associations with the over-riding presence of war metaphors that are so widely used to describe the event. The themes depicted sculpturally are instead nuanced in their descriptions of deep connections with the environment; the power of regeneration and acceptance of change is frequently depicted, and is shown in the images throughout this myth contradiction. An example of an evolving living sculpture is the establishment of the National Arboretum on cleared hills in Canberra, which had been once covered in pine plantations burnt in 2001 and 2003 (Figs 23 and 24).

Figure 23. Sculpted slopes at the National Arboretum: View east to city centre. Photo S Strong.
Established in 2006 following a competition to redevelop the former forestry site, landscape architects proposed a decorative forest of one hundred species of ‘rare, threatened and symbolic’ trees in one hundred forests on sculpted hills (Friends of the National Arboretum Canberra 2015). According to an interviewee the vast landscaped Arboretum has been:

... very controversial. Still [is], in conservation groups, because it wasn’t allowed to go back to native revegetation. My personal opinion, and I tell everybody this, it’s better ‘than houses. ... [The Chair of the Arboretum] ... says to me very kindly, ‘you have your forests, and I have mine.’ So I’m very aware of the role that it plays for a lot of people ... They are people who are absolutely passionate about the different varieties of trees, and they want to tell the world about how special it is. And I have a real appreciation of what that means to the community. The Chair [of the Arboretum] has taught me a little bit of humility around this ... it plays a very important role I think. It’s not the bush and nobody pretends it is, but it is a place that has become open to Canberra, you don’t have to go up on top of the Tower now to get a sense of the city. It’s huge so I think it’s not an opportunity wasted, it’s an opportunity used differently. And we’ve got to do that, I think. It’s not all about putting things back the way they were ... (ACT Land Manager 1, interview).

As the artificially forested landscape grows, it symbolises and celebrates an historical human connection to trees. Ironically, the site was designed as a cultural celebration of the city’s treed ridgelines, retaining faithful (and the restoration of faith) to the original Burley-Griffin
concept of a century before. The controversy continues to evolve, in terms of not just planting exotic trees back in a radically transformed, burnt landscape, but maintaining the ecological role of the landscape as a cultural construct. Thus, the arguments are social, cultural and ethical, rather than political. As a paradoxical national storyline, the Arboretum also expresses a sense of hope; of the continuation of life within more domesticated landscapes abutting forested ecosystems.

Community sculpture has been used in a memorial park at Mount Stromlo, designed specifically to honour the human losses of the 2003 bushfire in the ACT, and consequently it functions as a representation and symbol of learning through memorialisation (Pfister, 2015).

Figure 25. ACT Bushfire Memorial Park at the Cotter Dam showing coloured Perspex photo shards. The photo shards depict a range of images referring to the fire-affected communities, collected from surviving copies of photos from the community. Photo S.Strong.
A central component of the sculptural park at the Cotter River, a site severely burnt in 2003, contains several steel-framed shards or pillars surrounding a reflective pool (see figs 25 and 26 above). The collage of residents’ photos within the shards contain many different faces and places from the everyday, suburban experiences residents later treasured; the collage represents multiple perspectives and framings, both significant and ordinary moments which portray social and domestic scenes in time. Heroes are again absent. The collage provides the visitor an insight into the variability of communities, and captures the diversity of personal histories. While the images are framed within a metal structure, what they depict is not static, since many images portray a dynamic progression of time and generational change.
At the entry to the park two curved brick walls (see detail above, fig. 27) express community learning in a number of ways. Bricks hand-etched by residents provide various themes to memorialise their post-fire learning experiences:

**Knowing neighbours and connections with others**: ‘Nothing is permanent but love and kindness endure’; ‘I now know my neighbours!’

**Valuing the components of familiar landscapes**: ‘Burnt pine leaving a scent of nature’s own’; ‘The memory of the trees’; ‘I miss the lovely blue mountain forest, I miss the wildlife’; ‘We miss our pine forest’.

**A place to mourn lost pets**.

**Positive learning**: ‘Not victims, survivors; ‘We all help each other’; ‘Shit happens’; ‘Renewal to a better place’.

**Opinions of fire management**: ‘Luck beats management’; ‘Thanks to all who helped us recover from our day in hell’.

**Recounting the day**: ‘Screaming wind, red darkness’; ‘It’s raining fire’; ‘The power and the fury’; ‘Terrified, Devastated, Empty, Numb’.
Some simple statements about feelings from the day elicit permanent reminders and memories of fear and loss, and they contrast those statements which look ahead in time. There is no heroism portrayed in these messages and reflections, unlike the depiction of heroes in media. Reflecting upon the imagery and statements memorialised in this sculptural park, it appears that at the point in time when the sculptures are constructed, the reference to heroism was either not needed, or perhaps it did not sufficiently encompass the community’s efforts to rebuild. Heroes may also be a distraction to the effort required to rebuild and reconnect with place. While the hero myth is repeatedly used in the media, for communities there seems to be a time and place for their cultural storytelling.

Additionally, by using bricks sourced from the fire-affected suburbs, the construction of the wall symbolises houses lost in the firestorm and rebuilding of homes in a coordinated recovery effort that represents reflective societal learning. Being constructed of brick, this long-lasting material will provide a story for visitors to reflect upon for many years, even if the story-tellers’ histories develop and progress over time. These stories suggest a human desire for permanence and connection to a place.

The Victorian settlement of Strathewen was severely affected by the 2009 bushfire. Twenty-seven people died from a community of a little over two hundred, and the media proclaimed that it had become ‘the valley of death’ (see fig. 28 below):

Figure 28. A graphic headline in the print media. Herald Sun, 10.2.2009. pp. 8-9.

Repetition of particularly evocative phrases is characteristic of myth, and the example of the ‘valley of death’ (underlined, emphasis added) is found from an early twentieth-century manuscript that describes the impacts of a bushfire on the bush:

The cool gully was gone, in its place was a valley of death where the ghastly, blackened gums stretched their bare arms up to the sky as tho’ praying for mercy.

(McGrath, 1918).
Intonations such as this embellish the storylines of myths, and when combined with graphic imagery as in the media, different interpretations and ways of interpretation become difficult. The resonance of such archetypal symbolism makes myth a powerful element of environmental crisis paradoxes, and the examples below show particular determination to confront such symbolism.

Contrary to this image, the following examples of community sculpture from the region defy and challenge both this description and the heroic myth.

![Strathewen’s Blacksmiths’ Tree memorial to the 2009 bushfire. Photo S.Strong.](image)

A public memorial in Strathewen in the form of a sculptural eucalypt tree (see fig. 29 above) dwarfs the human form. Forged steel sections were constructed by many blacksmith volunteers from around Australia and the world before being assembled on site in 2012. Messages from community, family and friends are embossed onto individual leaves. They are out of reach to the viewer and seem to be intended for spirits elsewhere, and for the powers of nature. The steel Blacksmith’s Tree reflects a form of societal learning that
symbolises life, and a sense of permanence. In the context of bushfire, the sculpture (and its construction) represents complex, ironic human relationships with trees as a life-giving force, just as trees are described in the myth as a destroyer of life. With juvenile regenerating eucalyptus trees rustling nearby in the wind, this tree is profoundly silent. Gothic in scale, mood and symbolism, the tree is awe-inspiring; evoking the awe of early colonial bush explorers coming across giant Mountain Ash trees which grow close by. Like the mosaic letterboxes below (fig. 30), this sculpture is solid, fixed to the earth and carefully and discretely located in a special place within the community.

Figure 30. Strathewen mosaic letterboxes; Roadsides are dotted with individually designed mosaic houses amongst the regenerating landscape and settlement. Photo: S Strong.

In contrast to the gothic scale of the *Blacksmith’s Tree*, numerous residential letterboxes (see fig. 30) along roadsides provide a rich metaphoric narrative which reflects, and challenges, perceptions of community learning after repeated major disasters. Built shortly after the fires, the community letterbox project brought together residents who were returning to a stark landscape; the colourful mosaics provided a signpost of creative joy and communal bonding to the properties being rebuilt. Birds, flowers and other treasured landscape elements are depicted as a welcome. There are few, if any, humans represented in these whimsical depictions of domestic space; instead houses are literally wrapped in nature. Mosaics reflect the fracturing of communities and environments following major
disasters, but also reflect the reconfiguring of place that follows, where communities and environments regenerate and return to a whole. These small-scale memorials signify the community’s acceptance of, or even defiance toward, risks and attachments to the environment, by rebuilding homes so soon after the bushfire. Additionally, the individual sculptural memorials defy the official recommendations of the Royal Commission that the State government buy up such high fire-risk land. The sculptures thus raise questions about whether such landmarks represent complacency or a richer form of societal learning. The dominant storylines of regeneration challenge the evilness and destructiveness of the fire demon.

Figure 31. King Parrot Creek ephemeral sculpture, Kinglake West Primary School students, 2011. Photo: People and Parks Foundation.

Figure 32. King Parrot Creek ephemeral bridge sculpture, Kinglake West Primary School students, 2011. Photo: People and Parks Foundation.
The transient and dynamic nature of landscapes — such as the cultural, emotional and physical aspects — was explored in a school student recovery project near Kinglake, another town severely impacted by the 2009 bushfires. Ephemeral sculptures (see figs 31 and 32) were installed in a fire-affected creek, blending materials found on site with colourful soils. The project was designed to help school students reconnect with an environment that had such visible changes and that produced tremendous impacts on their community. Supported by Parks Victoria and People and Parks, the students not only made art, but they explored new ways of learning about the environment. The process of making art was a way to gain confidence about living amongst nature.

In contrast to the storylines of the myth, which limit roles and human attributes required to live with fire, the sculptural narratives present far more detailed and nuanced community perspectives. Ranging from the grandeur of the Blacksmith’s tree to the minute details of mosaics, each emphasises connectivity with very intimate places and extremes of environments. These storylines defy logic, but they represent deeply personal ways of learning from disaster, as well as expressing life-long learning.

c) Who is community?

**Overview:** The hero in the myth of ‘community’ constrains community voices into a role that denies other ways of describing the bushfire experience. As members of these communities, land and emergency management staff voices are absent, despite their role in fire-fighting and post-fire management operations in fire-affected communities and work places. Their learning is therefore hidden from public view and regeneration storylines, as noted in analysis of the previous contradiction, above.

Exploring the alternative storylines within the myth demonstrates how highlighting and challenging the hero role within the myth is important to give voice to actors who are otherwise left out of the central storylines. Those left out are mostly women and children, who are frequently portrayed as victims, and government fire-fighters, whose stories and images are frequently absent. Exploration of the media in both case studies shows that these government-employed fire-fighters are not portrayed in the Victorian battle scenes at all, and in a confused representation in the ACT. The nuanced implications of this omission
are that if agency fire-crews are not part of the visible battle force, they are not presented as assisting in the protection of human lives and property at a time of explicit need. They are literally invisible in the representations, so do not form part of a mythical solution to an extraordinary problem. As shown in other myths, such as the myths of ‘conservation’ and ‘government control’, agencies are represented as part of the problem, due to their affiliation with the dangers of the uncontrolled environment and its management. Many of the agency fire-fighters lived amongst the fire-affected communities and lost property, friends and connections to their communities. But being part of the agency, it was difficult for them to express these feelings:

*I knew people personally who’d died in the fire, so to have gone through that yourself, is a very big emotional experience. I have no criticism of people being focused on themselves, coming out of the other end of a fire like that. If you can sit down look them in the face, and tell them, ‘I really do feel what you went through, not as deeply as you did, but I feel a little bit of that, that makes such a big difference. [As an agency] we don’t do that* (VIC Land Manager 5, interview).

Considering this sense of disconnect in Victoria, it may be that participation at close community levels may be difficult for some agency staff to undertake, due to the influence of the redemptive-atonement roles prescribed for government in a range of myths (particularly the myths of ‘government control’ and ‘conservation’). Many narratives blame government agencies for failure, hence staff are implicated in this lack of ability to control the losses.

In contrast, some ACT staff were able to articulate their perspectives in a more accepted forum than Victorian agency staff:

*A lot of the anecdotal stuff [concerning post-bushfire anti-tree planting anger following the 2003 bushfires] I think was off-track a little bit. I was quite happy to stand up ... and relay my point of view. And there was a lot of, as you no doubt know, there were a lot of those conversations. And public meetings and emotions were very, very high. And I fully understand that’s where people are coming from. Like ... my own home was [affected by the fires] as well. So I could look at it from most of the different perspectives* (ACT Emergency Manager 3, interview).

The ACT is described by a number of interviewees as being a smaller and more networked community, and this situation may have assisted their ability to contribute to the post-bushfire public conversation. In addition, the *Canberra Times* presented articles and letters
concerning the trial-by-media that the then Territory Chief Minister Stanhope was enduring; by choosing to accept ultimate responsibility, Stanhope sacrificed his professional reputation, and he continued to be publicly blamed for the fires:

![Newspaper headline, Canberra Times, 1.2.2003, p. C5.](image)

*Figure 33. Newspaper headline, Canberra Times, 1.2.2003, p. C5.*

*The zeal of the ACT Chief Minister, Jon Stanhope, to protect the reputation of ACT emergency services officers is commendable, as has been Mr. Stanhope’s own willingness to accept ultimate responsibility for what occurred on Stromlo Saturday* (Editorial, p. 14, Canberra Times, 21.2.2003).

This narrative of atonement may have helped to deflect blame from other staff, whereas the situation in Victoria seems to have been much more challenging when local agency staff were represented by the hostile media as just as culpable as their leaders:

*One point you made before about the code of conduct, and the confidentiality and what you feel and what you do. I remember bumping up into that after Black Saturday with the Royal Commission, in that the Herald Sun stuff, we were getting, you know...this [media] stuff that was clearly, clearly, just wrong, wrong, wrong, wrong, wrong. You know, someone’s just off and running and they’re loving it. And I remember ringing up [the media communications manager] ... And I tried to say, ‘what do we do about this?’ Because the feeling was like, injustice, absolute injustice, you know. They’re getting away with murder. ‘Code of conduct’ [were] his words: ‘take a number. Get in queue. Sorry mate, we’re not doing anything. You know, we can’t. We’ve got to let the Commission run its course. We can’t be seen to be reacting to loose cannons in the community’. And there were plenty of them. So that was interesting for me. There was a very strong feeling of non-recognition, and, and wrong recognition; for my crew as well as for myself personally. Because I really thought the crew that we had that day just did incredible stuff... For me I had a very strong feeling, an emotional perspective, to tell the story and I couldn’t and I was quite gagged* (VIC Land Manager 9, interview).

The pervasive impacts of being ‘gagged’ when confronted by false media representations created great distress among staff within fire-affected communities; without recourse due to public service codes of conduct, these community members inevitably faced tough,
solitary lessons, disconnected from the communities in which they work and live. The repercussions of this are noted after a long-lasting fire event in a remote part of Gippsland during the summer of 2013-14, described by an interviewee. The changed relationship between the agency and local communities is believed to be a consequence of organisational restructuring and reductions in locally-based staff:

S: So that negative local media coverage [about the agency] was to vilify the Department?

VIC Land Manager 8: Yeah, really mythological stories about you know, ‘DEPI packed up at five o’clock and went home and like the fire ran through this, that or the other thing.’ You know all of that sort of stuff, which really is for some [DEPI] people quite heart-breaking, because they put their blood, sweat and tears into, or some of them, practically put their life on the line to fight these fires. And it’s completely unacknowledged and the reverse.

S: How on earth, — you wonder how that relationship turns like that and gets –

VIC Land Manager 8: ...so bad

S: Gets so bad and gets presented in the media as a way of articulating that.

VIC Land Manager 8: I think we’ve sort of talked about it as being a really slow decline; the fact that over time, more and more of the DEPI staff, and the same with Parks Victoria, they’ve gone back to the centre [regions of the state]. There aren’t people in those towns, and all of that stuff, like it actually has a very powerful effect on ...

S: ... It gets back to what you were talking about before.

VIC Land Manager 8: Yeah, and so this is a symptom of a lack of relationship, a lack of trust, which comes from that — the way that it becomes manifest is in, I don’t know, something [like the] media. I just find that to be, what do you call it? I don’t know what you call it, ‘the thing that happens when there’s nothing left’ or something like that! Or the way of relating when there’s no longer a relationship ...

These reflections describe how sharing a physical space also helps develop a form of shared ecological knowledge between agencies and communities. Yet without a voice, the learning post-fire is hampered and literally ‘gagged’; only selected voices are heard and respected. To explain this concept further, the next example shows the experiences of local staff during and after a bushfire, and also provides an understanding of issues when staff live and work locally, particularly in how they relate to people in times of stress. The extract refers to
community fear of trees after the 2009 bushfires:

VICE Land Manager 9 ... there were aspects of: ‘If it wasn’t for this vegetation, we wouldn’t have had such destruction.’ So and I think -

S: When you say ‘this vegetation’...

VICE Land Manager 9: The National Park.

S: Do you mean the type of vegetation or just the fact that it was a Park?

VICE Land Manager 9: The fact that it was a Park, and it burnt so severely. I think there’s an aspect there that just where people are at emotionally looking for blame, looking for causes, looking for answers, um and it’s pretty clear that you know that looking around at what was the forest, the [trees] were just black and charred; that if they weren’t there, people wouldn’t have died. You know, I think that was kind of the logic. Right or wrong.

S: That people had constructed?

VICE Land Manager 9: And I think this is maybe a bit more in the realm of males; I think the feeling of impotence, of not being able to do anything, because there really wasn’t a lot to do for a lot of guys. I mean I was lucky, I had a crew, we had thing — when I looked at what was going on with some of my friends and people in the community I just often felt really, well I had something to do. They, well, all they could do was run. I think for the male it’s hard, it’s hard for anyone, and blokes — [normally] you were out doing stuff and protecting, and you know there wasn’t a lot of that going on. Some people did, and they stayed and fought and protected their family and their house and that, but for a lot of guys it was just get the hell out of there and so, I think there’s a bit of anger and shame in there.

The reflection above corresponds with the media’s distorted emphasis on heroes, presented in a myth that is gender-biased and nationalistic, leaving little in a storyline for those falling outside these attributes. A range of land management agency interviews also articulated the occurrence of ‘macho’ attitudes that extended to the fire management agencies. The following reflections were provided by male land managers:

I don’t know what it is about fire. I don’t know whether it’s the same in the military, but there’s all this macho bullshit that happens with people banging chests all the time and it ranges from — it’s not always the case in all teams; I’ve worked in some really good teams. But you know, there’s always these extremes of people who don’t seem to care at all, and there’s people that need to have an opinion and express it just because, I don’t know, they’re more senior than you are ... (ACT Land Manager 13, interview).
I remember one of the guys there says [before we lit a planned burn] — and excuse the French — it was just that really macho almost like a misogynist kind of thing, ‘let’s put the red steer into the beast,’ or something like that. ‘Let’s stick it up ‘er!’ I was, I found it really offensive as it was like, ‘Get the fire in it, burnt the c*** ... Fire’s there [as] it’s my tool of destruction and control’ (VIC Land Manager 9, interview).

There is evidence that such gendered roles are found in nineteenth-century depictions of the forests being not only the realm of men, but trees were also bestowed a masculine nomenclature. The giant Mountain Ash trees were honoured as heroes of the past by the photographer Caire (Bonyhady, 2000), given god-like names like ‘Hercules’ and noble references such as ‘The Cumberland Giant’ and ‘Edward VII.’ Even the Latin name for the Mountain Ash, *Eucalyptus regnans*, or ‘King’ of Eucalypts embodies the masculine and heroic stature of forests:

> For Mueller the immensity of the mountain ash confirmed not only that the products of the New World eclipsed those of the Old but also that nature was greater than culture ... Through the 1870s and 1880s into the early 1900s, the most powerful speculations about the deep past in Australia were inspired by the ‘patriarchs’ of the forest (Bonyhady, 2000, p. 253).

In such a context, for nature to be appreciated it appears that big things signify something to be mastered and that is noteworthy; the felling of Eucalypt trees represents the ultimate expression of this control. The Strathewen Blacksmith’s Tree challenges this depiction with irony: the grand scale of the man-made tree emerges from the ashes un-fellable, immovable. Battling the big bushfires in a similar way denotes men’s ability to master the extremes of the environment. And yet while the apparent need within social structures for a hero role is embodied in the myth, a contradictory way of seeing community is presented to another audience, as expressed in the subtlety and quiet narrative of this tree; each differs entirely from the other, and worryingly, with no overlap in storyline to allow a sense of mythical continuity.

The contradictions described here contrast with the unhelpful, static roles involving masculine heroes and related responses to natural disasters, encapsulated in myths. As shown above, these images and roles have been perpetuated over a long period. As a consequence, the societal learning encapsulated in the myth contributes to a limited cultural identity.
Myth of ‘conservation’

Summary of the myth

The conservation myth is derived from three case-study myths that follow similar narrative themes and have related storylines. Myths a) and c) are found in the Victorian case study, while myth b) is from the ACT.

a) Conservation of native vegetation creates environmental risks that threaten human safety;

b) Native vegetation needs to be controlled to protect humans;

c) Green political influences exert too much control over native vegetation management policies.

There is an emotionally charged belief associated with the issue of controlling fire and fuel, that conservation of native vegetation is associated with causing harm to humans. The myth’s storyline develops this way of thinking during the aftermath of the bushfire crises, when believers in the myth apportion blame through the negative portrayal of people who support, and are involved, in biodiversity conservation. The myth group’s storyline depicts conservationists as controlling the reduced level of planned burning on public land, resulting in the creation of high levels of bushfire fuel. People actively shape and promote the myth in public spheres, including prominent members of the forestry lobby, and they believe that if public land was returned to forestry managers there would be better management of fuel loads and less risk to human life and property. Rather than representing diverse forms of native vegetation, the myth presents native vegetation as forest only.

Both case studies feature media stories that perpetuate the myth during the immediacy of the bushfires. The Victorian case study conservation myths feature climate change as a highly politicised theme, either expressed as anger against green politics (denial of climate change as an influence on bushfire), or by those who consider broader environmental issues (accepting climate change as a factor influencing bushfire).
The construction of the myth

Land managers and conservationists are labelled in the post bushfire media as ‘greenies’, hence this social group is claimed to be responsible for maintaining the preservation of environmental conditions that harm humans. In some extreme examples, ‘greenies’ are portrayed as actually causing the staggering human losses in the case study bushfires. The risks claimed to be associated with native vegetation conservation are perceived to be a consequence of the ‘rise’ in green political influence, which is said to have a ‘dangerous’ effect on the development of native vegetation management policies, particularly on public land. In turn, these policy shifts are described as a major factor in causing the devastating bushfire impacts on human life and property. The focus of the storyline in the myth group is depicted below:

*I accept that bushfires are a part of the Australian scene, but in recent times they appear to be more prevalent and intense as the fuel load increases and hazard-reduction through conservation mismanagement, costing the nation millions ... The ‘green’ influence should be removed from decision-making and our forests and national parks should be placed in the hands of solid managers who ‘know’ the bush* (Tener, p. 10, Letter to the Editor, Canberra Times, 11.2.2003).

*For too long the Government has pandered to the Greens in not allowing country dwellers to remove rubbish from their properties* (Clark, pp. 21-22, Letter to the Editor, Herald Sun, 18.2.2009).

Rather than allowing what are described as real and more objective management decisions made by those who have factual knowledge of the amorphously termed ‘bush’, the myth sets up the concept of ill-conceived conservation decisions which emanate from distant cities. Native vegetation, described as ‘rubbish’, has little value to myth proponents, which therefore the term legitimises its disposal. Conservation of native vegetation, therefore, implies a messy landscape filled with hazards. The reference to ‘green influence’ signifies, metaphorically, a cognitive process of removing technical knowledge and expertise from those who promote biodiversity conservation; thus, conservation proponents are devoid of any professional identity and instead represent harm, or else are associated with rubbish.

An interviewee described how this de-identification process functioned, from their own experience in the ACT:
I think ['greenie' is] even broader than just a derogatory term for people like me that are doing something. It’s a derogatory term for people who won’t let people do things. So, ‘the greenies are stopping me from running my farm like I want to; the greenies are stopping this road; the greenies are stopping this aged-care home.’ It’s just taken on this really large scale. It’s not even anti-progress, I’d almost say it’s anti-non-progress. ‘Let’s leave things the way they are, the greenies are pushing us too fast’. It’s horrible. But I don’t know if — there’s no other word (ACT Land Manager 1, interview).

The repetition of the term ‘greenie’ throughout the case studies is used to silence alternatives and it helps set up a polarised tone, where reflections upon bushfire impacts are represented in terms where anything ‘green’ is equated to ‘bad’. The negative metaphoric association with green then crosses to the domain of the physical environment where green is associated with harm, and those who are ‘green’ therefore are part of the greater harm to society.

If the tenet of the storyline is considered in comparison with some of the more dramatic descriptions found in news media — where vegetation is described as being consumed by a marauding beast, thus helping to create the fire’s ability to produce flames that ‘lick’, ‘leap’, ‘race’ and ‘destroy’ everything it comes across — then a terrifying, out of the ordinary understanding of the environment is presented. Such descriptions are particularly vivid in the Victorian case study. Within the context of nature’s ‘fury’, native vegetation appears to work in cooperation with bushfire, as an uncontrollable organism disrupting an ordered and civilised landscape (which must be controlled by humans):

where the fire danced and twisted like a malevolent demon as it passed through (Hamilton, p. 3, Herald Sun, 9.2.2009).

In another location, a metaphorically terrifying devil appears to savage an almost biblical scene:

[The] fire that swallowed Strathewen came with such ferocity and menace and at such blistering pace that it overwhelmed the bushland paradise within moments. Many who stayed were condemned to a living hell ... (Mann, p. 5, The Age, 10.2.2009).

Concepts of nature such as these capture the power of archetypal symbols (which are also prevalent in the community hero myth). For example, Age newspaper (Strong, 2009) describes the terrifying beast with religious fervour: ‘The killer called “IT”, which is still
stalking our wide brown land like a demon unleashed from hell’. The ongoing storyline presents fire as something unnatural:

*an alien force, catching the tops of the local messmate trees, which exploded in walls of flame. It was as if you were looking at a medieval painting of hell. Then it quietly slipped into a grassland in front and suddenly there was a different urgency (Strong, p. 3, The Age, 8.2.2009)*.

It is hardly surprising that vegetation was therefore viewed as deeply problematic and a threat that must be controlled. The media’s effective use of fantastic metaphors contributed to the portrayal of a landscape that is uncertain, capricious and hostile to people. Reality was transformed into the realm of nightmares.

![Figure 34. Headline associating native vegetation with danger. Herald Sun, 10.2.2009. pp. 28-29.](image)

Contributing to the image of fire and vegetation working in a partnership of destruction and terror, the framing of vegetation as ‘fuel’ is found in a wide range of narratives from varying data sources, including media, interviews, policy and bushfire inquiries. The example from the 2003 ACT bushfire operations inquiry is appears reaffirming in its factual presentation of this symbolic relationship into a more scientific interpretation:

*Fuel management: All fires develop as a result of the application of three elements — heat, oxygen and fuel. In a bushfire-prone environment, heat and oxygen, relative humidity and wind, cannot be controlled by human intervention. Thus, the only element that can be influenced by human endeavour is fuel (McLeod, 2003).*

In terms of human intervention, fuel is widely understood to be controllable, while climate issues have not been considered as something humans can and do influence. Additionally, a viewpoint from a former forester supports the perceived simple process of removing fuel in order to prevent harm to people:
The interface between human settlement and nature is far more relevant to the current crisis ... there is an inability to recognise the need for an adequate break in fuels between the wilderness and the things people hold dear. The strategic management of fuels is simply a matter of controlling the build-up of fuel surrounding people and the things to reduce the risk of catastrophic fire to an acceptable level (Hoggett, p. 21, former Head Silviculturalist State Forests, NSW, Canberra Times, 31.1.2003).

These storylines of controlling the environment are linked to confusing perceptions of what is known and, at the same time, how a sense of uncertainty prevails following major bushfire events. Myths provide society with a sense of certainty. The following examples express how the need for local or traditional knowledge — with reference to the bush — is thought to help control the uncontrollable:

In fire-prone forests, nature’s bounty must be harvested, whether by logging or by cattle grazing — or it will burn. Green delusions have cost us enough; let’s not impose more of the same (Myers, p. 16, Letter to the Editor, Canberra Times, 5.2.2003).

Knowledge associated with conservation in a bushfire context is presented as having been removed from the objective decision making by those suggesting the use of public land for resource use, and by framing conservation knowledge as ‘delusional’; a sense of uncertainty and unpredictability is presented. This framing is described in further detail in another media extract from the Canberra Times:

Canberrans were told the fires were under control and fire containment lines were in force, but Mr. Jeffrey knew the chances of subduing them were slight. He said the problem lay in a decision made 15 years ago to turn the area into national parks and hand the lease from the ACT Bushfire Council to the NSW National Parks and Wildlife Services (White, p. 1, Canberra Times, 22.2.2003).

These examples imply that national parks, deliberately established for conservation of fauna and flora, are an uncontrolled element in the landscape which requires more management, more control, and more use of the natural resources on public land to ensure this can occur.

The narrative theme of climate change appeared in the 2009 case study media, representing broader acknowledgement that climate change affected bushfires. While the theme of climate change as a management issue is included in policies as part of risk mitigation, climate change also became part of a polarising and moralising narrative in the media. Letter-writers and feature article authors who acknowledged climate change as a causal
factor in intense bushfires are challenged by others who refute such beliefs. A scathing example from prominent Herald Sun journalist Andrew Bolt is an extreme example:

... the way some green advocates spoke, as ‘vindicated’, was a disgrace. Global warming preachers have been crowing over the bushfires in ways not just despicable, but dangerous. Just hours after the first bodies were being recovered, Greens leader Bob Brown was ... lecturing us on our sins against the planet. Rather than confess that green activists had been desperately wrong to oppose fuel reduction burns, Brown was eager to boast that this catastrophe had instead proved them right (Bolt, 2009b, pp. 28-29, Herald Sun, 18.2.2009).

The heightened emotional responses to the way bushfire impacts on humans are apparent in the extract above, and all three major narrative themes of blame, politicisation and complexity are present. As discussed, following disaster events it is not unusual for people to refer to such religious understandings as a way to make sense of the disaster. The references to ‘sins’ and the need for ‘confession’ emphasises the moral terms expected when society responds during times of crises, as has occurred for centuries. Allemeyer (2007) identified ‘divine providence’ as one way fire-affected communities in seventeenth-century Europe tried to understand the devastation of urban fires. The ‘wrath’ of God was described as a reason behind the extreme scales of these urban fires (p. 151).

Understanding the losses through religious explanations admonished those who could otherwise be held responsible for controlling the fire, whilst emphasising appropriate moral behaviour — by avoiding sinful acts — in the lead-up to the disaster. Bolt’s tirade integrates similar sense-making by reiterating traditional, strict religious moral codes that conflict with more contemporary ways of understanding a disaster. In the excerpt shown above, Bolt mixes metaphorical references to religion with his own assertion that those associated with (or ‘believers’ in) climate change are sinners. This framing further contributes to the polarised relationships regarding environment and people, at a time that is also being described in other myths as unifying the nation, such as in the community hero narrative theme of patriotism.

In the ACT, policy changes include the introduction of Asset Protection Zones (APZ) managed in conjunction with a five-yearly Strategic Bushfire Management Planning process (see Emergency Services Agency, 2014). Asset Protection Zones have been established in high fire-risk reserves adjacent to suburban areas following the 2003 ACT bushfire inquiries.
The management of these zones stipulates vegetation removal via a range of measures. The role of Asset Protection Zones has become disputed by some within land management agencies because of its impacts on threatened species and biodiversity, since the reserves are now managed as fire management zones:

So we’re doing similar things around the [older] suburbs, where it’s not just going through and nuking everything and taking everything down, it’s just lopping some branches, it’s knocking down a bit of wattle regrowth, etcetera. So it still has that sort of [treed] appearance. But it is a challenge, because some people see that as their wilderness; as having all these national park values. But really, a lot of those reserves aren’t managed as a National Park, they’re managed as fire reserves really. So whereas you would treat a National Park with higher priority on the conservation and ecological biodiversity values, a lot of these aren’t. And that’s a challenge because people think, ‘well hang on, there’s a rare Button Wrinklewort there.’ Well, yeah, there might be but it’s also elsewhere and really the primary purpose of this land is as a fire-fuel buffer. So that is hard. And especially in Canberra when you’ve got so many learned … well-educated people (ACT Land Manager 8, interview).

These zones, when considered in terms of the myth, symbolise conflicting ideologies metaphorically expressed in the form of land use within the interface between urban development and public nature reserves. Conservation is framed to pose risks to humans, rather than humans posing risks to biodiversity.

In Victoria, the policy response appears as a quantified representation of conservation risks. Following the 2009 bushfires, fire and native vegetation management policies were amended to introduce a five percent rolling target for planned burns on public land. The findings of the Teague Royal Commission into the 2009 bushfires contributed to the pressure to change the policy, as noted in the following criticism of the State’s lax vegetation control:

The State has allowed the forests to continue accumulating excessive fuel loads, adding to the likelihood of more intense bushfires and thereby placing firefighters and communities at greater risk (2010, p. 15).

Due to public concern about threats posed by trees, a new regulation was introduced, the 10/30 Vegetation Clearance Regulation (Department of Environment and Primary Industries, 2013), which enables landholders to clear up to ten metres of woody vegetation and thirty metres of other vegetation from a house, and up to four metres either side of property fences without a local government authorisation. The five percent planned burn program
(Teague et al., 2010) also quantifies the management of biodiversity risks to human assets. The annual rolling target to burn five percent of all public land helped define the degree of effort required to make the environment less volatile.

To conclude this section, the consequence of so much concern and fear about native vegetation has been changes to vegetation management policies. Following the bushfires these policy shifts focussed on extending the removal and control of fuel, or biomass, on private and public land, in order to reduce risk to human settlements.

**Summarising the myth’s storyline details and narrative themes**

The repetitive storytelling of these conservation issues in each newspaper edition helps to maintain the myth’s relevance, allowing the audience to respond. In terms of the myth group’s storyline, native vegetation is framed as fuel so, consequently, any understanding of being an integral, biological component of the environment is lost. Rather than being portrayed as something integrated into the ecosystem, the use of this mechanistic metaphor justifies and confirms vegetation as a resource for human consumption. The polarising nature of the narrative themes and associated actors (greenies as baddies, for instance) also separates humans from the broader environment. Instead, this storyline supports and validates the need for greater control mechanisms.

Due to the nature of the storylines, the actors involved in this and other myths are labelled in a simplistic fashion to help support the black and white roles of good and evil, embellishing an appealing, traditional mythic effect. Such storyline effects draw in the audience to adopt and believe in a set of prescribed cultural morals during moments of discord and chaos. Conservation is not framed as the kind of knowledge required to manage such moments of human loss.

Blame, politicisation and the struggle with complexity are key themes that contribute to some confusing aspects of the myth group. The fuzzy boundary with other myths is demonstrated by the flow-on effects of conservation issues with government actions, and with how humans place themselves amongst high-risk vegetation in the peri-urban bushfire interface.
Contradictions to the myths

This section explores a number of contradictions that are found in the storylines pertaining to the conservation myth group. Exploring the inconsistencies shows there is an opportunity to seek out alternate ways to consider paradoxical elements of the myth, and how they have developed. The contradictions concern subjective ‘facts’ concerning planned burning to which the myth adheres; perverse outcomes of some of the reactive policies; and contradictions between policies that add further confusion and misunderstanding. The contradictions are associated with paradoxes of risk and history:

a) It is uncertain whether fuel reduction burning will control vegetation sufficiently to impact fire behaviour in catastrophic conditions;

b) Policies aimed at controlling vegetation provide a false sense of security for residents living in high risk areas;

c) Biodiversity and fire management legislation policy objectives contradict one another;

d) Policy decisions are made reactively to control vegetation that is perceived as a threat.

Articulating the contradictions

a) There are uncertainties regarding whether fuel reduction will control vegetation sufficiently to impact fire behaviour in catastrophic conditions.

Overview: This contradiction concerns the distortion of scientific knowledge with ideological conflicts which stem from factions of pro-conservation (labelled as ‘greens’) and those who criticise conservation who are framed as ‘knowing better’. The uncertainties and fear concerning fuel management are distorted by the ‘green’ labelling of ecological knowledge, which then stymies decision making.

While the myth claims the need for increased planned burning on public land to compensate for ‘green’ polices that have prevented fuel reduction from occurring, the myth conceals significant professional tensions between various ideological backgrounds and
perspectives on vegetation management that inform such policy decisions. Reflecting on the myth’s criticism of biodiversity conservation, it is illogical to deny of the importance of ecological conservation knowledge when making biodiversity-oriented policies. It appears that since the major bushfires of 2003 and 2009, the emphasis has been to adhere to the myth’s claims which focus on responding to and controlling the ‘green’ influence, without sufficient consideration of the consequences. This response is supported by mythic storylines which side-step logic during times of distress and confusion (Dundes, 1984).

Consequently, in response to policy expectations following the 2003 ACT bushfires, narratives from those within the agencies describe a sense of uncertainty in their efforts to manage native vegetation and uphold biodiversity responsibilities when the policy focus is on fire control:

*We don’t even know what the effects of fire are on those [flora or fauna species/community] which is interesting. So, it’s pretty tricky. Quite regularly we’ll get something that might have EPBC status, and depending on what they want to do to it, if it’s burning it, we usually say that’s OK, because ... fire’s a natural process. So quite often we just have to fall back on that, we don’t have evidence to say one way or the other* (ACT Land Manager 13, interview).

As a paradoxical consequence, agency staff make decisions which are ultimately controlled by policy frameworks that have shifted in response to myths of ‘green’ political control. Political responses to the myth’s claim that more planned burning will control fuel loads sufficiently to protect humans, ignores the concerns and knowledge of those in the agencies who believe otherwise:

*We’ve laid the ground work for our own subsequent failure, because of course as everyone who works in the fire knows, there’s lots of aspects of fire-fighting as well as fire-prevention over which you have little or no control; ... so ...it doesn’t matter how much planned burning you do, you can never guarantee any outcome, except that a planned burn will burn. But you cannot guarantee that’ll stop wildfires next year. You cannot guarantee that low fuel-levels can be adequate. I’ve seen paddocks near Omeo that in the ’06 fires were carrying a hundred grams per hectare of fuel. I’ve seen the fire burn across that paddock, so you can’t guarantee that a planned burn will stop a fire. And actually the rhetoric now, at least the published pronouncements, that a planned burn will not stop a fire but they will decrease a fire intensity to give you scope to attack it. Now that’s a more intelligent response, but even that level of complexity hasn’t got through to the public who still believe that planned burning stops fires* (VIC Land Manager 5, interview).
The staff employed in land management agencies of particular skill-sets are frequently grouped into the ‘greenie’ category by proponents of the myth because they are involved in conservation, without considering the depth of complex conservation decision making required, as indicated above. Inferences to ecological knowledge, simplified in the myth as green and anti-burning, are examples of how knowledge can be controlled through misrepresentation in public narratives.

As an issue related to the contradiction of uncertainties over fuel management, controlling something as uncontrollable as fire becomes incorporated into the paradoxical associations of the myth alongside the theme of blame. In the process, policy decisions are made and sometime later, the consequences of these changes are felt via distortions of issues. Some of the blame commentary is from critics of Labor governments who are seen as supporting Green politics. These themes create a tension between objective scientific opinion and politics. Douglas and Wildavsky (1982, p. 64) notes that this influence occurs when ‘[some] scientists have been so personally impressed with the gravity of the issues that they have emerged from the laboratories to lend the authority of science to political lobbies.’ This would appear true when considering the two case studies, as both are affected not just by the conservative political links of the myth’s proponents, but by forestry proponents framing narrative facts in particular forms. These supposedly objective perspectives stimulate broader scepticism of governments’ ability to manage the perceived threats posed by native vegetation. Consequently, scientific knowledge of a particular area of expertise, in this case the environment, is framed into a mythic representation of something untrustworthy; ‘Green’, ‘greenies’, and even physical elements that are ‘green’ become a politicised metaphor for the wrong type of knowledge. Thus, the certainty of the myth’s preferred policy knowledge hides the uncertainties that some researchers and land managers may have regarding knowledge required to deal with the management of native vegetation. Ultimately, the objective influences of scientific knowledge become a paradox in itself, from being subverted to the subjective and politically powerful perspectives of those who have a differing view of the environment.

An example of how such policy decision making is deeply contested and subject to contradictory perspectives, there can be multiple interpretations of the following statement
from the Inquiry into the operational response to the January 2003 bushfires in the ACT
McLeod (2003) findings regarding the complexities associated with human control of
vegetation, or ‘fuel’:

This human influence on ‘fuel’ is at the heart of one of the fundamental arguments
related to fuel management. The fuel does not start fires, but it directly influences
fire behaviour and fire intensity, both at the time of ignition and subsequently (p. 83).

Firstly, one can read the reference as if it supports the paradox that humans can control and
influence fuel. If referring to a social constructivist perspective, the statement can also be
read in terms of how humans construct the concept of fuel and how these constructions
contribute to multiple and contested understandings of what this term actually represents
to different people. The dual constructions of native vegetation — as fuel and as a biological
element — are symptomatic of intrinsic contradictions presented in this myth. Further,
there are fewer cultural and scientific associations of vegetation with other biological
functions. As the following example from the ACT demonstrates, vegetation is presented as
a risk rather than as part of a complex ecosystem, regardless of where it is in proximity to
people:

People saying to me things like, ‘Well if there’s more fuel out there, we’ll have hotter
fires.’ Yes, of course we are, but at the same time now we’re starting to see that
people are wanting us to treat areas a long way from an asset and it’s not going to
have any impact on a catastrophic day. And the only impact we’re going to have is in
milder conditions (ACT Land Manager 13, interview).

As this example shows, the more expectations there are to control fuel, the greater the
scale of controls are required. As a consequence, it is difficult to gain broader public
acceptance for the development of policies that attempt to consider more complex
ecological functions of ecosystems. Framed as fuel, vegetation becomes easier to remove
and control since there is less association with its function of supporting human life.

Similarly, in Victoria the subjective nature of knowledge about conservation, biodiversity
and fire ecology makes for a confusing merging of emotive and ideological beliefs that has
also resulted in polarised and conflicted storylines, which in turn feed into the uncertainties
of vegetation management:
But [farmers] might not understand larger landscape-scale processes. So a respectful look at fire would respect and acknowledge this and the farmer’s knowledge, its rural roots. You’d be very, very respectful and acknowledge that, but you’d also have the knowledge that perhaps they don’t have, a larger view of the landscape, of all the other sectors of society and the fact that everything is fragmented and the way we mitigate risk in bushfire is multi-faceted, multi-programmed. The roadside is not the place to die over. Don’t go saying that, ‘if this bloody roadside was cleaned up, we’d be right, and if we don’t — people are going to die.’ They don’t have that knowledge. I think there are assumptions [that] everybody else has got it wrong because of city-based policy-making, city-based intellectual planners and what have you. The hijacking of land management by the biodiversity interests and the hijacking of this, the hijacking of that. I think there’s a lot we can do to dismantle those divisions. I see too much of the city-country divide in fire. University-educated versus not. Greenies versus introducers. This unnecessary and unhelpful classification of people. I suspect those sort of divisions are everywhere, in every policy area, whether it’s health, or transport or whatever. But in fire I believe it’s almost more passionately held (VIC Emergency Manager 1, interview).

The reflections of interviewees refer to a terribly conflicted and hostile decision-making landscape that distorts what they see as the legitimate concerns about the uncertain consequences of management. The management issues at stake appear to be embroiled in simplistic, emotive name-calling as a means of gaining attention by referring to scientific knowledge in a conflicted ideological and political scenario. War metaphors provide cues to the degree of enmity regarding management of vegetation in the context of fire.

b) Policies aimed at controlling vegetation provide a false sense of security.

Overview: The increased measures to control native vegetation introduced following the major bushfires not only contributes a false sense of security, but exacerbates planning and community environmental awareness issues associated with those who live in areas classified as high risk. This scenario sets up the expectations of being protected at all costs with further disconnects to environmental risk. In Victoria, the perverse outcomes are associated with a phase of unauthorised tree removal. Consequently, proponents of the myth and those who fear vegetation are absolved for their illegal actions, and for their choice to remain in high risk areas; seeking to change the environment around them rather than necessarily seeing their environment as radically dynamic and, at times, metaphorically acting in a way that is inhumane.
The contradictory storyline of how amended policies create a false sense of security exposes the fact that there are elements of the environment which cannot be controlled. Nor can we control the very fears which stimulated the initial government responses which led to altered policies. These misleading attributes of the risk and control paradoxes show that the more risk is mitigated and controlled, the more risks are perceived as an inherent part of attempting to control the uncontrollable.

According to the myth of conservation, if governments amend native vegetation legislative and policy controls in order to help alleviate community anger and angst about the contribution of vegetation to bushfire threats, they are actively doing something that validates public concerns as real. Learning of something that contradicts the perception of the controllable environment — in this case bushfire and native vegetation — would be terrifying during such a time of chaos. The purpose of myth is to provide a sense of order following such dramatic moments of change, and in this case it is enacted by authorising individuals to take charge of their immediate physical environment, by removing native vegetation.

In contrast to the myth providing the level of certainty via policy amendments, alternative perspectives of uncertainty and concern pervade the interview narratives. The following example outlines how planned burning provides only temporary modifications to bushfire behaviour:

*You can see, on Black Saturday if you look at the imagery, that where recent wildfire, prescribed burning had happened, there was a reduction in the intensity of fire. But no, it wasn’t reduced enough that people could get in there and put the fire out. It was impossible, and as soon as they hit a non-fuel reduced area, bang, they went off again. So one, you couldn’t reduce the intensity enough in those weather conditions, and two, as soon as there’s no latency, as soon as you finish prescribed burning and get into high fuel loads again, the thing’s crowning again. So really prescribed burning, there was no fire controller [who] was going to put a unit in front of a patch of forest that had been prescribed burned. They realised it was just not — no-one says this in the media — but of course it doesn’t reduce the intensity enough. And you still can’t attack it. It works in mild conditions* (ACT Land Manager 7, interview).

This statement outlines the futility of attempting to place humans in the face of such catastrophic bushfires, regardless of prior treatment. There is a false and misleading sense of security that the planned burn policy provides the public, because of the predominant
expectation that we can ‘control’ bushfire, implied in current policies that promote widespread planned burning.

Despite the existence of scientific and objective concern regarding the efficacy of planned burning, for many living in fire-affected or high-fire risk areas, the regeneration of forests and native vegetation after bushfires contributes to dramatic, more immediate changes to local environments, and confirms communities’ fears of dense green growth and vegetation’s potential to feed fires. This public response to ecological change was described from a land manager’s experience in a fire-affected community:

*There’s another story to tell now that there’s been this pulse of all this nutrient release and light and water, and it’s gone ‘bang’ and everyone’s gone ‘Ohhh, we’ve got fuel again!’ But, now it’s starting to behave like the forest where it’s just self-thinning; ... plants that have had their time are starting to get crowded out and it’s moving to the next kind of phase, so there’s this constant story going* (VIC Land Manager 9, interview).

This land manager is able to create their own narrative of creation because of their knowledge of ecological processes, and because they understand timeframes differently from the more common public perceptions and expectations of uncontrolled regeneration. Their concern is about the perceived harm it will cause. Those who have the ability to interpret ecological timeframes in ways that are outside of the risk timeframe do not accept the immediacy of policy timeframes. This difference in perception indicates that there is not space in the conservation myth storylines to refer to the dynamics of ecological knowledge, or to explain the changes being observed after fire. The metaphorical imagery that the myth provides is about how the environment connives with the fire demon to transform the security of one’s home into something unearthly. Fuel, as the predominant descriptor for native vegetation, is unhelpful in reframing ecological change during such circumstances.

In order to respond to such widespread public attitudes of fear, there is a real need for increased agency capacity to provide more nuanced assistance in helping to broaden the narratives so as to challenge those narratives of fear. In particular, agencies need to challenge reactive calls to control all things ‘green’ — whether that be the political party, vegetation or conservationists — rather than simply respond through the accepted practice of policy changes, which are often developed as a knee-jerk response to public emotion. The
same land manager thought that assisting in presenting an alternative environmental
narrative was also a part of their agency’s function:

Because people are seeing- it’s all around them, whether they’re seeing it or it’s just
still seeing ‘errr!’ You know, lots of green. I kind of see that as that’s our job. In a
way, as rangers, as interpreters, is to help people to see ... what is going on (VIC Land
Manager 9, interview).

Helping people understand what ecological changes are and how this could assist in raising
awareness of local environmental processes, particularly after bushfire, would also
challenge the predominant framing of native vegetation as fuel or litter.

Shifting the narrative focus of storylines is important, considering the ongoing population
expansion in peri-urban and high fire-risk settlements in both the ACT and Victoria. The
paradoxical preference to live in these areas is brought into focus in the following example
from a land manager. In this quote, fear of native trees is expressed in more detail, as a
conflicted and contradictory relationship with an environment people that choose to live
amongst:

They still want to live in that sort of [treed] environment, so they want something
done. ‘OK, it’s part of the environment, stop it hurting me’, or something. It surprises
me how people get surprised [by] the fact that there’s a fire and want someone to
have done something about it. I was at a public meeting [after the fires] and
someone at Narbethong was saying, ‘Oh you should have cleared more trees before
2009.’ And I was thinking, yeah — why are you living in that area? If you want to live
where there are no trees like that, live in Alexandra. Or a town like that where it’s not
such an issue. Why live in Narbethong? But people make those choices and then want
someone else to take the responsibility (VIC Land Manager 11, interview).

Amending policies to contend with this fear of trees only assuages a false sense of security,
since the response represents being rescued by a higher authority in circumstances that
cannot be fully controlled. The example here also suggests that some people struggle to see
themselves as part of ecological changes and processes; that human systems are not linked
to more expansive and uncertain cycles, including bushfire, and that these systems need to
be changed to accommodate emotional and psychological needs. The desired environment
alluded to is something benign and passive, which suggests that any dramatic change will be
even more shocking.
The fear of vegetation and the subsequent public call for controlling the environment appear to have become mixed up in the need for control of the chaos which the bushfires had stimulated on such vast scales. As an explicit example of this reaction following the 2009 bushfires, Victorian land management agencies had a:

fear of upsetting the community because there’s such angst about the vegetation (VIC Emergency Manager 1, interview).

In response to the extreme levels of public anxiety and sense of vulnerability regarding perceived environmental risks, some agencies avoided involvement in their legislative responsibilities, partly out of respect for the trauma that communities were experiencing, and partly to avoid confrontations due to the anger associated with government management of vegetation. The media at this time was an important conduit for feeding into the sense of public outrage:

Angry survivors blame council ‘green’ policy: Angry residents last night accused local authorities of contributing to the bushfire toll by failing to let residents chop down trees and clear up bushland that posed a risk ....Warwick Spooner ...criticised the Nillumbik Council for the limitation it placed on residents wanting the Council’s help or permission to clean up around their properties in preparation for the bushfire season. ‘We’ve lost two people in my family because you dickheads won’t cut trees down ... We wanted trees cut down on the side of the road and you can’t even cut the grass for God’s sake’... Another resident said she had asked Council four times to tend to out-of-control growth on public land near her home, but her pleas had been ignored (Petrie, p. 3, The Age, 11.2.2009).

Consequently, residents in fire-affected areas not only removed significant numbers of trees on their own properties, but unauthorised tree removal occurred along public reserves and roadsides adjacent to properties. This phase of uncontrolled vegetation removal was described by one interviewee as:

... the mad rush, ... outrage management, so knowing the community wants action, wants things fixed ... the obvious quick thing to do is to send out the big trucks with towers and bring down these giant trees .... But the lack of supervision, lack of being strategic, the lack of courage to say, well ... actually the Royal Commission found the roadsides made no difference to the rate of spread of fire intensity on the day (VIC Emergency Manager 1, interview).

This period of unfettered vegetation removal occurred during an informal amnesty after the bushfires and prior to further legislative changes such as the 10/30 Regulation (Department
of Environment and Primary Industries, 2013). Even land managers who experienced the bushfires found themselves responding emotionally, living out the psychological trauma of the moment:

**VIC Land Manager 9:** It was interesting when people related to trees in a different way post-fire. I can remember getting the chain saw out and these two beautiful Messmates in my backyard and I — it was weird, I wanted to chop them down.

*S:* Did you?

**VIC Land Manager 9:** No ... But yeah it was, a really kind of a jolt to me, like, ‘why am I so angry? At the trees?’

*S:* So you think there was anger at the trees?

**VIC Land Manager 9:** Yeah, absolutely.

*S:* Not the trunks or ... ?

**VIC Land Manager 9:** No, the trees. They caught fire; they put spots into my shed which put spots into my neighbour’s house, which burnt all the houses down. Yeah ... I look back on it even twelve months after. It was like, God, I must have been in a really different emotional place, because why would you do that? So there was a lot of that going on. I think it was a bit of an emotional response that if you’re trying to control things, because things were so out of control. But [there was an] interesting point when someone somewhere in a management role said, ‘OK, we need to pull [the unauthorised tree removal] back’. Whether that was reflecting where the community was at, it probably was. I think people had probably seen enough [tree removal].

Interviews with land and emergency management staff, and with other authors in the media, show that residents needed to choose to accept some form of risk from living in such landscapes in the first place. The challenges to be faced are encompassed in the following reflection:

*No-one’s prepared to say, this is the environment we live in, in Australia. If you want to be out in the bush, this is the risk* (ACT Land Manager 6, interview).

The choice to live in such locations also indicates that there is a desire and a sense of landholder’s right to shape the environment and control it from the outset, and this need is exacerbated during times of emotional upheaval. The need for landholder control over their own space defies the broader scale of environmental dynamics which were described in other narratives as something inevitable, regardless of human mastery of vegetation: ‘It is
clear we have no hope of taming nature’ (Editorial, 2009d).

The myth of ‘conservation’ frames native vegetation as a scapegoat at times of crisis, and this is demonstrated in policy actions to enact further native vegetation removal. Once the Victorian 10/30 Regulation and five percent target planned burn policy changes were introduced, these shifts in turn justified the public’s unauthorised actions undertaken during the tree removal amnesty. Interviewees described how the policy changes, termed ‘knee-jerk’ responses, reflected how the myth contradicted and distorted the scientific knowledge found in State and Federal government native vegetation management strategies. The next contradiction outlines how these policy conflicts emerged, as a consequence, in order to control the threat of vegetation.

c) Changes to biodiversity and fire management legislation and policy objectives contradict one another.

Overview: The conservation myth focuses on blaming state and local government legislation which protects native vegetation. However, a contradiction concerns Federal government policies and legislation, which provide structure to other levels of government policy to manage the ongoing decrease in native vegetation and fauna losses from occurring. In conflict with this objective are fire management strategies which focus on reducing human losses by advocating the removal vegetation on private property. Exacerbating the contradiction is that policies also advocate for controlled burning of public land according to risk management objectives, rather than legislated biodiversity requirements.

While the myth of ‘conservation’ functions to wrest some sense of control over the claimed bushfire policy crisis, and therefore to alleviate public concerns, there are in fact a number of changes to policy objectives that contradict other areas of environmental legislation. An example is found in the 2009 Victorian Bushfire Royal Commission’s response, which helped facilitate increased native vegetation removal in the 10/30 Regulation, particularly on private land:

These new exemptions are in keeping with the Commission’s view that the right to remove vegetation for fire protection should be more closely aligned with risk (Department of Environment and Primary Industries, 2013).
The Federal biodiversity strategy states that the decline in vegetation cover continues, despite considerable efforts over decades by many stakeholders to reverse this trend (Australian Government, 2012; Department of Sustainability and Environment, 2002). These alternative storylines found in policy illustrate other forms of uncontrollable impacts on native vegetation management: the ongoing loss of native vegetation. There is a paradoxical aspect to how the issue of how unrelenting and slow-onset loss of native vegetation fails to compete for policy recognition, against that of the rapid onset impacts of bushfire during this time. The myth of ‘conservation’ facilitates this paradoxical outcome.

This paradox occurs despite the range of biodiversity and bushfire management policies that acknowledge the role of both fire and native vegetation in providing a healthy ecosystem for human survival. The emphasis placed on fire subtly skews the framing of environmental management. For instance, the National Bushfire Management Policy Statement for Forests and Rangelands (2012, Appendix 1) states that a lack of frequent low-intensity fire is a cause of biodiversity loss:

*It is estimated that over the last century the area subject to fire in Australia has declined. This is because of changed land use and management, improved bushfire suppression practices, the reduction of traditional burning by Indigenous communities, and a reduction of planned burning by land managers. These changes have in part resulted in frequent, small and low intensity fires being replaced by less frequent, larger and more intense fires. This has resulted in a reduction in the ‘patchiness’ or mosaics across the landscape which is implicated in the loss of biodiversity* (p. 22).

The statement includes some ambiguities, such as changes in fire regimes have ‘in part’ been ‘implicated’ in the loss of biodiversity. A range of other factors could have been included here to contextualise land use more accurately, as well as the challenges faced by land managers, such as population growth or vegetation loss through clearing, which impact directly on biodiversity. Consequently, this policy statement conflicts with the biodiversity statements in the State of Environment Report (State of the Environment Committee, 2011) which claims that land clearance and future impacts from changing climate are a major factor in loss of biodiversity. The confusion and contradiction of each policy, outlining a number of seemingly uncontrollable processes contributing to loss of biodiversity, indicates some of the discrepancies between the policies themselves and the agents of these
directives. These discrepancies also show the perverse outcomes of some policies, such as effective fire suppression leading to the need for planned burning in order to replace natural fire ignitions. An outcome is that naturally ignited fires are not considered to create ecological patchiness; instead, human intervention is mandated as necessary to replicate this process.

In the Victorian case study it is understood that climate change contributes to a range of causal factors which increase bushfire frequency and intensity. This is presented as a public and scientific concern, particularly when managing uncontrollable fires in extreme conditions, and subsequent impacts on native vegetation. As both an environmental issue and a field of scientific research, climate change is highly complex, which contributes to a sense of uncertainty and confusion, particularly following an extreme environmental event. As a consequence, climate change as a sense-making storyline in itself is difficult to incorporate into the simplified forms in myths. Climate change challenges the more predictable storylines of the myth group. When it is mentioned, climate change is often found, and criticised, in association with those who subscribe to ‘green’ beliefs.

d) Policies are made reactively, based on political influences.

Overview: Following the previous contradiction of policies conflicting with objectives in other areas of management, it is during the heightened emotional atmosphere that a number of policy shifts occur; described as ‘reactive’ or ‘knee-jerk’, these decisions help placate political tensions, in sensitive political settings. Retribution and redemption are themes of this contradiction due to the morally-influenced policy decisions.

The concept of metaphoric policy ‘atonement’ is a morally-based but highly political response, linked to the myth’s themes of blame and politicisation. This response is largely due to the distinctly religious tone of both bushfire case studies’ storylines that are so rich in the metaphoric symbolism of hell, devils and visions of Armageddon. As a reaction against religious symbolism, the scariness and horror of this environmental problem can be written away through new policies:

*A big step in the current political environment is to move from talking about it to actually doing it, versus the resolution of a problem should be, we’ll develop new practices to accommodate that. The resolution of problems politically that you*
usually see is, ‘we’ll write a new policy about that’. ‘Oh we’ve got a problem with refugees — oh we’ll write a new policy saying they don’t exist’. That’s what we try and do now; we’re just not telling anybody [about] them, they don’t exist. That and it’s thought that will make the problem go away’. See the problem is not seen as the refugees, it’s seen as people being aware of the refugees and not trusting you to do the right thing about them, whatever the right thing is, depending on your point of view (VIC Land Manager 5, interview).

Reframing problems so that they disappear into new policy is a political manoeuvre that also conjures up ‘enemies’, which enrich existing myths. Maintaining the myth helps create a sense of stasis, since change is something feared during moments of crisis. In the analogy provided above, the interviewee outlines some of the policy and practice disconnects associated with problem solving, and how inconsistencies can be written in and out of the policy landscape. This kind of situation highlights how myths become adopted as a matter of practice as part of the communicative process. Myths are culturally and subconsciously accepted as an important part of the of policy-making and implementation processes.

As stated above, part of the myth’s role in the reactive policy-making process is as a phase in the storyline, which identifies, and characterises, the enemy. In this myth group it is the ‘greenies’ who pose a threat to innocent civilians. As someone involved in environmental conservation, an interviewee described the way the sense of being accused is felt during the demands for retribution in response to so much harm and loss, by proponents of the myth group at times of dramatic change:

\[
\text{The first thing that happens is whenever there’s a big fire, the first wave [of hostility] is \text{ ‘} the greenies have stopped us. The greenies have stopped us burning this bush, so my house burnt down. The greenies wouldn’t let us do this, so these people lost their lives\text{ ‘}}\] (ACT Land Manager 1, interview).

Fear of change during chaos is a logical response, and seeking scapegoats for change was also identified as a normal response by the ACT media narratives:

\[
\text{Blame is part of grieving, expert says. Finger pointing in the wake of destructive ACT bushfires ... is almost to be expected, a post-traumatic stress specialist says. Forensic psychologist David Mutton ... said it was simply a stage in the grieving process ... People feel they have no control when the destruction results from an act of God. By trying to find a logical reason for it or someone to blame for what’s happened, it gives us a greater sense of control. This phenomenon is called displacement. If we can’t attack the main cause of our distress, we tend to vent our anger and frustrations at secondary figures} (Cronin, p. 6, Canberra Times, 26.1.2003).\]
However, the consequences are neither benign nor logical, when policy changes are made in order to achieve atonement for perceived moral wrongs, in the name of objective science. One such example is when interviewees from within land management agencies reported that the problem of where people were choosing to live was avoided by bureaucratic decision-makers:

So ... I just don’t understand it; people go to councils, get the permission to build way up into the forests and then they cry foul when bushfire comes out. It just doesn’t make sense. I don’t see why the insurance companies actually allow it to happen ... I would have thought they’d look at the risk and say, ‘no, can’t do that, can’t insure this, you’ve built it too close to forest’ (ACT Land Manager 6, interview).

This response indicates how effective the use of scapegoats in the myth can be. Further exploration of the contradiction suggests that depiction of certain people as de-personalised entities, or ‘baddies’ affiliated with harm, helps the myth to divert attention away from where some of the long-term, entrenched and conflicted policy issues concerning public/private land tenure and the distribution of political power. In this context, the reflection above is particularly pertinent, since the ACT government raises revenue from sales of Territory leasehold land, and local government in Victoria raises income from Rates through private property development. Just as proponents of the ‘conservation creates risk’ storyline believe that political influence is led by ‘greenies’, this alternative view presents a far more complex problem for policy-makers to deal with than simply banishing a sector of society from the political spectrum, or writing them out of policy-making.

According to some interviews, land developers and conservative lobby groups also actively sought to increase public land-burning across the broader public landscape, in order to facilitate urban development adjacent to aesthetic values of public land:

The big problem is ensuring that planners understand where we should build. And that’s the issue that we’ve been facing here [in the ACT] is the planners continually making bad decisions about where they’re siting things in the landscape...It’s usually a tension, especially between planners and land developers, and ecologists. I think planners, Local government, State government, and to a certain degree the Federal government as well, pursue policies of development at just about all costs. Unfortunately the most attractive blocks tend to be right on the edge [of nature reserves] and tend to be the ones that fire managers would look at as being problematic (ACT Land Manager 13, interview).

As explained by the interviewee, this example of conflicting management priorities
represents the dynamic tension between short-term goals (revenue-raising through land development) and the longer-term management that fire requires. As a result, this process causes another set of tensions in terms of management priorities for biodiversity. Thus, ironically, the contradiction of reactive policy-making feeds directly into the paradox of progressively perceiving more risks, the more risk is managed. Reactive policy responses may provide some immediate relief and apparent solutions to certain risk-based problems. However, the outcome is that longer-term problems will only become a more complex risk management issue. The reason for this can be explored further by considering the way the timeframes interact.

Claims expressed in the ‘conservation’ myth, which produce sudden changes in how native vegetation is managed in the short-term, often conflict with longer-term environment management processes. This is because much of this particular storyline identified in the myth seeks to provide quick relief from the emotional hurt caused by the bushfire crisis. Therefore the storyline cannot incorporate the contrasting longer timeframes which involve researching how to do things better, how to help people shift their immediate reactions, or how to implement policies which are flexible enough to cater for dynamic shifts in ecosystems and population following major disturbances. In addition, an issue that is frequently ignored by proponents of the myth is that public land managers are responsible for implementing legislated threatened-species management plan protocols and fire-planning. The case study analysis noted that many of these land management decision-making processes are potentially compromised by reactive policy amendments. As noted in the ACT case study, there were multiple political influences in the ACT which compounded the problem:

*I’d say that, by and large, especially in the last twenty-odd years conservation has benefitted from the decisions that have been made. There’s been some losses but there have been some gains. I think we’ve seen perhaps a change in the tide; there seems to be a bit of a backlash [against the environment at the moment] ... in this part of the world, anyway. Whether that’s been led by the [Federal government], I don’t know, but there doesn’t seem to be an automatic acceptance of the need to protect areas over land development. So we get involved in that a lot. And I guess our ability to influence planning decisions is tricky* (ACT Land Manager 13, interview).

Not only do land management staff state that they have difficulties with planning decision
processes, but others raised concerns regarding the contradictory role of local government decisions which permit housing developments in high-risk areas:

And instead of blaming the councils, it’s National Parks or conservationists who get the blame because we won’t fire the bush; we want the bush protected. Well, it doesn’t add up to me (ACT Land Manager 9, interview).

As a consequence, and in line with the myth which blames green influences for causing the impacts of such major fires, ecological conservation undertaken by government departments is framed as a scapegoat for bushfire disasters, due to a lack of public perception of the distinction between tiers of government and bureaucratic responsibility.

Another contradictory aspect of the myth of ‘conservation’ is that it ignores the incorporation of scientific research on global environmental change upon which are based a number of strategies and reports on the management of biodiversity. These strategies have come to frame the need for ecologically-based decisions in terms of anthropocentric objectives: that is, in order to provide a healthy ecosystem for human survival. One example is the Federal government’s long-term biodiversity strategy (National Biodiversity Strategy Review Task Group 2010, p. 33):

Biodiversity is essential for our own existence and that of the other species with which we share our continent. Our actions impact on biodiversity every day. All Australians — the public, businesses, Indigenous peoples, private landholders, non-government organisations and all levels of government—must take responsibility for biodiversity conservation. Engaging all Australians is fundamental if we are to succeed in building ecosystem resilience in a changing climate.

This call for responsibility at multiple levels acknowledges that there are links between the need for public awareness of climate change, and the aim of better supporting biodiversity conservation in order to sustain life among all species. However, much of the myth’s storyline ignores any correlation between the scale of the bushfire and the possible impacts of climate change, since climate change is associated with the wrong-doing by conservation proponents. Decrying the findings of global climate research as immoral indicates that the myth is unhelpful in its sense-making by being myopic and short-term, when environmental management must be global and long-term. Alternative storylines presented in the contradictions consider a range of challenging but, overall, longer-term outlooks on the
future of the environment, and the capacity for humans to comprehend what this environment may look like from a more inclusive perspective: everyone needs to be involved in confronting the changes and adopting a more responsible long-term perspective.

The more recent government bushfire and biodiversity policy strategies that concern climate change are presented in neutral terms. However, there are alternative views expressed by those concerned about global climate change — which are in direct opposition to the myth’s predominant storyline — that criticise government for inaction on climate change. Some of these 2009 case study narratives, particularly in the non-tabloid media, criticise the then Federal Government’s lack of input to global policy discourse that concerned controlling carbon emissions. This differs from media discussion of the 2003 ACT fires, which did not deal with this issue:

*The Prime Minister weeps on television at the tragedy of Saturday’s events. He looks around uncomprehendingly, unable to find words, unable to find meaning. But there are words. There is meaning. This is climate change. This is what the scientists told us would happen. All the climatic events of the past 10 years have been leading inexorably to this. Yet this is just the beginning, the beginning of something that will truly, if unaddressed, overwhelm us. As the events of Saturday showed, the consequences of climate change will make the consequences of the financial crisis look like a garden party* (Mathews, p. 25, The Age, 10.2.2009).

Climate change as an alternative storyline was linked to broader political narratives of the day, when the Federal government struggled to implement climate change emission policies. The examples above also demonstrate how a shift in public awareness of the political and scientific issues had, by 2009, become part of broader public discourse on climate change:

*We knew, we failed to act: Obscenely hot temperatures, infrastructure meltdowns, high numbers of deaths. We are living our human-induced climate change future now. Why are we still burning coal? Why are the Rudd Government’s targets to reduce emissions so utterly pathetic? ... We know. Why do our responses continue to be so phenomenally inadequate?* (Jamieson, p. 20, Letter to the Editor, The Age, 9.2.2009).

When reflecting upon the issue of the landscape-wide scale of control work that is expected of agencies, the myth has limited capacity for acknowledging the potential impacts of longer-term climate change on fire behaviour, or of impacts on native vegetation that may exceed the proposed control measures in more extreme conditions.
In conclusion, issues found both within the contradictions and the ‘conservation’ myth are viewed through a blame lens that shifts between myth and contradiction. The perceptions of risk shift from vegetation signifying risk, to humans signifying risk. Thus, control of harm is politicised and forms the basis of policy amendments.

**Myth of ‘certainty through knowledge’**

**Summary of the myth**

The myth of ‘certainty through knowledge’ is derived from three myths identified in both case studies that contain similar themes and related storylines:

- a) Bushfire inquiries are for learning how to do better next time;
- b) Science quantifies risk;
- c) More scientific data will help control bushfires.

The myth of ‘certainty through knowledge’ centres on a societal need for certainty during a time of crisis, with accrual of knowledge as a means to achieve this for emotional, political and legal purposes.

Both the 2003 and 2009 bushfire inquiry procedures demonstrated a means by which governments and society attempted to learn from a moment in history through litigious-style analysis of a particular disaster. It is believed by myth proponents that bushfire inquiries are an unbiased process for gaining more knowledge, for learning how not to repeat past mistakes, and for addressing the accountability of authorities. The formal role of bushfire inquiries is to function as an independent arbitrator from which to ‘learn’ to set the directions of what this learning should encompass. Bushfire inquiry outcomes also contribute to historical cultural perceptions of what European-Australians have failed to learn from past bushfire experiences.

The public expectation of a bushfire inquiry is not just that it will signify the magnitude of such bushfires, but that it will identify the magnitude of learning required by the government. These expectations are framed so that government must respond to, and
redress the horrific bushfire impacts experienced by members of the public, as well as the significant economic costs borne by society as a whole.

Following the expectation that governments will learn from history, another storyline in the ‘certainty through knowledge’ myth concerns the need for more objective scientific data that will improve the management and understanding of bushfire risk. Bushfire inquiries occur within a limited time frame. Thus, there is a further expectation that research data should be provided quickly and be adopted immediately so that it can shape policy in time to make a significant difference in the way the next major bushfire event is handled. As a result of providing more quantifiable knowledge in the form of advances in science, technology and equipment, the myth claims that having additional scientific input will facilitate the control of large-scale bushfires.

These related storylines seek to create a sense of certainty by referring to particular forms of knowledge. Knowledge from authorities is said to provide a structured and objective way to cope with the bushfire crises; especially when tremendous levels of fear, grief and uncertainty influence public responses as to how such events and losses can reoccur. In an effort to overcome and control human responses, objective learning is claimed to provide a sense of order.

The construction of the myth

A key figure in Victoria’s bushfire inquiry history is the 1939 Victorian bushfire royal commissioner, Judge Leonard Stretton, who was an important and highly respected figurehead. Stretton is a symbol of certainty because he was seen to provide society with rational responses in 1939. Consequently, the 1939 bushfire royal commission report has become part of the State’s cultural heritage and it is used as a benchmark against which institutional learning is measured. That report’s findings are recited repeatedly after major bushfires in the twenty-first century. The central storyline of the myth describes societal expectations that outcomes of this type of learning process will be largely expressed in the form of recommendations that focus on government accountabilities. Accordingly, the myth is prefaced with a well-cited extract from the landmark Stretton 1939 recommendations:
Men who had lived their lives in the bush went their ways in the shadow of dread expectancy. But though they felt the imminence of danger they could not tell that it was to be far greater than they could imagine. They had not lived long enough. The experience of the past could not guide them to an understanding of what might, and did, happen. And so it was that, when millions of acres of the forest were invaded by bushfires which were almost State-wide, there happened, because of great loss of life and property, the most disastrous forest calamity the State of Victoria has known. These fires were lit by the hand of man (Stretton, 1939, p. 5).

Bushfire, as framed by Stretton, is a foreign intrusion in Victorian forests, its presence due to European culpability. This narrative perpetuates the notion of an ongoing struggle to determine whether European-Australians have ‘lived long enough’ since 1939 to learn how to exist within the Australian environment. Stretton’s findings have become a symbolic point of origin from which European-Australians learn from the history of bushfire. As presented in environmental history (Griffiths, 2001) and in the mass media, Stretton’s role in the myth is as an authoritative figure on bushfire management, and his findings form a reference point from which learning in the ensuing seventy years can be identified and measured. Stretton is revered as the wise man, a mythical elder who continues to provide guidance, truth and reason, as we seek to provide answers to questions of why and how such disasters could reoccur. After both of the case study bushfires there was opportunity to reflect upon the 1939 example, and upon the eminence of the royal commissioner who led the inquiry on behalf of the community:

Until Victoria erupted in flames again on the weekend, the Black Friday fires of January 1939 were regarded as the most devastating in the history of the state. And, just as significant in that history as the fires themselves was the Stretton royal commission that resulted from them. Judge Leonard Stretton’s findings became a landmark in the development of fire and forest management and environmental policy generally. His report helped to set standards for the protection of life and property, and for preventative practices such as fuel reduction that, with modifications, have been followed since (Editorial, p. 27, The Age, 11.2.2009).

Set within such a profound history, which encouraged belief in the myth that certainty could be achieved through inquiries, the scale of the 2009 bushfires immediately inspired public discourse which referred to the need for acquiring knowledge on a similar scale to that provided by the 1939 Royal Commission:
Victoria needs another independent inquiry comparable to Stretton’s, to find new answers to the old questions of how humans can best survive and flourish in this harsh land (Editorial, p. 27, The Age, 11.2.2009).

Looking back at history in this way appears to bring a sense of certainty and reassurance, particularly when confronting the challenges of survival in the ‘harsh land’ of south-east Australia, that were described in the 2003 McLeod Bushfire Operations report findings as being historically ‘a regular victim of bushfire’ (2003, p. 11). To exacerbate the sense of uncertainty when confronting something potentially unknowable, the report also noted that all known major bushfires in the ACT were started by a wholly uncontrollable element: lightning (McLeod, 2003). Superficially these examples may not appear to be linked, however framing the region as the ‘victim’ of an uncontrollable force literally segregates humans from the environment, portraying them as vulnerable and threatened. Similarly, the shocking losses during the 2009 bushfires seem to justify the media stories concerning bushfire victims.

The tragic impacts of the case study bushfires contribute to additional societal and moral expectations that the bushfire inquiries will make sense of events that are on one hand uncontrollable (extreme weather conditions and lightning-strike ignited fires in the ACT) and on the other, to somehow provide a form of solace to protect humans from harm. In addition there are the aforementioned expectations that authorities will learn, as described below:

Good governance requires accountability and transparency. There should therefore be an inquiry into the bushfire disaster; for the sake of the ACT’s reputation for good government we need open discussion and debate about causes, responses and options for any natural disaster, let alone a disaster of the enormity of the bushfires (Bartos, p. 11, Canberra Times, 28.1.2003).

Perhaps the most important lesson we can draw from previous inquiries is the need for much more rapid and comprehensive responses by all levels of government and relevant agencies to the recommendations of bushfire inquiries … (Ellis, Kanowski, & Whelan, p. 15, The Age, 17.2.2009).

Bartos’ opinion and the previous newspaper editorials are supported by a review of seventy-five years of Australian bushfire inquiries by Eburn and Dovers, who stated that:
Public demand and outrage following a devastating natural hazard may demand a royal commission ... [due to] concern that the public will see anything less as government and its emergency service agencies investigating themselves (p. 496).

Whereas the Victorian Forest’s Commission in 1939 was largely blamed by Stretton for poor forest management, criticism of public land management this century often adopts former forestry management perspectives; claiming that early forest managers are the repositories of an important knowledge-base from which to improve the present public land management system. Support for this way of thinking was expressed in the Herald Sun:

Since 1939 governments have been warned repeatedly of the perils of not burning off forest fuel. On Saturday, did unheeded warnings end in deaths? ... How many times have Victorian governments ignored such warnings, letting the fuel in our forests mount to these lethal levels? (Bolt, p. 38, Herald Sun, 13.2.2009).

The myth of ‘certainty through knowledge’ concerns not just acquiring knowledge through official, public channels such as inquiries, but also concerns the modernist understanding of knowledge gained through scientific and academic inquiry. This form of knowledge is accepted as being objective, logical and empirically founded. Media reports selected and disseminated science, such as this report on a CSIRO forestry academic’s views:

Mr. Cheney believed controlled burning practices devised in Canberra in the 1960s would have reduced the intensity of Saturday’s fire and would have equipped the territory better to fight it. ‘Fire is an essential part of the ecology of Australian plants ... If you’re serious about fire management you would do prescribed burning’ (Cassidy, p. 7, Canberra Times, 22.1.2003).

In this extract, the objective knowledge associated with a particular form of management is described as being sufficiently ‘serious’, implying that anything else would be trivial by comparison, and ineffective. The preference for particular forms of objective knowledge as presented in the media narratives such as this, help represent a type of certainty. Objective knowledge is portrayed as the best way to inform the public of how to manage native vegetation and emergencies; critics claimed that the government failure to act on this knowledge prior to the major fires, made the disasters possible.

Associated with the objective approach to acquiring knowledge is the desire to quantify risk and, in particular, bushfire hazard levels. As a popular conceptualisation of certainty, numerical definitions of risk were presented in numerous narratives. This form of
knowledge and learning is also a response to societal and professional expectations of measurable knowledge. The preference for assessments of risk that are derived objectively and logically is articulated in the following examples from research interview narratives concerning risk management:

S: Can you standardise risk across different countries?

ACT Land Manager 8: We think so. That’s what we’re trying to get FAO [Food and Agriculture Organization of the United Nations] to take on board in their fire-stream too, because there’s different countries seeking money and funding for fire-related things. Now what we need to do is have a standard like an ASA [Australian Standards Approval], some standard risk assessment or a standard methodology, to look at risk and from a fire point of view across the board, ... so we’ve done a lot of work on that (ACT Land Manager 8, interview).

Even with very high levels of those [mitigation measures], there is still a residual risk of damage and death, or adverse outcomes for assets. Even with those very high levels of management, which are even beyond what you could fund for any particular asset, there is still a residual risk of loss. You have to accept that. And [it’s been] quantified for house loss and land management in the biggest fires that have occurred in Australia in terms of loss of lives ... [The residual risk of house loss has] been quantified and there is a measurable and quite high residual risk ... even with high levels of management (ACT Land Manager 2, interview).

The quantification of risk presented here also demonstrates the aim of predictability and certainty when facing what may feel like the immeasurable scale of these bushfires. As Stone put it, ‘numbers impart an aura of expertise and authority to the people who produce and use them’ (Stone, 2012, p. 191), and in doing so, they authenticate the stories being presented to the broader public. When numbers are included as a form of symbolic knowledge there are strong metaphoric implications regarding what is legitimately included or excluded in the counting. The consequence is that someone, or something, is always left out of being signified as valued. The metaphoric inclusion of a numerical value also creates subjective demarcations or boundaries for those values that lie outside the selected range (2012), in particular obscuring what are essentially influential moral and social boundaries.

Summarising the myth’s storyline details and narrative themes

The ‘certainty through knowledge’ myth’s storylines are closely associated with politicisation and complexity due to the accepted norms of litigious style and scientific
knowledge development. The influence of the complexity theme in this myth is apparent where the controlled, structured and unemotional language used in litigation and science is itself an acknowledgement of the inherent challenges in articulating the scale of problems; this is the complete opposite of public discourse used elsewhere. Objective science and bushfire inquiries in this context can be understood to represent human attempts to master the chaos nature can inflict, and they inform responses which deal with the many unknowns that confront people following the bushfires.

The acquisition of new knowledge is often based upon historical precedence, and presented as wisdom acquired through experience and a degree of emotional detachment. Key figures in bushfire inquiries and in scientific research have important roles in sharing their knowledge with the broader public. Their knowledge is understood to be unbiased, objective and is expected to provide better outcomes for communities. This form of knowledge and understanding demanded in the aftermath of the extreme losses of the bushfires, in order to regain certainty and control over the uncontrolled grief and state of crisis.

Contradictions to the myth

The previous three myths feature archetypal and dramatic roles such as heroes and villains portrayed in a scene that has classical mythic references to havens, hell and retribution. In contrast, the myths of ‘certainty through knowledge’ and ‘government control’ are affected by extremely politicised influences on their storylines, which in turn creates a feeling of being confronted with unending obstructions, intrigue and frustration. The contradictions involved in the myth of ‘certainty through knowledge’ are closely aligned to one another, due to the merging of the storylines with political themes. Analysis of the key contradictions presents some of the complexities associated with tangible and intangible knowledge, and learning during crises.

The following contradictions are influenced by themes of politicisation, complexity and blame:

a) Selective choice of knowledge is accepted as proof of the way to proceed;

b) Simplifying complex knowledge;
c) The challenge of achieving quantifiable knowledge to ‘control’ catastrophic fires.

Articulating the contradictions

a) Selective choice of knowledge is accepted as proof of the way to proceed

Overview: During the aftermath of the bushfires there was considerable public emphasis on the need to confront uncertainty and lack of knowledge in order to answer questions such as: how did the fires happen?; how can we manage them?; and what have we learnt from history? These questions reflect not only cultural, but also intellectual uncertainty. The myth involves ways of readdressing this uncertainty, mainly by using objective knowledge in bushfire inquiries and some forms of scientific research. However, the contradiction shows that this focus is impacted by external influences that limit the range and depth of research judged relevant, even though a wider range would contribute to more nuanced ways of considering many problematic issues. Some of these external influences are linked to political cycles and funding, the media profile of prominent scientists and, hence, particular ideological perspectives on how to best manage bushfires and native vegetation.

This thesis provides evidence of selective approval of certain forms of knowledge, often with historical reference points, even though their accuracy cannot be verified now. Stretton’s wisdom is culturally revered; however, his 1939 Bushfire Royal Commission findings were presented at a time when European-Australians ignored the presence of Indigenous Australians and denied their ecological influence. In that report, the environment is portrayed as pure and unviolated:

When the early settlers came to what is now this State, they found for the greater part a clean forest. Apparently for many years before their arrival, the forest had not been scourged by fire. They were in their natural state. Their canopies had prevented the growth of scrub and bracken to any wide extent ... Compared with their present condition, they were safe. But the white men introduced fire to the forests (p. 5).

Stretton’s forecast of doom describes the introduction of fire as unnatural, and instigated by careless white people. His description of the pre-1788 Victorian landscape as ‘untouched’ and its forests as ‘natural’, frames the landscape subjectively and uniformly as a set of ‘Edenic’ caricatures, and which can be contrasted with what is now known to be a more complex environment, shaped by Indigenous Australian relationships with the environment.
Framing nature metaphorically as benign — akin to ‘Mother Nature’ — is used widely in policy debates and popular constructions of the environment (Hajer, 1995; Stone, 2012). These images have become potent symbols for ideological debates following the great fires of the twenty-first century in both the ACT and Victoria.

Significantly, the 1939 royal commission report was immune from critics. Stretton’s inherently subjective assessment of the environment was not considered in public narratives such as the media. Yet, while admittedly resonating with beautiful and sonorous expression, his assessment is also inherently racist and out-dated. The media rely upon the power of Stretton’s language to allow them to cling onto a culturally limiting version of history, and this is highlighted in the following editorial:

The greatest challenge for any inquiry is to separate questions of fact from the ideological wrappings in which they are too often posed. For this new commission, that will be especially so with regard to the issue of fuel reduction, which has become a defining point of difference between conservationists and those who take what they like to think of as a tough-minded attitude to forest management. Both sides incline to rigidly ideological stances, and again, Stretton’s cautiously factual approach to the question is a preferable model: He recommended controlled burning as a fire management practice but counselled that the officers who carried it out should ‘have a thorough knowledge of local forest lore.’ This does not treat fuel reduction as a panacea for bushfires, as some of the practice’s contemporary advocates do. The 2009 royal commission, like Stretton’s, must assess the evidence on its merits (Editorial, p. 27, The Age, 11.2.2009).

This editorial provides a reminder of the subtle outside influences on knowledge development amidst the expectations placed upon official inquiries. Knowledge and learning in the context of bushfire, as described above, cannot help alluding to the polarising context in which it is formed, where two sides are assessed for validity and for the purpose of future management. Each position suggests just how implausible is the post-bushfire context for providing certainty. This thesis suggests, as do Eburn and Dovers (2015), that because bushfire inquiries seek a broader understanding of the bushfire event to improve risk management, there is a need to provide definitive knowledge to address risk mitigation, preferably outside the immediacy of such fraught and challenging contexts. Paradoxically, a sense of uncertainty appears to flow onto management agencies’ objectives, policies and programs. The contentious nature of bushfire inquiries, demonstrated during the fractious
sequence of bushfire inquiries in the ACT, tends to distort the knowledge assessment that seeks to improve management processes:

*Experience is the basis of most of the progression of human knowledge, and there is much we can learn from our mistakes. It is inevitable therefore that inquiries of this kind concentrate on weaknesses, errors and shortcomings. They do not dwell to the same extent on those aspects where systems and people performed satisfactorily or in the way intended* (McLeod, 2003, p. 243).

The 2003 ACT Bushfire Operations Inquiry acknowledged the distorted and selective perspectives within inquiries that generate cultural knowledge. These limitations were ironically shown in the multiple inquiries conducted in the ACT (something recognised as historic in the context of one disaster event), and there were inconsistencies between the respective inquiries’ concluding recommendations (Eburn & Dovers, 2015). Contributing to these distortions and confusing outcomes from the pursuit of knowledge, the coronial report noted that some submissions from Counsel-assisting argued that the role of an inquiry should be understood in context of other coronial procedures; learning evolves within a privileged and subjectively onerous position, in that:

…it is always necessary to make allowance for the fact that the coronial process is conducted with the benefit of hindsight. It is not appropriate to judge those individuals whose actions are the subject of scrutiny during the course of that process in accordance with the counsel of perfection (Doogan, 2006, pp. 13-14).

Despite this awareness of privilege and an apparent forbearance of human frailty, the coroner’s report took a contrary view; particular people were found responsible for the bushfire consequences, and thereby former judgements were refuted:

[Ultimately]...it must be said that wisdom acquired through hindsight is of great assistance when one seeks to avoid making the same mistakes again if a similar situation arises. It also helps ensure that foresight informs future decision making (Doogan, 2006, p. 14).

McLeod adopted a more moderate stance regarding human fallibility than Doogan, but again he raised the issue of subjective interpretations of the actions and personal experiences provided to the inquiries:

*Any criticism directed at individuals because of the role they were required to perform is in no way intended to question their integrity or their honesty in doing*
what they felt in the circumstances was the right thing to do at the time (McLeod, 2003).

If there is a cultural preference for seeking out officially prescribed wisdom based upon the judgement of one powerful representative, and this is purported to reflect the knowledge of those who have experienced the event, then such judgements contribute further to mythical and hierarchical ways of knowing. One need only to refer to Stretton’s findings to see the pervasiveness of authoritative knowledge and how contextually subjective and static it can actually be. Historical knowledge is cited in all these bushfire inquiry accounts as a critique of societal understanding about the longitudinal precedence of fire management, yet this knowledge is conveyed in a far less objective manner than might be supposed, due to the political nature of the frequently ideological responses that hinge upon history.

Unlike other bushfire commissioners of 1939, and those in more recent twenty-first century inquiries, the 2002-03 Victorian Alpine Bushfire Inquiry was led by commissioners who had expertise in fire ecology, anthropology and policy (Esplin, 2003), rather than law. Their report is a contrasting example of how different contexts for learning exist, using and emphasising a scientifically objective approach to the investigation of the background causes of the fires in north-east Victoria. Scientific knowledge in this bushfire report attempted to denote credible objective learning:

... the prescribed burning debate has been, at times, ill informed and peppered with gross exaggerations and the view by some that ‘one size fits all’. These Chapters seek to provide a more objective consideration of the prescribed burning debate and in so doing dispel the myths (Esplin, 2003, p. xviii).

The commissioners’ more academic responses conform with the ‘knowledge creates certainty’ myth’s storyline of referring to objective forms of knowledge, but ironically, it also exposed limitations in the reach science when situated in more extreme political and social circumstances. Even with a conscious effort to integrate a scientifically objective structure into their inquiry, the commissioners remained vulnerable to demands for public retribution, arising from political pressure that criticised the government and land management agencies for failing to control the bushfires:

...we believe there could be individuals who will want to use this report to apportion blame. This would be disappointing (Esplin, 2003, p. 7).
The detractors and their ideologies were repeatedly challenged in the commissioners’ report by. At the time their response had to contend with numerous ideological arguments for expanding planned burning. One of these proposals was to adopt more rigorous planned burning practices. In response, the commissioners stipulated that in this case their role was to:

... provide a balanced position from which we may reasonably conclude how best to advance management of the species and habitats that remain in our care ... [and the understanding that this] is especially complex given that it is desirable to meet the multiple objectives of competing interest groups in our society (Esplin, 2003, p. 122).

This sense of ‘balance’ was again questioned in 2009 because of the cautious approach the 2003 commissioners took to prescribed (or planned) burning impacts on ecology and risk management effectiveness. It is possible that the commissioners’ disciplinary backgrounds may have prompted this criticism and the lack of public respect of their report; the links with the myth of ‘conservation’ remind us of the heightened mistrust of people who were associated with ‘conservation’ within public narratives following bushfire.

This research notes the frequency with which the variability and complexity of approaches to undertake planned burning in complex ecosystems is mentioned. Prior to undertaking planned burns, a range of considerations are factored in to whether a burn can take place, on a limited number of days:

Factors that will be considered in implementing broad-area fuel reduction activities include fire fighter and public safety, forecast weather conditions and the potential air quality and smoke impacts of the activities. In water catchments, specific consideration will be given to the impacts on water supply and water quality (Emergency Services Agency, 2014, p. 53).

Smoke has various negative effects on individuals and communities. These include adverse effects on people’s respiratory health, aesthetics, tourism, and business – even on washing hanging on the clothesline (Esplin, 2003, p. 94, section 10.19).

Growth of vegetation following fire is also hugely variable, dependent on environmental factors, the specific features of vegetation, availability of nutrients and an area’s overall fire history (Cheal, 2010). Cheal also states that judgements of what ‘senescent’ or ‘established’ vegetation means will differ because of social values, and is not based purely on ecological assessments (p. 28); this necessarily alters decision-making about when and which
designating areas are to be burnt. The complexity of the ecosystems in which burning occurs is therefore shaped by subjective human responses.

The situation in Victoria shows how selective, simplified knowledge, used to deal with uncertainty, enters into policy following catastrophic bushfire. As an example, the patchiness of existing fire-ecology knowledge appears to have been ignored in the establishment of Victorian policies:

Some communities we’ve got a good understanding [of fire ecology] like Basalt Grasslands, like Tall Ash Forests of the ranges, others it’s a bit weaker [some of East Gippsland’s forests], and others almost non-existent like Box Ironbark. We did a contract project for the XYX CMA about five years ago. They simply wanted a statement about what is known about the ecological behaviour of fire in Box Ironbark Forests. Fair enough. Obvious thing was to pull together everything that was known into a summary report and came to the conclusion there’s been almost no work, particularly in relation to fire in those systems and even Black Fellas had no inherited knowledge in relation to fire. Not simply because they didn’t, although they did, but simply because they are so de-cultured there’s no continuing knowledge. So we went back with a good report that was received very well. We said here is everything we know about Box Ironbark, and when you add it all up, it’s bugger all. But it means that you cannot use a research history, a factual history, to justify why you’ve proposed burning programs, or any proposed program; nor can you use it to deny or pull down a proposed burn program ... because we simply do not know ... there are some systems we know absolutely next to nothing about ... (VIC Land Manager 5, interview).

Such a vast knowledge gap is not publicly disseminated. Fire-ecology knowledge from other regions of Australia was considered appropriate because of the lack of regional knowledge from which to develop the 2009-2010 planned burning policy. To highlight the nature of patchy and ecosystem-specific research, the evolution of knowledge adopted in 2009 for planned burn hectare targets (adopted in Western Australia, Victoria and New South Wales) was described further by the previous interviewee, based upon their own fire-ecology experience:

The basis of those hectare targets was basically two pieces of research work which should have had absolutely no bearing in Victoria, because one was based on the grass tree plains in western Tasmania, and the other one was based in the southwest heathy forests of WA [Western Australia] ... They were thought to be relevant to Victoria and the Royal Commissioners decided to take the fire interval recommendations and the burning proportions from those two reports and apply them to Victoria. That’s ecologically stupid of course, as every reasonable Victorian
knows because the landscapes, the weather patterns, the vegetation are all
terrifically different (VIC Land Manager 5, interview).

The same research was identified as significant, though problematic, for planned burn
policies in another interview:

The one big study by Matheas Bohr in Western Australia that everyone likes to cite,
which found a strong, well-founded link between the amount of prescribed burning
and the area of wildfire. So [the] more prescribed burning you do the less unplanned
fire. The problem is that the first thing is, prescribed burning: there’s several studies
now to show that prescribed burning has less effect as the fire weather gets worse.
That’s one thing. Houses are all destroyed; most house losses in Australia are in
catastrophic, above FFDI of 100. So houses are destroyed in very few, big events —
it’s the big fires. So they’re the ones where prescribed burning has less effect (ACT
Land Manager 7, interview).

A combination of distorted ecological relevancy and ineffectiveness in protecting human life
and property, suggests major flaws in risk management. This is particularly concerning since
most human losses occur during catastrophic, uncontrollable bushfires. Interpretations of
research appear to be twisted in order to concur with certain scientific and political
perspectives. The shoe-horning of research findings to window-dress policy during a time of
turmoil demonstrates how the myth, along with the public expectation of learning from
history, is based upon subjective selection and interpretations of ‘facts’. According to
interviewees, most publicly interrogated ‘science’ is poorly done. During the lead-up to
public debates concerning elusive scientific knowledge, one week after the 2009 Victorian
bushfires when a state of helplessness and anxiety pervaded society, the Age presented
analysis that highlighted the irony of our need to find solutions based on ‘facts’:

It is understandable (that people need to believe they know the causes of the fires)
because the firestorm that killed more than 200 Victorians and left thousands
homeless has confronted us with our own vulnerability, and that is frightening. We
want answers because the alternative — doubt and uncertainty — deepens our sense
of anxiety and helplessness (Editorial, p. 20 , The Age, 15.2.2009).

When considering the last three quotes, a vacuum emerges in place of certainty. In reality
there is so much yet to be understood in our approach to planned burning and thus, in the
management of native vegetation. In the need to confront uncertainty as described above,
learning occurs within a context that is fear-ridden and volatile. In addition, as another
interviewee noted:
This is where it’s very difficult to prosecute these debates in media because they’re complicated (ACT Land Manager 7, interview).

The poor representation of complexity and scientific uncertainty in the media contributes further to the public perception that scientific knowledge and institutional cultural rivalry are polarised:

Experts divided on benefits of building better, burning off ... Brendan Mackey from Australian National University’s Fenner School of Environment and Society, said there was no data to suggest that burn-offs minimised fire risk in extreme conditions. ‘If our concern is about events like Saturday, or the Canberra fires of 2003, fuel reduction burning is irrelevant ... At some point we have to accept there are natural processes we can’t control, and extreme weather conditions are one of those.’ He said fuel reduction burning could play a role in fighting intense fires. Professor Mackey’s views challenge bushfire academics including Monash University’s David Packham and former CSIRO bushfire researcher head, Phil Cheney, who have argued the death toll might have been limited by a more aggressive fuel-reduction policy (Strong & Morton, p. 8, The Age, 12.2.2009).

This example shows that spokespeople, whose expert opinions are referred to after each calamity, recite similar phrases each time they speak, in order to stress their perspectives and ways of understanding the level of uncertainty, and to reduce the level of public unease. Risk is a highly influential management and academic issue that frames intellectual arguments, and is barricaded into an extremely polarised, ideological view of inherently wicked problems. This situation is highlighted by the accepted need for increased scientific knowledge to assist in managing bushfire risk, after 2003 and 2009. The 2009 VBRC final report reiterates and reminds society — as do Stretton’s 1939 findings — that people living within areas that historically burn have higher risk. This consideration falls outside the realm of objective science, since:

The result is that, although it might be possible to reduce the number of severe fires and to be better prepared for fire, bushfire will never be eliminated from the Australian landscape (Teague et al., 2010, p. 13).

In stating that fire is an inherent part of the Australian environment, the VBRC report suggests that a cultural shift is still required to allow greater acceptance of the inevitability of bushfire and consequent impacts on the Australian environment. However, risk analysis literature shows that risk assessment (which includes bushfire inquiries and scientific
research) is as political as it is scientifically quantifiable (Smith, 2009, p. 38). For example, even after research (Gibbons et al., 2012) that definitively quantified bushfire house loss — and that was successfully and widely reported in the public domain — ironically, few understand the concept of residual risk, possibly because of the politically unpalatable consequences of these findings:

*I don’t know how well people understand the concept of a residual risk. [Residual risk is] the risk remaining after risk treatment has been applied. I wonder how many people could quote what it is for their environment and their lifestyle? [That there] is still a thirty percent chance of losing your house even with a very low tree and shrub cover right around the house under extreme weather conditions. So almost one in three* (ACT Land Manager 2, interview).

*But now ... [Victorian] risk assessments are showing that they can only reduce risk by 20% through prescribed burning alone; in towns around Victoria* (ACT Land Manager 7, interview).

These examples suggest that communicating risk must compete with other symbolic factors, which may be rhetorical responses to political rather than scientifically perceived spheres of risk. Even knowing the high statistical probabilities of risk to human life and property, non-scientific factors frame public responses — such as the belief in the bush haven, described in the cultural landscape myth — and provide a distorted sense of certainty.

To achieve a cultural shift to accept bushfire risk would also involve the proponents of controlling the uncontrollable nature of bushfire to accept the futility of believing in the mythic themes of control and environmental mastery. This would mean the involvement of political directives from governments, as well as addressing challenges brought about by the short-term cyclical nature of social, political and bureaucratic thinking, as argued by an interviewee:

*If the government had the balls to say, ‘those seven towns are beautiful hamlets but people are not going to live there’. You know what I mean? ... It can be a commercial hub or a tourist venture, but we don’t want you living on site. But which would never happen, I know ... it’s never going to happen because of people’s private land rights and all that sort of stuff ... So the focus becomes purely on this being a fuel management thing, so we can all go out and wildly do that as well as we possibly can. ... and that’s what I’m saying, we haven’t done it* (VIC Land Manager 3, interview).
Due to the influence of political cycles on research and quantifiable knowledge that may be particularly prevalent in Canberra, some scientific evidence is seen as irrelevant if results do not resonate politically at the time they are presented:

So it’s all very well to talk about the sort of research and things like that, but then a realistic perspective is we operate in a very powerful — socio-political sphere. You can generate targeted knowledge on management effects on things that matter, but you’ve got to accept there’s a political process there and that some things are just not going [to go] forward even if you think that they’re logical [and] would result in a better outcome. Because of these other forces at play (ACT Land Manager 2, interview).

By explaining the contradiction inherent in generating scientific knowledge within the context of what is deemed to be politically favourable, overt political influences infer an additional subjective quality, especially if there are inconsistent scientific and political approaches to what is ‘quantifiable’. Political appropriation of selective scientific knowledge influences the perception of knowledge and certainty even further. This discussion is expanded in the discussion of the next myth, that of ‘government control’.

Interviewees observed this disconnect between politics and on-ground land management issues when describing how in-house planned-burn policies are made with low certainty. Smith explained that such decisions occur even though there is an expectation that decisions will be based upon ‘hard facts’ (2009, p. 15). The interviewee example provided below concurs with an earlier reflection by Victorian Land Manager 5 regarding how fire- ecology knowledge is investigated too narrowly:

So there’d be some [scientific research] for perhaps some [flora and fauna] communities, but I wonder how broad it is. Is it only for a component of that system, like certain plants in there? … A lot of fire research is just doing investigations. For example in our organisation, they were looking at how long did it take a certain plant … to produce seed again [after fire]? Now if that’s the only basis of those fire intervals, that could be quite questionable, because it isn’t considering the other impacts … and I doubt there’s been a lot of monitoring to really demonstrate either way what the harm [of prescribed burning] is (ACT Land Manager 6, interview).

This Land Manager describes the trend in ‘questionable’ reactive policy shifts, extending from one bushfire event to bushfires in other jurisdictions, and describes the consequences of implanting uncertain policies within a poorly understood field.
In 2014, a NSW land manager noted the policy shift that occurred there, following bushfires in the Blue Mountains:

*The stories that you hear now, that these firestorms are becoming more and more frequent, because of climate change. So you ask me what needs to be done; I think people will need to sit up and take notice of the research that’s coming out, saying are we prepared to allow people to live in these fire-prone regions? I don’t think we should really. Especially like what’s happened now with the [NSW] Premier saying, ‘you can ... clear fifty metres into the bush’. Well, why do people move out into these places in the first place? Because they like the bush. And now he’s saying, get rid of the bush. It’s a danger. It’s a risk. I would have thought [that] the best thing to do is to say, ‘No, let’s not build into these areas’* (ACT Land Manager 9, interview).

Amendments introduced by the NSW government are closely aligned with the Victorian Vegetation Clearance Regulation of 2009/10 (Department of Environment and Primary Industries, 2013) to reduce restrictions on native vegetation removal on private land — known as removing ‘green tape’. Such policy shifts can be interpreted as a way to avoid accepting uncontrollable processes outside the immediate policy arena, by allowing more land development to extend into fire-prone areas that may initially avoid the necessity for politically unpopular decisions. But by ignoring the impossibility of absolute risk mitigation, this policy shift prevents the incentive for cultural change among those living in high-risk areas.

The sidelining of policy and political responsibility is also demonstrated by how the complexities of climate change are dealt with in regard to the effects of fire on ecosystems and as a risk to humans. Following the 2009 bushfires, the former 2003 Victorian Bushfire Commissioner explained to the media that:

*Predications for climate change present a dramatically altered bushfire risk. With this increased risk, we will need to invest in mitigation and prevention. But, simply put, there will be some fires that no fire service can combat* (Esplin, 2009).

Despite expert predictions, government agency mitigation of risk will be ineffective in comparison with the uncertainties of future change in environmental conditions. Thus, it is difficult for policies to deal with the challenges posed by climate change. Climate change was largely absent from public discourse following the 2003 ACT fire, but in 2009 the extreme scale of the fire problems jolted the public to raise the issue. The disparity between the two narratives indicates that the subjective framing of a complex crisis is shared
discursively (in this case, using myths) in the context of other issues, and this context gives political weight and cultural meaning to the selected ideas (Fischer, 2003a). Consequently, although climate change was largely absent from the 2003 case study narratives, it was an important part of the blame theme in 2009:

First, the planet actually hasn’t warmed for a decade, and we’ve faced even worse conditions than these before — so we should have prepared for these latest bushfires much better. Shouting ‘global warming’ is just a distraction, or even a ruse. Second, blaming global warming [for the 2009 bushfires] doesn’t excuse the governments that should have learned from our past, but could mislead us into spending countless billions on a ‘solution’ that will not spare us another such tragedy (Bolt, pp. 28-29, Herald Sun, 18.2.2009).

The physical scale of climate change’s unknown impacts are difficult for some to visualise and therefore to describe, and this increases the degree of uncertainty and the need to adopt more simplistic and moralistic blame narratives, like those above.

Alternative points of view are noted throughout the 2009 case study narratives, such as the following media extract from The Age:

As the nation reels from the toll in the Victorian bushfires, climate scientists are trying to assess carefully what lessons can be learnt from the unprecedented heatwave of 2009 and the deadly fires that accompanied it. While state authorities focus on crucial investigations into arson, emergency advice, town planning and tree clearing, looming over all these is what role human induced climate change is playing in Australia’s weather patterns (Wilkinson & Cubby, p. 4, The Age, 14.2.2009).

Current myths are unable to capture this dramatic change in storyline; there is no existing role for climate change. Social constructions, hence subjectivities, of risk, which include those of climate change, need to be considered in conjunction with other factors that influence rhetorical political responses to ‘certainty’. Schauble draws attention to this issue in his The Age article:

It is absolutely right that the policies, practices and procedures surrounding bushfire should be reviewed. But good public policy seldom flows readily in the immediate aftermath of disasters. We need also to be careful to keep perspective. This is not some bizarre or incomprehensible event. Since European settlement, Victoria has been repeatedly irked by flames (Schauble, p. 21, The Age, 15.2.2009).

Schauble suggests that both reviews and policy changes need to function outside of the emotional public sphere, but such advice was ignored when the VBRC recommended a
radical increase in planned burn targets. This result shows how a rapid response in the
emergency management and disaster context, has the potential to result in reactive land
management policy arrangements that are intended to represent longer-term management
approaches toward the environment.

A range of narratives describe how large-scale bushfires cause significant instability, and
thus provide the context for great cultural and policy change. This dynamic context adds
another dimension to policy making, which Fischer (2003b) describes as ‘recognizing that
shared meanings motivate people to action and meld individual striving into collective
action, ideas are the medium of exchange in policymaking’ (p. 60), yet paradoxically, Fischer
also acknowledges Stone’s observation (see 3rd edition, 2012) that there is a struggle over
the meanings of these ideas. In the case of a socio-ecological crisis, meanings and ideas
become easily distorted and ‘reactionary’, as this letter in The Age shows:

The Victorian fires have elicited knee-jerk reactions, including reactionary calls to do
more land clearing and fuel-reduction burning. These calls are muddle-headed
because they don’t weigh up the substantial cost of burning against the likelihood
that those measures will actually work. Such measures wouldn’t stop such extreme
fires, but would have a substantial impact on native species (Ecologist, Driscoll, p. 24,
Letter to the Editor, The Age, 13.2.2009)

Significant paradoxical outcomes for future policy implementation arise from different
interpretations of ‘knee-jerk’ responses that incrementally contribute to framing the
environment as being in a state of emergency, rather than as part of an everyday
management scenario. Evidence of selectively applying knowledge in a reactive manner is
also shown in the example of budget allocations, where an interviewee expressed significant
concern about the Victorian state-wide communications program update:

VIC Emergency Manager 3: so currently we’re going through a process to try and
convince ... the hierarchy to rebuild the website.

S: Have you got the money to do that?

VIC Emergency Manager 3: there’s no money. But they’re rolling out two hundred up-
graded fire stations before the end of November; so they’re spending huge volumes
of money in Emergency Services. I sound like a whinger about this stuff, but it is one
of those things that I look and think, yeah, they do need new fire stations and they do
need better equipment and they do need more fire trucks. But fifty new fire trucks ... and [we can’t] get the main public portal for how people will get their information in
an emergency ... And you just think, that’s fifty million dollars. Potentially, really. And that’s some of the cheapest ones. That’s sort of $800- $900,000 for the truck. And so I think, just give [us] one or two, you know, two trucks worth and [we] can do this. So, it’s still culturally very much about fighting the fire is the answer. So until we accept our humanity to a certain degree and that ... really, we can’t fight a fire, you can’t prevent that fire unless it’s on a day that it will probably struggle to burn down a house anyway, unless you weren’t standing there, the worst of the worst, you can’t do anything except provide the information to that community so that they cannot be there (VIC Emergency Manager 3, interview).

It is disturbing that the program had to compete with the provision of machinery and an active fire-fighting ethos, because this situation has been allowed to arise despite moral outrage about the failure to communicate vital information to communities in 2009. This redirection in funding portrays an aspect of systemic bureaucratic misdirection and competition over priorities that are closely associated with dynamic political scenarios. The political appropriation of visible symbols of control and progress (in this case, by building fire stations) are preferred over the more nuanced (or soft), invisible knowledge that communication represents. The application of technological knowledge symbolises the preferred form of militaristic, objectively ordered knowledge applied to assist in bushfire-control efforts; supported by imagery of helicopters, bulldozers and a suite of fire brigade trucks that are repeatedly used during media reportage of bushfires. Long-lasting associations are thus developed with a range of war-oriented heroic mythic storylines, and repeatedly told in accounts of battles that are embellished with metaphors, which stress the role of machinery and manpower to control catastrophic situations. These take precedence over more socially aligned knowledge and research, which are less easily connected with visual symbolism of the type that has desirable political value. Such discursive influences are not uncommon; other research has noted that policy disputes are commonly framed by war and machinery metaphors to describe the environment, in order to intentionally construct particular kinds of arguments for policy changes (Hajer, 1995; Stone, 2012). Cultural perceptions of fighting fire are shown to focus on prioritising certain forms of knowledge and learning, which are encompassed by the previous example of active management using technical skills and equipment. Further exploration of this issue is undertaken in analysis of the myths of ‘government control’ and ‘conservation’.
In the struggle to deal both with political expediency affecting funding when responding to the crisis, and also with a lack of scientific certainty, there emerges a mismatch in scales of management needs and policy. Compounding this problem, funding research and implementing policies are described by interviewees as short-term, so that insufficient monitoring is completed before the next fire. If bushfire management and ecological risk assessments are undertaken when working within a shroud of uncertainty, the monitoring process is further affected if risk assessments are done across too broad a spectrum of ecosystems. The problem is described below in terms of difficulty in getting adequate funding for these risk management programs without sufficiently favourable political support:

*Our budget for fire training is quite high but again it’s getting through to the executive that fire training ... it’s ongoing. If there is an incident somewhere, the only way they can refine their skills, is ... actually going to a fire. And it may not be here in the ACT (ACT Land Manager 8, interview).*

The time constraints on management programs, where there is an organisational and political struggle to retain ongoing funding, is described by another ACT land manager:

*ACT Land Manager 12: I remember after 2004, being told by a senior guy from another state that you’ve got ten years to make a difference, and seems that’s pretty much spot on. You know, the political will tends to wane a little bit, is a good way you could put it.*

*S: Do you mean that it’s waning now?*

*ACT Land Manager 12: Mmmm. Yeah, it’s got to be weighed up against health and education, and it’s starting to become a bit of a memory for a lot of people. So it’s, I understand, the cost pressures.*

Learning from history in order to improve knowledge and to provide more certainty in this sense is undertaken not just within the realms of technological modelling, but in maintaining on-ground skills by experiencing other bushfires. The current situation of inadequate long-term funding for mitigation purposes following major bushfires is paradoxical, where the scale of the bushfire issues are obscured by short-term bureaucratic thinking aimed at achieving a solution within five to ten years.

Arguments supporting the reactive bushfire management policy-shift that occurred after the 2009 bushfires in Victoria were expressed in the media by forestry industry proponents who
were lobbying for increasing planned burning targets. These arguments gained media credibility, despite the 2003 Esplin Victorian bushfire report (2003), which presented the challenges likely to be faced when attempting to increase planned-burn areas. The persuasive influence of the tragic human losses in 2009 produced additional pressure to increase the area of prescribed burning on public land. The resultant Victorian policy, as previously discussed in the case study introduction, responded to the VBRC and increased public land fuel-reduction burns from 1.7 percent of public land (the equivalent to 130,000 hectares) to a rolling target of five percent, or approximately 370,000 hectares (Teague et al., 2010). This policy-shift is described in the context of ecological processes by an interviewee:

*The fact that people still say that species richness is greatest after a fire, and then load onto that the very human value judgment that more species is better than fewer species, therefore we’ll put more fire in the landscape because that produces more species* (VIC Land Manager 5, interview).

Such symbolic representations of certainty are achieved using numerical policy attributes: more is better, so five percent is better than 1.7 percent. Stone (2012) states that referring to numbers assists in portraying stories of control over helplessness, and that by using numbers at such critical moments, the metaphoric ‘accountancy’ of policy provides certainty and a symbol of control, which people trust.

The problematic use of selective Victorian bushfire evidence to justify subjective short-term responses to the problems of managing native vegetation and bushfire extends even further. The Esplin Report (Esplin, 2003) and 2009 Royal Commission recommendations (Teague et al., 2010) stipulated that the State must improve its scientific understanding of the effects of fire on ecosystem responses as follows:

*The Commission proposes that DSE expand its data collection on the effects of prescribed burning and bushfire on biodiversity. Maintenance and extension of data collection on Victoria’s flora and fauna assets has not been a high priority. It needs to be improved so that more informed and scientifically-based decision making can accompany the development of prescribed-burning regimes that meet conservation objectives as well as accommodating bushfire safety considerations* (Teague et al., 2010, p. 15)

Perversely, the consequence of the 2009 recommendations was that rapid, yet reactive, policy shifts occurred. When considering the short-term cyclical nature of funding and public
attention on bushfire issues, the expectation that planned burning and pre-fire ecological monitoring will be undertaken concurrently, contributes further to the confused and unrealistic expectations of the time that complicated the achievement of either objective. The emphasis on public land as the main site for planned burning is another aspect of concern for land and emergency management staff in Victoria:

*It was curious to myself, and perhaps other people, [that] the Royal Commission only looked at the public land; it was obvious to do that because that’s where the fire professionals are, it’s where the budgets are, the firefighters, the computer modelling, the mapping, the biodiversity mapping, the referral systems. So there was a lot of evidence to suggest that that’s the arena where planned burning occurs* (VIC Emergency Manager 1, interview).

The 2009 recommendations contradicted the more nuanced findings of the 2002-03 inquiry that were ‘not necessarily about burning substantially more land, but rather, burning smarter’ (Esplin, 2003, p. iv). This example again highlights the persuasive influence of external pressures on those undertaking official inquiries to learn from a particular form of history, and acquiring inconsistent reports from authoritative people. The Victorian royal commission recommendations for both prescribed burn targets and also increased scientific study of their impacts has resulted in a paradoxical policy nexus. Both appear valid (managing and monitoring biodiversity, and undertaking planned burning to protect human life and property), yet they contradict one another. According to the royal commission, insufficient fire-ecology monitoring and research prior to 2009 resulted in knowledge gaps which reduced our ability to understand impacts of fire on ecosystems. However, if the five percent target recommendation is evidence-based, then changes to the policy should not take place until there is sufficient evidence which supports more prescribed burning. This is not occurring. Instead, the environmental management department knowingly implemented a policy with inadequate biodiversity knowledge — which also contravenes the statutory requirements of Federal native vegetation management policy (Australian Government, 2012) — but the department is also responsible for the uncertainty surrounding potential unintended negative consequences for both ecological and human protection.

As this discussion of myth contradictions has shown, agencies face challenges when attempting to undertake planned burning programs; they are hampered by insufficient
ecological knowledge, and are limited in their ability to achieve appropriate monitoring and evaluation within short-term funding cycles. Complicating issues further, once major fires reoccur, public debate repeatedly records what has not been achieved, not what was believed or intended, or recognised what were the myths and contradictions, which constrained policy. The knowledge required to challenge the probability of human losses in catastrophic fires has to contend with ideological biases and distortions, with the subjectivities of history and science, all combined with political intent.

b) Simplifying complex knowledge

Overview: As previously suggested, science deals with the complexities of the observed world, of seeking to understand more of the inexplicable. In contrast, this contradiction concerns the ways in which complex knowledge is simplified. The ‘certainty through knowledge’ myth uses strong, simple moralistic messages to emphasise storylines. When communication, complex logic and knowledge are simplified in such situations, perverse consequences arise not just for how complex knowledge is reinterpreted, but also for the impacts on research and policy development, as outlined in the previous contradiction.

Scientific knowledge is derived from an objective and systematic process. Many forms of scientific inquiry can be broadly understood as an endeavour that seeks to achieve greater understanding of the complexities found in the observed world; often more unknowns, rather than mythical levels of certainty, are revealed as a consequence of scientific inquiry.

Some of this seeming fuzziness is summarised in the following reflection, noted in research on government responses to bushfire policy and management:

Ecosystems are inherently variable and complex, a fact often obscured by the simplicity with which environmental problems are portrayed and policy solutions prescribed. As a result of such variability and complexity, environmental issues are characterised by high degrees of uncertainty (Ockwell & Rydin, 2006, p. 381).

As in the previous contradiction and the myths of ‘community’ and ‘conservation’, the media in this context is seen as an important conduit for science and policy. However, regardless of how good the attempt to present the scientific complexity of bushfire and native vegetation management as a counter-narrative in the media, experts must contend with losing control of the story once it enters the media domain:
They don’t give a shit what you say. They just want something that’s going to … they spit you out at the end of the day and that’s it. And they move on ... (ACT Land Manager 7, interview).

Journalists, as story-tellers, are described in unflattering terms that reflects a lack of trust and respect. In the media, scientific storylines must compete with a number of other storylines, often using confusing and hyper-religious framing of the event and experiences, as depicted in the myth of ‘conservation’. The purposive role of religion presented in the media’s narratives of fire and native vegetation creates a tension in cognitive processes that help make sense of the bushfire situation. Such a rich, archetypal and symbolic expression of the world does not correlate with science and technology that is depended upon in land and emergency management agencies. During a tragedy the captivating tension results from storylines that are sacred and moralistic which confront scientific narratives (that are used in policy and in the bushfire inquiries) to provide certainty and a sense of control rising out of the state of helplessness (Stone, 2012, p. 166). Even when presenting the opinions of fire ecologists as scientific experts in the media, the stories build up a sense of uncertainty and division. In the following example, the intent of the scientific story is shown to have been heavily modified for radio:

S: So how do you get something that is complex and nuanced, out to the public?

ACT Land Manager 7: You can’t. I was on [a lengthy radio current affair program] so you get a bit more time to sort of talk about things there. Even then ... I listened to it and I [thought], ‘Oh, God, it’s so bloody simplistic.’ So I pick what they say, [which is] what you should do in communication and media; I pick the key points and I just bang on about them, prosecute those points. I don’t try and make it a complex argument … [or] introduce figures and things. That’s just the way it is. What you hope though is that the media — it gives you your name, association with your name, and gets interest in the issue. How you hope the system works is that once a politician directs a policy-maker to start work on that area; that they look deeply at your stuff. And respond to it. And that obviously doesn’t happen either. But that’s what you hope the process is.

Ironically, when investigating and reporting scientific complexity, knowledge must be simplified for public dissemination in order to tell a story that will capture the media’s attention, and ultimately that of policy-makers. The use and influence of the media as a conduit appears as another subjective and contradictory layer to the myth of quantifying risk. The issue is reflected upon by another interviewee:
Like all complex issues, I don’t know if it’s the media’s fault or not; it’s partially their fault perhaps, and partially society’s fault [for having a] belief in simple resolutions for complex problems ... But the attractions of a simple resolution to a complex problem are always there. We have experts but we don’t trust them basically, in all areas except maybe for medicine. We don’t trust them. That’s a shame, I don’t know where that comes from. If we don’t trust something, then we don’t understand it (VIC Land Manager 5, interview).

This contradiction of simplifying complexity goes further than just the types of information and research being presented to the community. As shown in previous myths (such as ‘conservation’ and ‘certainty through knowledge’) the many narratives in the media data present a simple storyline of blaming government for failure to learn from the past. In contrast, the interview narratives provide a more complete picture of the complexities in on-ground issues faced by agencies on catastrophic bushfire days:

_Part of the issue that I see after fires, is that I reckon there’s a sort of ‘blame the state’ mentality. I think it’s easier to blame the state than blame property holders. In Australia, we don’t blame landholders. It’s not our culture to say, ‘Well perhaps a farmer’s doing the wrong thing. Or a householder is doing the wrong thing, the poor individual householder.’ But [research findings on house loss] would show that really, they have the most impact on whether their house gets destroyed or not. So you know in big fires like that you can’t rely on [an] appliance at each house, we’re not going to have — we can’t have the resources. Even in a place like Canberra where you’ve got pretty reasonable fire-fighting resources, they couldn’t — they had no chance. People love to blame governments, and there’s a certain sort of element of the sort of scientific or land management community that really like to stick it up land management agencies, particularly park management agencies (ACT Land Manager 7, interview).

The blaming response diverts attention from the potential that issues can be viewed more broadly, and therefore blame becomes a cultural barrier to learning. Accordingly, the theme of blame is a critical driver of how ‘learning from history’ is framed around making the government agencies into scapegoats, in order to avoid involving the ‘Aussie battlers’ who have been directly affected by the major fires in some way. Complicating things further, some land and emergency managers note that:

_Many sections of the community ... don’t want the detail, they want it simplified, they want to be told ‘this is what it is’, or, not even ‘tell me what it is’; I’m not even sure what it is they want (VIC Land Manager 1, interview).

Yet another layer of uncertainty and disconnect in undertaking planned burning for risk management is suggested here; where the information and actions of agencies may not
meet the expectations of the broader public, and, those responsible within agencies feel that they cannot negotiate with all of the multiple perspectives of those they seek to protect. Establishing a shared understanding of complex knowledge, conflicted expectations and responsibilities becomes difficult to achieve if the community are portrayed as innocent and are frequently framed as victims (as noted in the myth of ‘community’), whereas it is easy for populist, misleading mythical storylines of simplicity to ultimately blame the government for causing the problems.

c) The challenge of developing quantifiable knowledge to enable control of catastrophic fires

**Overview:** This contradiction responds to issues of control, whether there can ever be enough knowledge to control bushfires, even with the most precise calculations and technological innovation. Increased technical and objective, quantifiable knowledge may not alter the behaviours or the actions of people, when policy-makers are concurrently facing influences such as the impacts of a changing climate, inconsistent funding and competition with other policy areas such as land development.

Recent government policy statements concerning native vegetation and bushfire management (for example, *The National Bushfire Management Statement for Forest and Rangelands* by the The Forest Fire Management Group (2014)), show acceptance of the inherent presence of fire and the strategic application of planned fire, since:

*Much of Australia cannot, and should not, be ‘fire-proofed’. Rather, we need to learn to live with fire and to manage it within the landscape, recognising that fire is inevitable and that many native ecosystems are adapted to and need fire. Planned fires are fundamental to this strategy. They are usually smaller, less intense and patchier than major bushfires. While they do involve costs and impacts (e.g. temporary loss of habitat, production of smoke) they are far less severe than those of major bushfires* (p. Appendix 1).

While this statement suggests certainty in applying planned burning, and justifies its use, there are more doubtful perspectives concerning the application of widespread planned fire to enable humans and biodiversity to co-exist:

*We keep policies around that say, ‘The only reason we’re working, or putting fires into those landscapes is for ecological reasons.’ Well they don’t seem to be, they’re not actually the drivers. Sure, they should be. And yes, we do need fire in the*
landscape, but ... [we’ve] got no idea how to apply it. Probably a funny thing to be saying in my position. More than thirty years’ experience and I’m saying that we’re not really sure what we should be doing (ACT Land Manager 13, interview).

Even with years of fire ecology experience, the use of planned fire remains an elusive tool for land managers. So, while authorities do not know how to control the use of planned fire, policy directives and scientific and political rhetoric increases expectations authorities will use the very technique that is loaded with uncertainty. The excerpt above suggests that there are other insidious layers of influence. The public anger that was expressed after the bushfires in both case studies contributes to the desire to detach from the perceived harm and, in turn, is one way that fire is anthropomorphised into policy. The situation is paradoxical and deeply worrying.

Other land and emergency management interviews express a sense of precaution when considering planned burn programs. This precautionary approach is particularly relevant when planned burns are so difficult and costly to undertake. The high financial cost in undertaking planned burning, when faced with complex and inherent difficulties and gaps in fire-ecology knowledge, is presented in the following reflection:

We had an horrendously expensive ... 6000 hectare [planned] burn about eighteen months ago and we were able to do some good burning in there, but incredibly expensive. So what’s the cost? It’s sort of border-line here [in the ACT] because if you get a run, burns over here, ... a southerly comes in or it gets into the Ash [forests], what’s seen as acceptable there? We’ve got such scrutiny here (ACT Emergency Manager 3, interview).

Another interviewee was concerned about, the lack of definitive monitoring results for auditing purposes:

But what I mentally grapple with is how [to] honestly audit the area. Then how [do we] relate that back to: What’s our burn area? Because the difference [from] one day to the next, given burning conditions will be that we’ll get that [area burnt] or we’ll get [a different area burnt] and next day it’ll burn back over the top and it might make it through that bit of moisture differential. So how do [we] relate that [area] to that [area]? So, I’d really like some good research from around the place done. First off, techniques here, because that’s a bit out of favour now. Also overall strategic effectiveness; we get a case study from where there’s been good patchy ridge-top burning. Does it actually knock out the spotting potential and then the connectivity, or whatever you want to call it, because of it? Or are we just making ourselves feel better by doing it? (ACT Emergency Manager 2, interview)
Establishing quantified monitoring data when the objectives are unclear means that some in the agencies find it difficult to fully understand the consequences of planned burning policies. The difficulty of monitoring something as variable as planned fire for hazard-reduction is not just confined to risk mitigation for humans, since consideration is made of the impacts and flow-on effects to ecosystems, and of whether bushfire risk is actually increased as a result of planned burn regimes. Without sufficient monitoring and evaluation, land managers’ responsibilities to present conclusive results which address policy objectives, as well potential critics, becomes impossible. A similar situation exists with the pairing of insufficient financial and research investment into managing Asset Protection Zones in the ACT:

*It’s research, and financial justification isn’t the right term, but financial valuations over the different possible techniques and then how that runs with climate change as well. Because that’s the killer, you know. Why are we killing ourselves by the burning? Or where does it come to? For some areas, do you say, we’re going to have landscape ... size fires here, and closer, this is how we’re going to actually pull them up because we’re just going to build a massive strategic advantage zone here. So that’s the buy-off. OK, if you agree on that, that’s what we do and this is how we do it. So I suppose it’s really questioning the core values of urban adjacent strategic zones. How effective they are, how much we are going to throw at them? (ACT Emergency Manager 2, interview).*

This emergency manager is expressing the way burning programs can potentially compromise both the biodiversity values of these areas and also provide no certainty of fire protection to housing adjacent to the burnt areas. This concern is parallel to those expressed by land managers in Victoria, who spoke of feeling considerably uncertain about the effectiveness of the 2009 planned burn policy being prescribed for controlling bushfires. There is a process of finding buy-offs, or trade-offs as a means that allows managers to subscribe to the policy, although uncertain dynamics exist between the fiscal costs of the planned burning and uncertainty about their ecological impacts.

The previous discussion of contradictions has centred on the role of simplifying objective and quantifiable knowledge in order to provide a sense of control and of certainty about both the environment and about the socio-political situations that are likely to emerge in the aftermath of the bushfire disasters. As evidence of further contradictory narratives within the mythic notion of achieving certainty through knowledge, the interviews provide a
number of examples where more qualitative ways of developing knowledge about planned fire are proposed when considering complexities of ecological management. To explain this, a comparison is presented to highlight different ways this has been dealt with in the case studies.

The first example concerns the ACT which is still dealing with the repercussions of the 2003 bushfires. Different departments and stakeholders have worked together to develop the Strategic Bushfire Management Plan (SBMP). This required an attempt to deal with the limitations of insufficient quantifiable science, and also a need to be more strategic in deciding which knowledge gaps were most important. Interviewees acknowledged that disagreements between some ecologists in the ACT and neighbouring NSW land management agencies about the use of planned fire. Some believe there is too much burning, while others accept the need for the controversial increases in burning areas adjacent to neighbourhoods and key areas of National Parks. Even so, there appears to be an overall greater sense of cohesion between experts post-bushfire than those described by Victorian interviewees. An interviewee with an ecology background described the shift in relations between various stakeholders:

*The funny thing that happened, I think, after 2003 is if anything there was a change in the fear of burning. Because after that there were a lot more burns. But the big thing I think was that it became strategic. It became much more of a team work; the Strategic Management Bushfire Management Plans — we’re up to version 3, and it’s just being developed at the moment — a massive document that works across a lot of different parts of the ... ACT; it’s on Territory land, so it’s all the Territory Departments. But it’s everybody working together, and through that process gradually, more and more, they’ve actually recognised and calling them now ecological burns. So they’re recognising that ecological burns are justified. And I think there’s been a change in attitude towards that, and a change towards the conservation people that are given a lot more respect than there used to be. I think it was that everyone didn’t really trust each other at first, would be probably a good way to put it. And feeling that everyone was just pushing their own barrow (ACT Land Manager 10, interview).*

For those closely involved, the SBMP planning experience has stimulated ways of reaching compromises for complex problems that are unifying rather than divisive. As an outcome of better communication and planning processes, a loss of fear of fire, and therefore fewer ideological misunderstandings resulted amongst some groups involved in environmental
management. For those with conservation or ecological backgrounds, the strategic process provided them the opportunity to gain respect from other stakeholders. The following example demonstrates how this process has been achieved in the ACT, when numerous stakeholders with conflicting ideas and objectives for a fire-affected catchment gained insights into the multiple competing objectives:

[Criticism] was coming from the Water Authority … from the Bushfire Council, the Rural Fire Service … from the Green movement … the ANU, and some of those lecturers. Everyone was saying ‘you’re doing the wrong thing’. And it was interesting because we were trying to balance all these, all the requirements that people want out of that particular area and come up with an outcome. And we took them all, we were sick of this, so we got all of them onto a bus, and we took them out into the field. And we stopped at one spot out in the field, and we had all those electricity people, and the fire people and we said, ‘Look, we think this is a really good opportunity to get in here and get rid of all the blackberry, a concentrated effort and we’ll get in and spray the blackberry and get on top of it’. And the environmentalists said ‘Yeah, that’s a bloody great idea, it’s a great opportunity’. The Water Authority said, ’No! Not on your Nelly, because that’s holding the soil together which is draining for our water, because we want water’ … And then we mentioned that we’ll look at the road network and we’ll decrease the number of roads and look at more strategically placed roads, and of getting rid of most of them. The Rural Fire Service said, ‘No, no, no you don’t. You need those for later on’. The catchment people said, ‘That’s great, because it’s less erosion’. The Green people said, ‘That’s great because there’s less areas that people can get into’. And we just sat there and let all these arguments go backwards and forwards … We put out, straight after [the fires], we flew seven thousand tonnes of infertile rye, just to get some vegetable matter back into the soil. And the Rural Fire Service said, ‘You’re crazy’. And they got up us for it, and were going to take us under legislation because that’ll grow … and there’ll be this fire risk. And we’re saying, ‘you’ve got to be joking?’ And others were saying, ‘That’s great, because it’s binding the soil together.’ But others were saying, ‘it shouldn’t have been rye grass, it should have been native seed’, … even though there was no seed [after the fires], you couldn’t collect it … so we got all this group together, and they soon came to the realisation … that we as the land manager were trying to balance all those things, and that they, because they had their view and that was it, that’s what you should do … So that was really interesting with management of a resource (ACT Land Manager 7, interview).

As a result of some years of closer co-operation when developing the SBMP, the process is now described as being undertaken with due care and good science:

The interesting part is that we do have this very, very good strategy I think in place in the ACT. But it does only cover Territory land … (ACT Land Manager 10, interview).
Conflicted perspectives remain more pronounced in regard to the management of Asset Protection Zones, and to those lands managed by the Commonwealth, as discussed earlier. The following reflection notes that more intense conflicts occur when private space merges with public land, and private-professional environmental interests add to the need for reaching compromises:

_Canberra’s a pretty interesting place because it has a very well-educated CSIRO, scientists in the suburbs, in the backyards of the Nature Reserves; or Nature Reserves are their backyards. And some of them don’t really like what government’s doing_ (ACT Land Manager 13, interview).

Despite this conflict, the involvement of varied stakeholders in the SBMP process, combined with the presence of highly knowledgeable ‘backyard’ scientific monitors, has inadvertently allowed the stakeholder relationships and the plan’s development to be more thorough and, over time, better accepted:

ACT Land Manager 10: _The conservation movement is very, very, very much involved, there’s no doubt about it. There’s frustrations, as there always are. It’s interesting having been in government as an ecologist ... and in the conservation area inevitably sometimes communication is difficult, but it often depends on the people. You know, honestly it’s such a small place, you know people. And putting it bluntly, sometimes the government people are very constrained in what they can say and it’s quite useful for them, for others to be able to say it._

S: _On their behalf?_

ACT Land Manager 10: _In a sense, yes, that’s right. The things they can’t say, that they’re concerned about ... whether they tell you something, which is isn’t that often, because people are circumspect, or whether it’s quite clear that their concerns are similar and they are not able to do it._

These professional networks allow for biodiversity issues to be considered within the planning processes, rather than in the more adversarial ways described in previous myths. By having a networked partnership, once-silenced voices become part of a knowledge conduit. In the ACT this appears to have encouraged respectful communication between levels of government decision-making, as this reflection from an emergency management interviewee on the department of Conservation and Parks shows, when faced with the challenge of determining an appropriate bushfire management plan:

_Personally I think they do as good a job as they could under the circumstances, and they do work really hard to produce that document, and it is a pretty good document._
And it does try to take everything into consideration: all the environmental issues, the ecological issues, the indigenous issues. Trying to manage things and give those mosaic burns ... because we’ve got a little area and it was all badly burnt, and we didn’t have a BOP [Bushfire Operation Plan] prior to that. So we don’t need — there’s no point in saying, ‘we’ll burn x percent amount’, because that doesn’t mean a lot. We’re better off saying, ‘Here’s a map, this is what we’re going to do. This is our five-year plan. We’re going to burn this, we’re not going to burn that. We’re going to try and burn this with all these different intensities, and we’re going to manage it accordingly. Try to manage everything’. And at the end of the day, the prime thing is the fuel management (ACT Emergency Manager 3, interview).

Some of the changes in perspective are shown to be part of a conscious approach to providing supportive and positive experiences, created in part by on-ground land managers, to help shape experiences and cultural memory following the challenges of catastrophic fire on public land:

_S: I’m interested in the cultural memory of fire and where we’re getting some of those memories, whether they’re short term or long term, whether the stories we’re adding to our cultural memory will possibly change because of what you’ve been doing with the planned burn program._

_ACT Land Manager 7: Well, I think a lot of it’s that the emotional intelligence where people are swinging off experiences, I suppose: ‘This happened at this time, so this is what’s going to happen’. The more that we undertake these prescribed burns, the more that we do them in a very professional and structured way, and people see their emotional intelligence I think, will be more swinging around to, ‘Yes, I saw a prescribed burn done in this environment in this way, and it came out really well’. And I think that’s over a period of time. There’ll still be some people who haven’t had that exposure, and still reflect back to the 2003 fires but I really, really am positive that that’s getting less and less. Because the more we educate people the more they see, and it’s proof in the pudding, we’ve got to get out there and show them, it’s all very well talking about it, but we’ve got to get out there on the ground and show we can do it. So [we’re] really conscious of that, and that’s why we’ve spent a lot of time on training. Training to the point where, you know, people are probably getting sick of training.

In Victoria the situation differs considerably amongst the public land and emergency management agencies (Parks Victoria, DELWP – formerly DEPI and DSE – and the CFA), which do not appear to be as well-supported or coordinated in sharing knowledge. In one fire-affected location, community angst regarding regeneration after the 2009 bushfires forced under-resourced staff to support the community by sharing their own experiential ecological knowledge, because of a lack of external support:
During the summer following [2010], we had some very nervy people around in the community saying, ‘you know, what are you going to do about the regeneration? It’s another Black Saturday waiting to happen.’ And so I had a number of discussions with DEPI just saying, ‘you guys have got to be in this space, you’re the lead agency for fire. You need to come and talk with the community down here about what does this mean? I don’t have the capacity to do it’. There was lots of talking but no action (VIC Land Manager 6, interview).

Departmental segregation in Victoria has led to a breakdown in communication of expert knowledge, despite the implementation of new planned-burning programs designed to overcome the problem. The tendency for departments to be ‘mechanistic and ... that can become compartmentalized’ (VIC Land Manager 8, interview) applies to agencies across jurisdictions, as some of the ACT case study narratives showed. Numerous comments in the Victorian interviews denote the impacts of marginalising more honest discussions, such as those undertaken in the ACT. For example, a program was developed by the former Department of Sustainability and Environment (DSE) prior to the 2009 Victorian bushfire (Department of Sustainability and Environment, 2013a, 2013b, 2013c), that featured facilitated, conversation-based methods, but this has been mostly subsumed by more ‘fear’-oriented approaches (according to an interviewee) because of the difficulty in maintaining what were described as more ‘creative [program development] cycles’ in organisations (VIC Land Manager 4, interview). Similarly, to overcome these traditional mindsets so that government agencies can engage more closely with communities and internal stakeholders, the following reflection highlights the need to integrate complex or ‘holistic’ perspectives when communicating and building relationships with those people living in fire-prone environments:

You have to consider people as a ... whole person, and consider that they don’t live their lives with little priority risk-analysis lists in their head. They have their own subjective one that doesn’t necessarily match with Government’s, and it changes from minute to minute and if you can’t address people with that view and with a holistic ... invitation ... to talk, they’ll [say] ‘oh, I can only talk about water, or I can only talk about, but I want to talk about all of these things and how they connect to my life and how it connects to our experience right now and what our issues are’... I know that there will never be a point at which government can have a completely holistic discussion that kind of really reflects what people, how people really experience their place and their world; but I think that even if it could be recognised more, and understood more, then people wouldn’t kind of, get so surprised when boundaries are crossed or, they would be less — almost risk-averse to sort of having a more open ended approach (VIC Land Manager 8, interview).
The situation filters from Head Offices to those in the regions, which forms a sense of discontent, as explained further by Victorian Land Manager 8:

_"I see plenty of regional people who are like, ‘why won’t they just listen to us?! Why won’t they just do what I say?! So yeah ... lately, working in the way that we do now where the head office set[s] a policy, like the directive, is much more directed to regions than it used to be. But it’s kind of a paradox, because it’s sort of directed, but at the same time regions are meant to be fully autonomous, or they sort of take the general ideas, and then localise it" (VIC Land Manager 8, interview)._ 

The Victorian government agencies’ efforts to abide by the myth of ‘certainty through knowledge’— and to focus on attaining quantifiable knowledge — results in a tendency to avoid viewing problems from other perspectives. In contrast, improvements in the ACT have been achieved through better communications that enable shared compromises, which in turn create better risk-management planning and programs. The ongoing paradoxical situation in Victoria is articulated by an interviewee with a forestry background:

_"I’ve come to see fire as being more of a social thing than a physical thing. Oh, I’m probably seeing vegetation as a social thing; how do you even come to the concept of vegetation except as a human concept?" (VIC Land Manager 1, interview)"

In summarising the predominantly quantified and restricted approach when dealing with complex, dynamic and qualitative issues, this comment reaffirms how ‘certainty through knowledge’ is bound by human constructions.

The ‘certainty through knowledge’ contradiction is concerned with challenges in seeking out quantifiable knowledge. The exploration has shown that supporting cultural change and knowledge development ultimately depends upon trusting relationships between stakeholders, which can better handle the uncertainties of planned burning and ecological biodiversity management issues. Yet, in neither case study has the media provided sufficient support to allow increased or improved positive public dialogue, which in turn enhances the government agencies’ capacity to share expert knowledge. Research undertaken by others on the polarised planned burning disputes has confirmed the paradoxical situations facing land managers:

_The technical and ecological literature on prescribed burning shows that, despite considerable advances, high levels of uncertainty remain. Indeed this uncertainty may be inherent to fire_ (Altangerel & Kull, 2013, p. 104).
The situation is not helped by public calls for rapid response, even though much of the work takes years and does not follow a linear process.

**Myth of ‘government control’**

**Summary of myth**

The myth of ‘government control’ primarily concerns the belief that fires on public land and the risk associated with fires can be, and should be, controlled by government. The implication is that government is perceived as responsible for control of the environment either through regulation or direct management at multiple tiers of government. The intense debates around human impacts from uncontrolled bushfires drive various interest groups to lobby government. Associated with these debates and lobbying is the emergence of a storyline referring to the need for Indigenous fire (hereafter called Traditional fire) to be used by governments, in order to control risks associated with native vegetation.

In the following analysis, a number of storylines relating to this myth are organised according to their close associations with particular issues and frames of government, management and public land. This myth differs to the previous myths examined, because it integrates issues previously raised in other mythic storylines that culminate with impacts on, and perceptions of, government. Issues are grouped together because the boundaries between the storylines are fuzzy. The mythic storylines can be summarised as:

- **a) Governments should have learnt from the past to prevent future catastrophic bushfire situations recurring;**

- **b) Governments are blamed for neither controlling nor communicating the bushfire threat and risk to humans;**

- **c) Governments are responsible for controlling what is described as poorly-managed native vegetation on public land;**

- **d) Indigenous (or Traditional) fire is a solution to the bushfire problem, because of storyline;**
e) The pre-1788 Australian environment is perceived to have been risk free.

Construction of the myth

Government land management agencies have legislated responsibility to manage bushfires on public land; however the myth interprets this responsibility more broadly, as a duty to control the environment and to remove what can be described as socially-constructed risks so that they do not impact humans. The historical precedent for government’s responsibility for removing risk from the physical environment in order to protect human life and property is documented in bushfire inquiry reports and, as previously suggested, is culturally enshrined within Stretton’s 1939 Bushfire Royal Commission. What is relevant for the myth of ‘government control’ is the way the 1939 recommendations set the scene for government to improve the chaotic and disconnected public land management practices preceding those bushfires:

Control of all Forests.—The Forests Commission should be placed in complete control, for fire prevention and suppression purposes, of all forests, except in those areas in respect of which it has been recommended that they should be exempted from control by any other department (Stretton, 1939, p. 24).

The media frequently present Land management agencies as contributing to the high loss of life and public assets in forested settlements. This contribution is framed as omission; a lack of coordinated and responsible process; not actively controlling catastrophic bushfires; not controlling the biomass, or fuel loads, in public forests prior to the ignition of unplanned fires. The 1939 Royal Commission recommendations set a precedent: that the public perception of ‘good’ management involves active management.

Foresters, as former land managers of some public forests now managed as national parks, repeatedly say that they had previously managed forests (controlled nature) better than twenty-first century agency management efforts:

It should never have happened ... The Canberra bushfires could have been prevented if resources had not been continually pulled out of forestry settlements ... over the past 20 years, according to a former forestry worker (Hannaford, 2003).
A particular group of forestry academics have been frequent media commentators in the aftermath of the bushfires, providing expert opinion on how governments should do better, for example:

*Bushfire academic David Packham this week was scathing of the modern ‘pseudo-science’ that puts protecting trees above protecting people. It has been a difficult lesson for me to accept that despite the severe damage to our forests and even a fatal fire in our nation’s capital, the political decision has been to do nothing that will change the extreme threat to which our forests and rural lands are exposed to* (Bolt, p. 32, Herald Sun, 11.2.2009).

As these examples demonstrate, media narratives function as a conduit to construct politicised and blame-themed storylines, and can express scepticism on behalf of the public. Many media stories express anger directed at government agencies, and contain storylines which attempt to influence the moral tone of public discourse, even if some authors, as above, claim to be ‘in no mood for blame throwing’ (Bolt, 2009a). Public land management is portrayed as ill-advised, where conservation of biodiversity harms both the assets of forests and humans, as discussed in the myth of ‘conservation’ above. The depiction of neglected, hazardous forests also provides context for the myth of ‘government control’, which is also associated with myths of ‘conservation’ and ‘community’. Societal expectations at times of crisis heighten perceptions of control and risk, particularly when emergency management adopts a command-and-control approach. In 2003 the issue of whether government was losing control became a divisive political debate during the long campaign to control the ACT fires, when ACT Minister Wilson Tuckey was reported in the *Canberra Times* as saying:

*There is a significant number of Government backbenchers concerned about this [fire] and they don’t believe the state fire authorities are doing as much as they should be doing to keep these fires under control and put them out* (Peake, p. 9, Canberra Times, 6.2.2003).

Numerous other examples, some presented below, criticise the inadequacies of governments’ fire management, framing it within the context of historical perceptions of governments’ inability to control risk:

*Management faulty: ... In the face of this disaster, as Canberra looks to point the finger of blame somewhere, let it point at least in part towards the management of our bush lands and the decision-makers and laws that govern them. Over the past 40 years the authorities have locked an ever-increasing amount of the Brindabella*
ranges and surrounding bush lands away ... Land management stopped at the locks on the gates (Bradly, p. 48, Canberra Times, Letters to the Editor, 26.1.2003).

Inquiry into firewall Government- It would appear that the Canberra fires in 2003 have taught us very little, and the politicians a great deal about damage control. Any royal commission into the Victorian fires will be a back burning exercise protecting State Government interests (Michael, p. 39, Letter to the Editor, Herald Sun, 12.2.2009).

Since 1939 governments have been warned repeatedly of the perils of not burning off forest fuel. On Saturday, did unheeded warnings end in deaths? John Brumby says we will call a royal commission into the fires that have so mauled us (Bolt, p. 38, Herald Sun, 13.2.2009).

While highlighting a range of failures in governmental responses and planning — failed communications, inadequate first response and inadequate planned burning — Traditional burning is conscripted. Proponents of the myth of ‘government control’ argue for reintroducing pre-1788 Indigenous Australian fire regimes. The storyline introduces politically sensitive issues in terms of historical land management and cultural associations with fire and the native vegetation.

The myth encourages the search for a method of creating a risk-free environment, and proponents argue that Traditional burning practices will assist in reducing fire risks and in the regeneration of biodiversity, consequently decreasing the likelihood of major catastrophic bushfires. This type of planned fire is framed as a necessary tool for both land management and the integration of cultural knowledge into broader society. This storyline of the myth is frequently told publicly by European Australians, as in the media quote below:

The bush is not a fragile thing that can be left with minimal intervention. It is hard, brittle and unforgiving. It responds to burning because that is how it evolved under human influence. If you want to see what it looked like when Europeans arrived and eulogised over its open grassy nature—which we now know was an Aboriginal cultural artefact — look at some of our early colonial landscape paintings (Taylor, p. 11, Canberra Times, 4.2.2003).

Traditional fire is portrayed in the myth as a solution to the bushfire problem, but it is ironically derived from nineteenth-century Arcadian visions of Australia felix (Goodman, 1988). Espoused by explorers, writers and early colonisers (Lansbury, 1970), early records state that there was bountiful grassy, lush green open space for profitable new agrarian
land use, and likened to English ‘parks’ (Griffiths, 2001), as discussed in the ‘cultural landscape’ myth. While these landscapes were described in such terms for readers of another era, and Indigenous Australians were written out of history, contemporary interpretations of historical records give more prominence to Indigenous land management processes in influencing native vegetation distribution, with the additional benefit of creating a safer landscape in which to live. For example, Gammage (2011) says that:

After 1788, some newcomers imitated 1788 burning, or thought they did, but most banned fire, which meant abandoning land to erratic fire. What happened speaks volumes for the precision of 1788 burning. Either bushfires increased in number, severity and extent, or fire sensitive species were favoured. Both transformed plant communities (Gammage, 2011, p. 122).

This revised Arcadian vision of the landscape remains dependent on the influence of what Lansbury (1970) describes as nineteenth-century English understandings and their desire for the potential of creating new economic and social hierarchies in this new country. These more recent historical interpretations illustrate not just a shift in the cultural layers of the myths, but also in the political nuances where Indigenous land rights and cultural management practices are valued:

If colonists credited Aborigines with making these landscapes, they would implicitly be recognising them as civilised. Instead Australian settlers repeatedly declared the parks ‘natural’—a significant conclusion not just because of its denial of Aboriginal agency and ownership but also because it suggested that, at least in this respect, Australian nature was comparable to British culture (Bonyhady, 2000, p. 79).

As an indication of the efforts to learn from the historical exclusion of the Indigenous peoples of Australia from land management, there is widespread generic government acknowledgement for increasing Indigenous Australian participation in land management policies. As one such example, goals within the Federal Native Vegetation Framework (Australian Government, 2012) seek to ‘[advance] the engagement and inclusion of Indigenous peoples in management of native vegetation’ (Australian Government, 2012, p. 64).

Summarising the myth’s storyline details and narrative themes

The myth of ‘government control’ captures aspects of land management undertaken by government departments at Federal, State and Territory or Local government levels that
focus on control at times when ecological and social upheaval is intense. While the central storyline is that governments should have learnt from the past to control bushfires, this is often debated due to the perception that governments should control the uncontrollable fires and thus prevent them from harming humans. The myth of ‘government control’ presents risk and its management as the responsibility of government. One way of dealing with risk is presented in the arguments about applying Traditional burning regimes in order to create a risk free landscape, as depicted in the nineteenth-century colonial records. These storylines are presented with themes of blame, politicisation, as well as the struggle of dealing with, and being able to comprehend, complexity.

Contradictions of the myth

The myth of ‘government control’ and its themes are set within what can be described as an:

*Over-arching paradigm that you can control everything; the whole [of] society is built on this idea of control and we keep adding a new thing, a new decision, new practice, new direction, action (VIC Land Manager 2, interview).*

This comment is a reminder that myth does not, and cannot, function in isolation. In this case, the complex interactions between environmental issues, bushfire disasters and other anthropocentric spheres of influence are barely represented in the myth of ‘government control’, since a simple storyline is more captivating and recognisable in the re-telling. However, as the contradictions below demonstrate, there are layers of alternative responses which endeavour to challenge the simplification of the myth and the concept of government as being able to control the environment:

- a) Governments control most fires, both planned and unplanned;
- b) Learning from history occurs on an individual level but this is not publicly acknowledged;
- c) Reinterpreting Traditional fire practices is portrayed as a solution.
Articulating the contradictions

a) Governments control most fires

Overview: Although there is a widely expressed belief following major bushfire that governments do not, but should, control bushfires, analysis reveals another storyline that suggests that governments do manage most bushfires and planned fires. There are confused expectations that government should be responsible not only for controlling planned and bush fires, but also for controlling environmental harm. The contradiction explores how myths direct moral values (Cuthbertson, 1975; Dundes, 1984; Fischer, 2003b), which then influence the extreme demands that authorities control all fire.

The role of official inquiries helps foster the expectation that all fires should be controlled. For instance, the McLeod Inquiry (2003) found that the ACT government needed to improve its approach to bushfire operations management, yet the Strategic Bushfire Management Plan 2014-2019 notes that:

In the past 10 years, more than 95% of all bushfires in the ACT were less than 1 hectare in size. This reflects positively on the early detection, readiness, response and access that are provided by ACT Fire Services and land managers (p. 16).

Similarly, in Victoria ninety-eight percent of bushfires are controlled by agencies (Department of Sustainability and Environment, 2008) and those not included are the two to five percent of bushfires which are catastrophic in scale and are described by some fire ecologists and land managers as being uncontrollable. Even when using statistical certainty to help departments tell their success story, the public expectation is that control should be better. The effective management of nearly all bushfires has ironically reduced the occurrence of a natural process in the south-east Australian environment (Department of Sustainability and Environment, 2008, 2009, 2012a).

According to an interviewee, the absence of certain fields of expertise within Victorian land management agencies contributes to the paradoxical social and political demands to control fire:

The message that’s spread out after the fires was that if you did more prescribed burning, you wouldn’t have wildfires. And partially that is the department’s own fault, particularly the foresters within the Department, because they have led people
to believe — including the public, politicians and the senior managers, who of course know nothing about what they’re managing — that if you give the department more money, they can promise you by using that money to put in planned burns that you won’t get wildfire problems. We’ve over-sold our capacity to control bushfires. So in that sense we’ve been hoisted by own petard (VIC Land Manager 5, interview).

The historical reference to the forestry lobby in this reflection again signifies how that lobby has been able to retain a powerful influence in arguing for maintaining age-old forestry management techniques as priorities for public land during the twenty-first century. The forestry industry’s influence on framing the management of native vegetation and quantifiable risk is also noted in the myths of ‘certainty through knowledge’ and of ‘conservation’. Similarly, this kind of approach also distorts public land management into a spectrum of tall, densely-timbered forests rather than the more diverse ecosystems that exist in south-east Australia, thus framing complex land management into that of a single vegetation class.

Reports of the repeated failure to increase fuel-reduction burning are often cited as a reason for the unsuccessful control of major bushfires. Yet even critics of government approaches acknowledge that planned burns are not a salvation:

*Prescribed burning is not intended to stop forest fires, but it does reduce their intensity and this makes fire suppression safer and more efficient. Prescribed burning is not a panacea nor does it work in isolation. It must be used in conjunction with an efficient firefighting force* (Expert witness statement, P. Cheney, Vol 1, Doogan, 2006, p. 68).

*After the [Victorian] Alpine fires of 2002-03, Esplin found that between 1989 and 1998, the government’s fuel reduction burning — low intensity fires that remove flammable bush build-up such as bark and leaf litters — had dropped off. He concluded that fuel reduction, or prescribed burning, was not a panacea, would not necessarily prevent bushfires, and its effectiveness was almost impossible to measure. But more should and could be done. The rub was this: his [Esplin’s] inquiry found that governments faced real constraints. Expert advice concluded that the government had a window of only about 10 to 12 days each year in which to safely conduct fuel reduction burns* (Bachelard & Fyfe, p. 3, The Age, 15.2.2009).

The second extract notes the limited timeframe in which to undertake prescribed burning, an issue that is seldom explained in the media or acknowledged by critics of government actions. As supported by the discussion of the previous myth, even if fuel reduction burning
has occurred, bushfires are uncontrollable on catastrophic bushfire days. During the ACT bushfires of 2003, an interviewee involved in fire suppression recalled that:

The fire bloody beat me back and I drove over the hill just in time to watch this woolshed explode, and it was just burning across paddocks that they’d been feeding sheep in for years, literally. There was no grass, there was nothing to burn and there was this big blue gaseous thing rolling up the hill and it didn’t matter what, you couldn’t have got more intensive fuel management than what had happened there, and it made no difference whatsoever. It didn’t slow things down at all (ACT Land Manager 3, interview).

This terrifying reflection provides an insight into the sheer scale and uncontrollable force of the bushfire that agencies and volunteer fire-fighters were confronting in the firestorm of January 2003. Similarly, the following interviewee with fire-ecology expertise says that the scale and intensity of the Victorian bushfires meant that even with prescribed burning and forestry practices, there was no safety net to protect human life and property:

[I got a] map of the biggest fire, the East [Kilmore] and Murrindindi fire complex, and I just looked and I saw that if I overlaid prescribed burning and tenure and logging history, I got this complete mosaic of land uses. And I noticed for instance that there had been a heavy concentration of prescribed burning around Marysville, and yet Marysville and all but a couple of homes just got destroyed (ACT Land Manager 7, interview).

In contrast with the storylines of the ‘government control’ myth, these comments show that expert opinions contradicted one another; partly because each bushfire occurred in different conditions, and partly because the myth presents a contextually static ideal of how the environment will respond to broad-scale human endeavours of control. During the post-bushfire period the consequences of presenting such confusing factual understandings from selected expert opinions, is that the media storylines focus on blame and politicisation which are extremely effective, and fail to provide any clarification of how government should act. Paradoxically, because the media has such success in simplifying complex and contradictory issues according to mythological principles, these storylines predominate. They represent appealing resolutions upon which unattainable and misleading claims are made, which in turn, are apparently successful at making sense out of chaos. In an emergency manager’s reflective approach, a cultural shift is needed:
Some of the things we’re never going to know what the effect — the combined effect of all these planned burns are having on the systems; there seems to be complexity that’s hard for us to see and imagine, that shows us these things will persist in time-scales and landscape-scales that we’re not used to thinking about. So let’s not worry about nailing the science, we’re never going to have enough money, society can’t afford and what would it show us in the end? (VIC Emergency Manager 1, interview)

This reflection offers two views of the problem of unrealistic expectations of controlling bushfires. Firstly, an inherent inability to comprehend the ambiguity of the world infers a prospect of economic and political futility, since these two influences critically impact on decisions about whether to undertake risk management programs. The other reading of this reflection is that realising there is only so much humans can do infers a deeper need for humility, and total control therefore becomes irrelevant. Looking at the problems through a lens that encompasses humility, and therefore scales beyond human society, may provide new ways of considering the bushfire problems. Doing so could challenge the storyline of ‘government control’, which relies upon the symbolic static and simplistic power of myth to be successfully and repeatedly articulated.

b) Learning from history occurs on an individual level but this is not publicly acknowledged

Overview: A number of examples in the myth of ‘government control’ involve storylines that describe how government agencies fail to learn from history in order to improve their capability of controlling bushfires. However, within the interview discussions there are numerous accounts of learning that is based upon personal experience and agency history. Significant reflection appears to have occurred within the agencies after each of the major bushfires, resulting in changes in organisational structures and policy. Some of this change was stimulated by the findings and processes of the bushfire inquiries. A number of the interviewees have retained their positions within the agencies, and can pass on institutional and environmental knowledge. Both case studies feature reflections by interviewees about land and fire management, including deeply personal reflections concerning the impacts of personally experiencing catastrophic bushfires. As silent stories, these interview reflections contribute rich reflections from which to learn.

As previously discussed in the ‘certainty through knowledge’ myth, the Victoria government’s policy-shift in 2010 introduced the environmental management department’s
five percent planned-burn target policy. Being responsible for its implementation, the interviewees address a range of conflicting beliefs and responsibilities associated with this policy change. Staff with backgrounds in biodiversity management and fire ecology felt the policy represented something completely at odds with their scientific knowledge and experience:

*I think the logic [behind the theory of planned burning] is solid, but of course a lot of what we do, particularly in relation to bushfire, it is not logical. It doesn’t mean it is bad, but it means logically the facts are often not a very big part of the game. It’s the motions, and political posturing and grandstanding* (VIC Land Manager 5, interview).

In this politicised context, specialist scientific knowledge and experience that seeks to comprehend complex ecological issues is confronted by over-riding pressures to apply policies that many felt were not based on sound scientific research. The interviewee elaborates:

*The people on the other side of the argument, and this literally goes on the other side of the table, are forced to take up a position that I know many of them simply do not hold. They know how stupid these hectare targets are, they know how simplistic the way a lot of planned burning is done now. But that is the direction from the Minister and, as public servants, they are required to follow the Minister’s direction* (VIC Land Manager 5, interview).

Such political and procedural changes appear to be made in response to broader public narratives calling for increased controls of the environment, outside of expert judgment and experiences that exist within the departments. Some staff, through their involvement in their land management agency’s efforts to learn from the past over a number of decades, are conscious that multiple complexities must be combined with organisational constraints. The following example outlines this challenge to work towards changes in policy objectives that land managers believe are contradictory:

*The [bushfire] code of practice clearly states that ecosystems’ resilience is an important aspect of the burning program, and we have geared up our resources to do First Attack a lot more effectively, that initial suppression of wildfires, to knock it on the head, and get it under control before it spreads too far. So that’s a positive thing. I guess where it counteracts is that we’ve got these planned burning targets. So we’re trying to put out fires as quickly as possible in the summer, and then in autumn we’re trying to burn large tracts of land* (VIC Land Manager 7).
Despite the political pressure to adopt ministerial directions for the five percent planned-burn target in 2009, the concern felt by Victorian staff stimulated individuals within the agencies to surreptitiously use their scientific and political skills to amend the policy over some years, based on their experience of working within the organisational system and their in-depth knowledge of their regions.

There’s a lot of work going into ... the risk landscape research that aims to, rather than just do a blanket five percent, work out where the areas are of greatest risk and what’s creating that risk, and then what can be done about it to solve it ... I’m hoping that it’s an attempt to find a better way of doing it than just burning huge areas, or burning five percent every year. But also perhaps as a political solution to give politicians that have come out and said we’re going to implement the recommendations, ‘here’s how we’re doing it,’ to give them a way of still reducing the risk, but doing it in a scientific way without burning quite so much. So I think there’s some subtle stuff going on (VIC Land Manager 1).

In this particular case, the Phoenix Bushfire Landscape Risk Quantitative Modelling Tool (as discussed in the case study introduction) was developed collaboratively with a university for use by teams of regional land management agencies. Over time the use of this predictive model has resulted in successful reframing of the policy. It appears that the Risk Landscape program’s development of the model extends the symbolic translation of technical knowledge which is associated with the heavily politicised values of risk and control. This has enabled the quantification of risk and control objectives, sufficiently to be useful in altering alter bushfire management policy and public discourse.

In terms of the time-frame for learning by agency staff after bushfires, a number of interviewees the ecological dynamics with which they deal, long after media attention has passed. In the ACT, the ecological and political impacts of the bushfire aftermath are still being experienced, more than a decade after the event:

2003 was obviously a massive, massive event for the ACT, and as an agency it defined our future, essentially. It changed, changed everything from the way we did everything. We lost, well, sorry, didn’t lose, but eighty percent of the estate was severely damaged and it’s really just in that full-on recovery phase now ten years down the track (ACT Land Manager 12, interview).

There is an ongoing disconnect between ecological and political cycles, and the example above highlights the contradictory and complex problems that fall outside staff capabilities. Regardless of this conundrum, some interviewees within the ACT land and emergency
management agencies recognise that there have been genuine efforts to change practices in
order to improve their capability of managing bushfires:

We’ve taken on very much a strategic role where we look way outside the boundaries
and try and break down fire-runs before they can get going, as opposed to the
defence at the back door. [The 2003 fires] created a new corporate mentality about it
as well. We have what are called designated fire positions now, that fire is now a
mandatory component of everyone’s work. It’s acknowledged that fire is just part of
natural resource management — whether it be managing the fuels, suppression or
the post-fire recovery (ACT Land Manager 12, interview).

Strategy, as described above, is aligned metaphorically with vision and with the ability to
expand one’s view; it encompasses both a tactic and a way of thinking. In this context, vision
is literally part of the broader focus for organisational development. Similarly, a number of
ACT interviewees — also discussed in the previous myth — described how increased
involvement between the agencies and Bushfire Council members and researchers in
development of the ACT five-year operational SBMP has proven to be a productive and
collaborative effort:

We had a lot of discussion with our environment colleagues, from Conservation,
Planning and Research, who we work very well with. And in fact it was at that time,
that I realised we really needed to reinforce their ability to monitor and assist with
fire decisions. So a position was put over there out of [the] budget; gave them the
budget to fund a position who was in effect a link between the two [agencies]. And
they come up with some good things, and some ordinary things. But at least we’ve
got that capacity there, which they didn’t have before (ACT Land Manager 8,
interview).

Following these examples of the ACT’s approaches to improving agency capacity to
undertake planned burning, the process of improving and sharing professional and
ecological learning, described above, highlights how changes to working relationships and
the range of opinions can occur. This can be described as learning from personal experience
and observations, or from history, and has enabled the department to move in a better
position to fulfil policy obligations. The need to develop respectful and honest connections
with people outside agencies is also expressed by a Victorian interviewee:

Maybe it’s human nature to want an explanation or a cause and we just doggedly
pursue it until you get it. But the reality is that we’re not going to be able to stop
losses and we can’t make people do things. There’s not a justice in this, and perhaps I
have the luxury of philosophising about this because I haven’t been burnt out myself.
And maybe it would be different if I was traumatised, but I have a hunch that we can help people recover better and be better, more resilient and better prepared by having conversations about the ecology, what it is to be, what it really means to live with fire. Not just clean your gutters, but something that’s a bit deeper (VIC Emergency Manager 1, interview).

This suggests that the ‘deeper’ conversations can lead to better learning, not only for staff, but also for communities in fire-prone areas. There has been an ongoing challenge to have a more conversational approach consistently supported, to enhance community awareness and inter-agency relationships, discussed in the previous myth’s contradictions.

In relation to the programs that land managers are expected to undertake on public land, in order to control bushfire, a number of land managers spoke about the complex range of issues involved in undertaking planned burning programs. In Victoria the situation has been exacerbated by the need to reach the five percent planned-burn target that was described as ‘impossible’ to implement (Victorian Land Manager 1, interview). The following extract from an interview encapsulates a number of extremely complex situations that confront land managers in the high fire-risk settlements:

S: Are there other ways that have been used to communicate with community and other people within other agencies around the issues of vegetation management and fire? Wildfire and planned fire?

VIC Land Manager 6: Not really. If you mean in regard to the regeneration and the perceived risk within the community, nuh. There’s nothing — it’s been talked about and I get the feeling, well, it’s been put in the too-hard basket. Because the greatest threat is seen as [coming from X direction]. If [X Township’s] going to get threatened again it’ll be the [X] face, it’s not going to be from the north, because just the slope and fuel-loads and so forth on the [X] face. So we’re still grappling with that. I’ve had some discussions with the Risk Landscape Group, and as part of the analysis you give a rating on what’s treatable areas, and we’ve pretty much wiped out most of the [X] face of the treatable area. Because if you look at the park boundary, it’s probably forty percent of the vegetation of the [X] face is private property. So, to get that there’s a lot of work that’s going to have to be done in regard to getting a program to reduce fuel on the south face, across different land tenures. So ...really, it’s just too hard. And it’s not going to be easy to do anyway, because the window of opportunity [we] would have to do it would be extremely small, and it would probably be high risk. So fire gets out from the [X] face fire, it’s probably going to come up the hill pretty quick. So to me, we never communicate that sort of stuff to the community. We never say, ‘this is what we’re up against.’ And so we can never ... my concern is that we, or government or whatever, has you know said to the community that we’re doing all these things around notifications ... and obviously all this stuff is going to
improve; but I don’t believe people have an understanding and I, I know why they
don’t have an understanding; it’s because it’s a complex thing to look at. It took me
days to get my head around all these different programs and risk analysis stuff that
they run: Of ... what’s the percentage of risk ... what do they call it? Residual risk,
that’s still going to be for this community? That’s what this risk landscape program
was trying to do. So it’s how you communicate that to people in a format that’s
understandable, I think it’s going to be a real, real challenge. So I don’t know what
the answer to it is, as I said, I think it’s just been put into the too-hard basket.

(Locations and places have been replaced with [X] to protect the Interviewee’s
identity)

This is an example of how an alternative story of control, complexity and risk can be
unfortunately (and dangerously) obscured. As outlined above, the paradoxical impacts of
distorting and ignoring complexity in an effort to superficially control can occur on
numerous levels. Despite the technology and knowledge to better predict risk in the
landscape, the ecological and topographic variability in which agencies must undertake
planned burning restricts their activities. The social, planning and economic constraints
frequently impact on planned-burn operations. In particular, land tenures in these areas
make it difficult to undertake risk reduction programs, and thus ironically, they increase the
complexity for communicating the delicate balance under which agencies are operating.

Working with increasingly complex and dynamic social-ecological knowledge systems, even
when supported by the best-intentioned, constructed and objective forms of logic, can
ultimately defy human and organisational capabilities. In the process of simplifying
knowledge in order to embed the myth of control in policies, appears to make it difficult to
work towards policy objectives. Reflecting upon the scenario in the fire-affected township,
this statement is more pertinent, for all the human conditions and values placed upon the
environment, to make the proposition of government controlling fire even less possible, and
the likelihood of ever learning enough from a dynamic history, more remote. In case of the
fire-affected township, Victorian Land Manager 6 has to also live with the awareness that
they cannot do their job — particularly when it is placed in the ‘too-hard basket’ — to
protect human life and property.

While the myth of ‘government control ‘ has explicit but perverse roles to which the
government must adhere, personal learning for staff involved in bushfire and native
vegetation management poses significant risks to their own safety and well-being. These
risks range from: experiencing extreme bushfire conditions and fire impacting themselves and their own properties; their jobs being compromised due to higher-level leadership issues; experiencing public shaming by media and having their actions examined in the official bushfire inquiries; and psychological trauma. During the case study interview process in 2014 and 2015, it became apparent that the impacts on staff caused by their 2003 and 2009 bushfire experiences have been long-lasting. For example, the ACT 2003 inquiry process is described as creating risks to staff well-being:

_He actually went through the [2003 bushfire] Coroner’s Inquest, where they were being blamed for not burning the bush. And there was talk of criminal charges. Fortunately none of that came, but the impact on some of those rangers was profound_ (ACT Land Manager 1, interview).

The myth is entirely inadequate in recognising the level of responsibility that is being expected of staff in times of extreme bushfire conditions:

_Because in the fire [field] you usually get those macho relationships, so you don’t talk about the emotional side of it, or how you’re feeling. So I actually talk to [women]. And it’s really hard though when you’re in a position of obviously immense trust and I guess great authority, making potentially life-changing decisions, or life-threatening decisions. It’s really hard to tell someone that you’re scared shitless. It’s the most frightening thing I’ve ever done. It is more frightening than actually being in a fire_ (ACT Land Manager 13, interview).

The myth of ‘government control’ is structured in such a way that the government figuratively adopts the responsibility, regardless of the outcome, as is ultimately blamed for negative outcomes. Admitting human fear when holding an official position is described as a totally isolating experience. None of this experience is presented to the public; management agencies are portrayed as being above or outside the raw experience, the human feeling of sheer terror when confronting these uncontrollable fires. In this sense, the myth dehumanises those working in the agencies. In addition, it was not unusual for interviewees to express frustrations during the interviews about the influence of male egos which they believed impacted programs and inter-organisational operations; significantly these comments came from men, not women. Others attempted to explain the sense of hesitancy that they experienced in confronting the broader community when their agency was the figure of blame:
I reckon there’s still a lot of people within agencies that don’t want to talk to the community, that don’t want to explain what we’re doing, or why we’re going into a whole lot of detail. And it’s partly, I’m sure, because they’re not totally confident, or don’t want to put themselves out there and be questioned about a whole lot of things. And I totally understand that; I don’t know if I want to be that person either (VIC Land Manager 1, interview).

The psychological impacts are still being experienced by those involved in both the 2003 and 2009 bushfires. The following examples indicate not just the influence of the fire experience itself, but also the quasi-litigious process used in the inquiries:

Two senior people here … actually faced the whole process of the Coroner’s Inquest [and] one of them is very scarred by that process … and unfortunately … the way that manifests is he warns everybody about everything … and often when it doesn’t need to happen …, so he’s really jumpy … I suppose the terrible thing is that here’s somebody that actually had the experience of not only living through the really tough incident where many lives could have been lost, and because of that he’s almost diminished — and his credibility sort of suffers a little bit because of that exaggeration [of his warnings] … So somebody that ought to be respected as having seen those horrendous conditions, … his role is diminished because everything’s exaggerated from that — trying to go overboard … and I’m not sure he’s actually even conscious of [reacting like] that. So … you know you could go through a sort of rational process there, but for him at the time, it’s, ‘yes, its gunna happen, I’ve gotta tell you, I’ve gotta’ …You know, he’s just exploding to — to warn us. So he’s gone just way up the other end of the scale from that [experience] (ACT Emergency Manager 2, interview).

In Victoria the loss of experienced staff also occurred following the 2009 bushfires:

VIC Land Manager 11: I know a few people who wanted to get out of it after Black Saturday, out of fire-fighting.

S: CFA or DEPI?

VIC Land Manager 11: DEPI and CFA; [they’ve] had enough.

S: That’s got interesting consequences, hasn’t it?

VIC Land Manager 11: Yes … And people’s personal feelings; feelings of personal responsibility when you get dragged in front of Royal Commissions and all that sort of stuff too. I mean, people are making big decisions on the day that could affect life and death of quite a number of people. Not many people [who] get thrown into that sort of situation will have to make those sort of decisions and then have to face a
Royal Commission as to why you made that decision; you had limited information and limited time to make a decision on. It wouldn’t be a pleasant spot to be in.

S: Do you think that’s going to have potential effects for how the organisation works in situations like this with its staff?

VIC Land Manager 11: I think the documentation will increase remarkably. In the way we document things.

S: And how people are feeling in relation to those responsibilities?

VIC Land Manager 11: Yes. Yes, definitely. Even in the [2014] Feathertop fire and the guy who called that as ‘safe’, or ‘contained’ or whatever. And then it gets out. I mean, those sort of situations; they’re big calls people are making. And I think people will start being a bit more cautious about it.

S: Cautious about doing it? Or …?

VIC Land Manager 11: Cautious about the decisions they make. They’re hard places to be put in, let alone someone who’s sitting in their house wondering what to do.

Increasingly cautious responses can be interpreted both as defensive and as a protection of self. The ACT officer has fallen into a pattern of over-cautiousness for fear of not providing enough timely warnings. Some attempts to learn from history have been detrimental to the personal well-being of those in the agency. In a storyline influenced by blame, this is likely to be interpreted as failing to take responsibility. Self-preservation is also a form of learning from experience, but in the case of a government employee, they cannot compete with the political nature of emergency and land management roles. Nor is such learning likely to be the type of learning expected by critics and the broader community. The reality presented in these excerpts is that government consists of people as human and fallible as any part of society; where individuals adopt roles framed by the discourse of war, and are increasingly responsible for bushfire risk management in conditions that at times are predicted to be so extreme ‘there [is] nothing you could do’ (ACT Land Manager 13, interview).

The bushfire experiences discussed by land and emergency managers are diverse and they provide enlightened perspectives on how their organisations operate. For instance, an emergency manager reflected on the irony and futility of agency bushfire management responses in the face of such extreme climatic predictions from expert organisations:

The CSIRO have just been doing some of the research into climate change, [and] the impact on fire services and emergency services; of how many staff they’re going to
need. And it’s some exponential growth requirement based on the fact that you’re going to have all these emergencies with climate change. Someone was talking about that the other day in [this agency], ‘We have to increase our capacity by fifty percent in the next twenty years’, or something. I haven’t seen the research, but they were [saying], ‘how would you possibly do that?! How would you?’ And I said, because they’re talking about fire-fighters on the ground, ‘Well you could just put half that money into community warnings, and community, and build that information, because as climate change gets worse the fires will be much more like Black Saturday. You can’t — it doesn’t matter how many you put — an extra million fire-fighters on the ground, and you’re not going to stop those fires. So why would you spend your money ... [on extra on-ground fire fighters]?’ (VIC Emergency Manager 3, interview).

The reflection describes entrenched responses to environmental disaster management techniques that are metaphorically war-oriented — providing troops on the ground — as a means to control extreme bushfire. Despite the ineffective, dangerous and costly outcome of reapplying outdated warfare tactics, this preferred approach limits opportunities for more long-term and educative relationship-building methods. To do so would mean challenging the prevailing modernist-era concepts of control over nature that places humans above, or removed from, the natural systems (Hills, 1991). Climate change, interpreted in this example as a social construct, introduces a scale of uncertainty that challenges the notion that governments can ever master the environment or manage risks effectively. Consequently the appropriateness of the traditional storyline of troops on the ground in the early twenty-first century is directly challenged.

In an interview with an emergency manager, awareness of language, cultural frames and lenses was considered a missing link in the type of approach needed to influence changes in public perceptions and internal operations:

S: Do people offer different ways of framing [the environment]?

VIC Emergency Manager 1: Not really. I think there’s very little talk in our agency of framing [the environment]. That’s a kind of social lens, isn’t it? It says understanding how our language, the way we build our world, what we’re comfortable with what we know. Framing is going on everywhere and it’s very rarely talked about. Gees it would be really, really useful. Be good for the fire agencies. Good for the biodiversity people, good for communities. It would be great to be able to talk about framing, complexity and the tendency to go for simple solutions, simple understandings of things that are far more complex.
This reflection indicates that awareness of language and framing is a significant gap in the tools available to agencies in approaching wicked problems. If the value of sociological approaches were considered more, then agencies would need to be conscious of the need to challenge perceptions of responsibility and risk; and that means confronting deeper, cultural notions and cycles of vulnerability in terms of human life and not simply focusing on the more blatant and obvious perceptions of bushfire hazards. Accordingly, this is influenced by a persistent and cyclical way of responding to much broader issues that concern mortality:

It’s our existing cultural way of thinking. Is that what we’re really protecting because we don’t want to think differently? So although life is inherently risky — we’re all going to die one day — it seems we can’t have that conversation very well. So perhaps it comes down to — if you’re a politician or a bureaucrat — you’re tasked to protect and so you will do that; you can’t be tasked any other way. It’s cyclical in society: ‘You need to be protected; we need to be doing this to protect you’. And society says ‘Yes, we want people who can protect us, get out of there if you’re not protecting us.’ And the cycle reinforces itself (VIC Land Manager 2, interview).

Many within the agencies are bound up in processes that reinforce rigid professional identities as part of their public service roles. The choice of the language used within agencies contributes to providing superficial perception of safety:

I think perhaps planned burning is a cue to care, that there is somebody managing, there’s someone thinking about us, it opens it up, even if it’s for a little while ... It’s about the perception that someone is managing this piece of land, there’s an edge I can see, a managed edge, and I’m happy ... ‘I’ll prune a perception break’. And ‘fire break’ is another [word] where the idea of it implies it’ll break the fire. But only people in the fire service know it fails — always: A low intensity fire may be OK. So that brings into call the language question. ‘Fire break’: ‘I need a fire break!! That’ll fix it’ or ‘put in a fire break’... You can sort of have fun with the language and show that some of these things are inherited and a little bit silly sometimes (VIC Emergency Manager 1, interview).

These last two reflections present deep awareness of a particular form of mortality, where the influence of language has the power to distort the public’s awareness of the futility of some land management actions. However, these reflections and observations among agency staff remain hidden and therefore are prevented from contributing to a broader, more challenging societal conversation; the silence of these stories is reinforced. Key metaphoric descriptions that relate to human control over nature appear to engage with
the broader population’s perception of controlling the immediacy of risk, such as ‘planned’ burns or ‘fire break’. Ultimately their use pre-empts a futile sense of hope in order to master environmental uncertainty, even when the application of policy fails.

c) Reinterpreting Traditional fire practices in portraying a ‘solution’

Overview: Pre-1788 Traditional fire regimes are widely promoted in the myth as a solution to the problem of successfully managing the environment. This type of anthropogenic fire is framed as a tool, rather than a cultural practice, to be used both for land management and for integrating Indigenous Australians knowledge into contemporary society. By adopting and reinterpreting Indigenous Australian fire-use for government bushfire management, the myth focuses on a potential solution to the bushfire problem that is heavily influenced by non-Indigenous political and ideological values. In doing so, the myth omits other aspects of cultural practice for authentic Aboriginal land management. This contradiction expands the discussion introduced in the previous myth of ‘certainty through knowledge’.

This thesis has demonstrated that an important narrative in the myth of ‘government control’ concerns re-establishing a morally appropriate use of fire in the landscape to support more widespread and frequent planned burning in public lands. Traditional fire is portrayed as morally appropriate fire. The following media examples outline the general themes that promote Traditional burning practices:

_The historical (accepted) practice of burning as carried out by the Aboriginal people has been superseded by a belligerent government policy of non-interference. Wildfires are just destroying ecological communities ... A close look at these impediments in any forum would be instructive_ (Ragg, p. 20, Canberra Times, Letter to the Editor, 30.1.2003).

_I suggest that we would do well also to look at historical records of the condition and appearance of indigenous woodlands over time for both city bushlands and the national parks. [Black Mountain] was a result of Aboriginal burning over time and, as many of us believe, to a pre-conceived mental plan. They controlled nature, including stopping tree regeneration on the grasslands, and created a cultural landscape pattern ... Why would they want or tolerate a litter-laden, untidy and, in places, impenetrable mess? The problem now is we don’t know how they did it_ (Taylor, p. 11, Canberra Times, 4.2.2003).
Both examples interpret Traditional fire as a purified tool of control and they disregard that the use of such fire evolved from a different management era. Neither example presents a holistic interpretation of Indigenous Australian use of fire, nor are there explanations of how such fire was part of broader and complex interconnections with cultural practices. Taylor raises a significant problem in presenting Traditional fire as a solution, where historically based knowledge and skills of this type of burning have been largely lost in this particular region of Australia. Thus, the simplification of a complex and nuanced practice relies upon presenting fragments of relationships Indigenous Australians have had with the environment, framed by European Australian conceptions of control.

Another issue not encompassed by the myth of ‘government control’ is that the ideal landscape is considered being historically static, and continues to emulate the colonial paintings to which environmental histories refer. The notion of the static landscape has been discussed in more detail in the cultural landscape myth. Ironically, the more politicised storylines of the ‘government control’ myth do not integrate the significant loss of Indigenous skills caused by European colonisers; acknowledging this would challenge the static interpretation of the environment and the use of fire. Some commentators did challenge this perspective, for example:

> In the past decade two theories — one old, one new — became popularised. The old one related to prehistoric Aboriginal use of fire. It had been argued ... for years that there had been extensive use of fire, to such an extent that the whole of [the] Australian environment was not ‘natural’ but artificially produced by human activity. There is ... no real evidence either that Aborigines used fire extensively. There is certainly no evidence that they carried out frequent burning of the whole continent ... the explorer’s accounts must be read with great care to interpret what they were seeing, why they were reporting what they were reporting, and what are the causes of the observations. It is also necessary to look at the total context of a particular observation, not the selected sentences which are often relied on by those supporting this theory (Horton, p. 23, Canberra Times, 13.2.2003).

Horton provides insights into the complex nature of framing issues around dichotomous ways of constructing ideological realities, and how concepts of artifice, nature, scientific fact and political fiction are ultimately shaped by the complexities of learning from history.

There are many narrative examples demonstrating efforts to rewrite the goals of future land management that reassert an Indigenous cultural presence in the physical landscape. The
Federal State of the Environment report for example, acknowledges the loss of Indigenous practices on Country when discussing some of the fundamental issues regarding Indigenous heritage in Australia:

[Indigenous culture] is under pressure from loss of knowledge and tradition. This loss is manifest in social disconnection, extinction of language and discontinuation of cultural practices. Indigenous sites are subject to an ongoing process of incremental destruction associated with urban and industrial development that is often approved despite the identification of heritage impacts (State of the Environment Committee, 2011, p. 42).

This theme of loss is over-shadowed by history, in an uneasy disquiet; this contradiction articulates contemporary efforts that grapple with acknowledging Traditional burning knowledge. Doing so requires looking into an uncomfortable vacuum created by the past actions of European Australian society and authorities.

As introduced in the previous myth, bushfire inquiries also mention Traditional fire as a solution. The 2003 Victorian bushfire commissioners suggested that the proposal to reapply Indigenous burning practices is an idealisation of a former era:

To many, this is a highly attractive philosophy not only for what it promises directly, but also for its implicit social message. However, to apply this philosophy we would need to know the details of past fire regimes for each management unit, so we could attempt to recreate them. The Inquiry concludes that we do not know enough about traditional burning strategies and objectives in southern Australia to be able to implement an Aboriginal burning regime. Knowledge has been lost, or is fragmentary. Any use of a ‘traditional Aboriginal burning regime’ within a park or State Forest in southern Australia would be an experiment in land management rather than a re-creation and should be recognised as such (Esplin, 2003, p. 229).

This type of idealisation contributes to the symbolism of controlling and healing the wrongs inflicted by others who do not adhere to the principle, as well as tying into the ‘Mother Nature’ metaphor of purity (see Stone, 2012). However, the current debate indicates a cultural shift in societal learning since the 1939 and 1983 inquiries, which did not refer to the historical legacy of Indigenous Australian land management practices. By stating that their inquiry has opted to look more broadly at the complex range of issues, the 2003 Victorian bushfire commissioners also provide a formal rebuff to those who claim to have more appropriate historical knowledge.
Adding to a broader sense of cultural and historical unease, are conflicting interpretations of cultural issues that can be identified in personal reflections across the agency and Indigenous Australian interviews. Agency interviewees show concern that the application of contemporary, and often Western scientific, interpretations of Traditional burning will significantly alter ecosystems:

[Mr. X] was looking at these stories from Bill Gammage at face value, without actually examining the ecology behind it and he felt that, ‘yes, we’ve got to burn, we just have to burn’. Now clearly, burning is part of the ecology in Australia and I don’t think there’s any question that Australian Aboriginals did a lot of burning prior to European settlement. But whether we can actually apply Aboriginal-style burning now, because our landscapes are quite different. With invasive species a lot of exotic species will actually take advantage of gaps created by whatever means (ACT Land Manager 9, interview).

It appears that just as land managers query popular interpretations of the practice articulated in the ‘government control’ myth, they also question whether a solution can be found in the widespread application of Traditional fire. However, the increased public interest in Indigenous Australian cultural practices is reflected in the popularity of Bill Gammage’s (2011) environmental history, that argues that this morally appropriate form of fire in the landscape should be widespread, frequent and controlled. An interview extract with an ecologist suggests that a respected academic authority such as Gammage can have major influence because he is presenting a popular and attractive story:

There was enormous interest in his ideas and I think there’s very good reason for it, because I think what he had to say was fantastic. And I think he’s put it right out into the arena in terms of Aboriginal management, and in terms of manipulation of the all the dynamics if you like, over time, of the environment, of the landscape, and the recognition of the landscape. But I think he just took it too far. He went into the science role, where he’s an historian and shouldn’t have. So I think it’s unfortunate (ACT Land Manager 10, interview).

The combination of agency, timing and presentation of Gammage’s history has given him significant power in the retelling of the mythical aspects of Indigenous burning in the Australian environment. However, when other forms of Indigenous Australian cultural learning and knowledge are not considered broadly, there is a risk that contemporary (and ideological) mythic representations will exemplify the influence of such storylines in distorting representations of reality. Consequently the ‘government control’ myth
constructs a preferred, but subjective, reality; rewriting history to satisfy political and cultural desires for redemption come to infuse the storyline of the myth.

An alternative environmental history by a forestry academic, Ron Hateley, who referred to similar records as Gammage, contributes an ecological reading of colonial history, following the 2009 bushfires. This history contributes to storylines that seek to redress the politically potent pro-burning myth being disseminated at the time:

*Curr’s assertion that Aboriginals burned Victorian forests within, on average ... every five years is obviously wrong, but it is perhaps too late to correct the myth he created. Generations of history students have been taught about fire-stick farming in forests because their teachers only had access to questionable material, and that is no fault of theirs. It is no surprise that pressure groups demand that Victorian politicians push for frequent burning of forests to protect assets based on the idea that Aboriginals burned frequently* (Hateley, 2010, p. 110).

Hateley applies ecological academic research, but constructs a contradictory reading of the historical documentation commonly used in other histories. This alternative interpretation of Traditional burning, Hateley argues, involved less frequent regimes than popularly believed. To conclude, he expresses concern about what he ascertains as a misreading of records in order to adopt politicised land management practices, drawn from another culture in another century.

Different perspectives exist between European Australians and Indigenous Australians regarding the maintenance and integration of cultural heritage. A number of interviewees discussed their experiences of working with cultural and fire ecology programs. A European Australian interviewee from Victoria notes that the Traditional knowledge, from which contemporary land management is adapted, is actually a European reconstruction of Indigenous culture:

*We say we [accept Indigenous land management], and a few individuals do and in some of the aspects more than others, but on the whole we don’t. Aborigines don’t manage the landscape the way they used to. We actually pretend they still do in many serious ways. I’ve done Aboriginal sensitivity training in Victoria and I must admit two things happened to me. One is the realisation that the people who were doing the training were telling the participants White-fella knowledge about Aboriginal practices, not Black-fella knowledge about Aboriginal practices. So they were essentially trying to reclaim the heritage that they’d lost or, more effectively, others had taken off them* (VIC Land Manager 5, interview).
This reflection provides a disturbing reminder of how deeply entrenched and paradoxical the situation is in terms of providing support for both Indigenous people and European Australian land managers. Even when attempting to right the wrongs of the past, there is still a reliance on maintaining European interpretations of another cultural way of being. The reflections also present something of the deep disjuncture between European Australian efforts to assimilate more with Indigenous Australians on one hand, and on the other what is recorded and then how reconciliation is undertaken. The reconciliation process is beleaguered:

The Alpine Plan that was put out in 1999 didn’t talk about Indigenous management in any way, or sharing management with Indigenous people, and that’s very much part of it now. Using Traditional knowledge, and I know some scientists argued that it doesn’t exist anymore. Traditional Owners will dispute that and say, ‘We still have knowledge of our country.’ But they’ll also talk about re-learning knowledge ... there are then some political gains to say that they have knowledge and be recognised as holding the knowledge. I know under law now they’re responsible for their culture, and for them culture includes knowledge, which is part of their cultural history. So learning what it is and what there is of it and how it can be applied will be interesting (VIC Land Manager 11, interview).

The repeated questioning by scientists about what authentic Indigenous cultural knowledge is, and what is then reclaimed, presents some inherently difficult and complex judgments made by a European Australian sector of the community which professes to have authority to determine what is real and what is not. Gammage’s history can also be understood in this way, as someone who presents himself as an authority in another culture. Traditional fire on public land touches on a very culturally sensitive debate about the support of Indigenous Australians in land management processes; the various perspectives can be interpreted as racist, and government efforts as superficial.

Cultural and scientific ideologies that contribute to barriers are widespread, as noted in the example below from the ACT case study, where a Traditional fire project was questioned using the dominant scientific method of analysis:

The [XYX] Project was not controversial, really at all, because our main aim was to provide fencing and species. I guess it’s when [a contracted Indigenous Australian community member] started to explain why fire was necessary in particular patches; and when we got that second tranche of funding for this, the actual on-ground burning we did come [up against] … science did hit up against the Traditional
knowledge, and we had to smooth that over. And it was really tricky (ACT Land Manager 5, interview).

Expertise to undertake an alternative way of doing planned burning is considered un-scientific if Western protocols are not followed. Interestingly, this situation involved fire frequencies that contravened conservation management regulations, but which are being proposed by proponents of increased planned-burning regimes in Victoria. Even after changes that have increased agency support for integrating Indigenous Australians into land management planning issues, there remains inherent, long-held scepticism by scientifically-trained European Australians about the certainty of Indigenous cultural knowledge.

The tenuous relationship between the custodians of Indigenous Australian knowledge and culture, and those in land management, is also presented by Indigenous Australian interviewees. Public discourse plays an important role in constructing a myth that superficially explores the historical application of Traditional fire, and that perpetuates some of the wariness that exists between land managers and Indigenous Australian communities. In contradiction to the myth that prioritises burning, language and other soft cultural practices are repeatedly identified as more important to these Indigenous Australian communities than seeing the knowledge being provided from a European viewpoint. For instance, interviews with a Ngunnawal man tell a complex story of how some Indigenous Australians seek involvement in contemporary cultural management of land in the ACT:

*I think they’re slowly starting to understand when we talk about cultural landscaping, and how we look at the spur lines ... the areas of our ancient pathways, because it’s interlinking. The way I interpret the cultural aspect of it is you’ve got to put yourself back in the day, and not today. Because I see it’s important to see how the old people used to live off the land. And ... you can close your eyes and open them and think that you’re back in that journey. Because it’s also the spiritual side ... That’s why we have a look at [that] when we go out and do our walks and talks to try and get people more involved* (ACT Ngunawal Representative 1, interview).

The kind of distinctive, rich interpretative reading of the landscape provided in the interview appears to differ from those which are often referred to by public land management staff. Yet even within Indigenous communities there are differences of opinion about how to approach the multitude of Western expectations, and protectiveness of cultural knowledge is sometimes a point of contention:
Other [Wurundjeri clan members] will say that a lot of stuff’s been taken away so we can’t just give stuff willy-nilly, because that’s just another thing that’s taken away. And I agree with that, but there’s a fine line between sharing and just giving away for whatever [reason]. But I think you need the connection between big organisations and the Wurundjeri community to start from, ‘hey, how are you going?’ Rather than, ‘can you do this at the end of the project? And sign this off, is this OK?’ You’ve got to get out of that organisational way of thinking and the hierarchies and everything and just engage. Country visits are the first [step] (VIC Wurundjeri Representative 1, interview).

The knowledge that remains within the Wurundjeri community is described as being protected, and therefore is not freely available. To share aspects of their culture, trusting relationships are needed that foster sharing. There is a form of control suggested in this example that involves moving away from rushed transactions toward more genuine relationships. Despite wariness of superficial relationships from land management organisations in general, members of Indigenous clans in regional Victoria — in addition to the departmental employment of Indigenous cultural officers — have shown interest in conducting Traditional burns. However, as one European Australian land manager noted, there are organisational barriers and processes which constrain this type of practice and level of participation:

We’re also keen to include relevant Aboriginal parties. They’ve expressed interest in conducting Traditional burns on our land ... in the state forest. But there’s all these safety operational issues that need to be addressed and it’s difficult ... So that’s something we’re going to work through over the next couple of years to try and get Indigenous people on deck. And partake in components of our burning program, where it’s appropriate. They haven’t got any idea of all the loops and hurdles (VIC Land Manager 7, interview).

The metaphor of a gym circuit entails the need for physical agility and fitness to get through the obstacles. In contrast, the metaphor of the wall as a cultural barrier expressed earlier from an Indigenous perspective suggests that conceptually, considerably more physical strength rather than agility is required to overcome the organisational obstacles that symbolise the cultural divide.

While the story of fire is compelling and engages people in the environment, language is central to passing on cultural knowledge, and is a deeply intimate transaction. The example below from a Wurundjeri community representative presents a need to maintain control over access to language:
You can go to the Traditional Owners [to seek the word] and it’s up to them [whether
to give it to the outsider]. Sometimes [non-Indigenous people] get a bit pushy. ‘Oh I
need it straight away’. It’s up to the Traditional Owners to say, ‘I’m willing to share
that with you’ (VIC Wurundjeri Representative 1, interview).

This example not only introduces the importance and focus on language currently being
undertaken by both Ngunnawal and Wurundjeri communities, but it also describes the need
to retain and relearn language within communities. Even after conducting a number of
interviews and developing respectful relationships during the conversations with Indigenous
people for this research, it was apparent that there was an intense cultural expectation that
privacy and the laws must be respected, and that this prevents learning and history being
shared with non-Indigenous people:

Because ... a lot of things [that] Dad has passed on, I’ll be looking to do the same
thing — pass it onto the younger ones, but there’s a lot of protocols that we use that
I just can’t go into [with you] ... Because you get some people that always try to pry
to get the answer ...Because in today’s society it’s hard to keep your traditional law.
But we try our hardest (ACT Ngunawal Representative 1, interview).

The need to protect culture and language reflects the complex system of connections
between Indigenous Australian peoples and their communities’ responsibilities in
maintaining a sense of control over the cultural practices and language which they still
retain. For example, using a Wurundjeri word is not merely knowing what that word may
mean, but symbolises a privileged relationship which allows shared access to the
Wurundjeri people’s culture. The clumsy or disrespectful non-Indigenous impacts on
relationship are deeply felt. Secrecy of knowledge raises conflicting issues around cross-
cultural sharing of information and relationships. Indigenous people’s involvement in land
management may involve the risk of further loss of knowledge and secrets of clan and place,
both to non-Indigenous people, and to the uninitiated (Wassmann, 2001, p. 67).

Indigenous Australians must respect their traditional law, and, this responsibility may
reduce their capacity to share the deeper reasoning behind some cultural practices with
management agencies. Both agencies and Indigenous communities who participated in this
research are bound by secrecy and cultural constraints framed by a regrettable history.
Hence, sharing cultural knowledge, and facilitating the process by which that knowledge can
be understood by different people must also be — as noted by Indigenous Australian
interviewees — bound by respect and trust. The consequence may be that agencies gain a more superficial understanding of Traditional fire when adapting the practice. This situation is also accentuated by the difficulty departments have in adequately engaging and listening, as discussed in the ‘certainty through knowledge’ myth.

Heightened societal interest by European Australians in learning more about Indigenous Australian cultural knowledge demonstrates an increased interest in another culture’s learning and history; but paradoxically, it is also a reminder of the challenges in acknowledging past wrongs committed in Australia’s more recent history. Enmeshed with efforts to learn about the wrongs of the past is the risk of superficial acknowledgement of that past by some European Australians:

*S: Do you get worried that there’s tokenistic work [by European Australian people] being done?*

*ACT Ngunawal Representative 1: It’s always going to be there. You get a few people out there who like to tick the box; in saying that you get other people who go that extra yard to promote Aboriginal culture.*

Speaking on behalf of those with Ngunnawal heritage in the ACT region, ACT Ngunawal Representative 1 spoke about the priority for developing intergenerational sharing of knowledge and family history, from which European Australians can learn and gain respect:

*It’s connection to country. It’s not just like walking out and looking for artifacts, or you know, stones, or just wood and all of that. It’s — we’re more about the landscape in general. Because we’ve been here for so long and we’ve managed it and we’re still trying to manage it where we’re allowed to, I guess. Because the problem you’ve got today is that we can’t go around to a lot of our areas because we don’t have access to the land. That’s why X [says we’re] being not a Traditional Owner, but Custodian. Because we’re caring for what we can (ACT Ngunawal Representative 1, interview).*

*But like I said, the struggle of continuing [cultural ceremonial] practices on Country, ... there’s a brick wall, we overcome it ... But that connection isn’t lost, no matter if it was blown up (VIC Wurundjeri Representative 1, interview).*

From the Indigenous Australian perspectives provided in the interviews, connection to country is expressed as a deeply-felt physical, spiritual, social and timeless experience that can be achieved through a variety of experiences: it is far from reclamation. The contradiction has shown that the underlying storyline — not presented in the myth — actually concerns the cultural and political significance of Traditional burning in the twenty-
first century. The entrenched painful irony of Indigenous Australian connection to country remains only partially recognised, as the previous quotes show. Much of the learning from both the Indigenous and European Australian histories, presented in the narratives, remains bound up in a physical and spiritual segregation of laws and cultural perspectives.

In the context of this profound disconnect between cultures and policies, the debate about reintroducing Traditional burning as a solution to bushfire issues on public land appears a superficial reading of Indigenous cultural beliefs. The politicisation of land management issues, as in other myths, shows how the approach being considered is a distorted view through a cynical lens. There is a risk of losing many more opportunities for genuine engagement with Indigenous Australians in shared land management while attention is placed on Traditional fire, without placing it in its rightful context. To more fully consider richer and complex ways of being part of the environment it is necessary to accept that, because Indigenous Australians rightly continue to maintain control over their own cultural knowledge, full cultural knowledge may always be beyond the European Australian grasp.
Chapter 5 Paradoxes of living with native vegetation in fire-prone environments

In this chapter I consider the main results from chapter 4 in the context of the three paradoxes introduced in chapter 3, in order to address the research questions 2 and 3:

- How do social mechanisms build and reinforce paradoxes of native vegetation management following bushfires?
- How do these social mechanisms and paradoxes influence native vegetation management thinking and practice?

Each paradox is presented in the following sections separately, in order to focus on comparing the role of contradictions identified in the myths presented in chapter 4. I also consider other discursive elements with the storylines of the five myths, described in chapter 3.

To understand paradoxes we need to understand myth

As indicated in the previous two chapters, paying close attention to the contradictions of myth is central to gaining increased understandings of the formation of paradoxes that both influence, and are a consequence of, the problems being investigated (refer to fig. 10, p. 93). The discussion of the paradoxes will thus refer to the five myths identified in the case studies, being the myths of:

1. Cultural landscape;
2. ‘Community’;
3. ‘Conservation’;
4. ‘Certainty through knowledge’;
5. ‘Government Control’.

The three major paradoxes to which these myths relate are:

1. The more we try to learn from history, the less we seem to know;
2. The more we try to mitigate risk, the more risks we perceive;
3. We try to control the uncontrollable.

The following table summarises the myths, contradictions and paradoxes to which they relate. The discussion refers to some cross-overs between myth, paradox and contradictions. The main points of connection are described in the following section, and have been collated from the previous chapter. These paradoxes are explained in more detail prior to an in depth discussion of their function in association with myths.
<table>
<thead>
<tr>
<th>Paradoxes</th>
<th>Myth</th>
<th>Main storylines</th>
<th>Contradictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The more we try to learn from history the less we seem to know</td>
<td>‘Cultural landscape’</td>
<td>• Nineteenth-century landscapes idealised as the ‘gentleman’s park’</td>
<td>• ‘Haven’ is misleading in our environment</td>
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<td></td>
<td></td>
<td>• Establishment of peri-urban bush havens</td>
<td>• People in havens are disconnected from environment</td>
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<td></td>
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<td>• Development of the ‘Bush Capital’</td>
<td>• Population densities increasing in peri-urban areas</td>
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<td></td>
<td>• Inconsistencies between land management and planning</td>
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<tr>
<td>The more risk we try to mitigate, the more risk we perceive</td>
<td>‘Community’</td>
<td>• Community heroes are volunteers</td>
<td>• Agency firefighters not portrayed as part of ‘community’, so who is community?</td>
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<td></td>
<td></td>
<td>• Heroes are needed to fight battles to take control and confront risks</td>
<td>• Community presented as complacent</td>
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<td></td>
<td></td>
<td></td>
<td>• Apolitical and blameless narratives of community</td>
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<tr>
<td>We try to control the uncontrollable</td>
<td></td>
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<tr>
<td>The more risk we try to mitigate, the more risk we perceive</td>
<td>‘Conservation’</td>
<td>Conservation creates environmental risks that threaten humans</td>
<td>• Uncertainty whether fuel-reduction burning will reduce risks to humans</td>
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<tr>
<td></td>
<td></td>
<td>Native vegetation needs to be controlled to protect humans</td>
<td>• Policies create false sense of security for those in high risk areas</td>
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<td></td>
<td></td>
<td>‘Green’ political influences exert control over environmental management policies</td>
<td>• Biodiversity and native vegetation policies are contradictory</td>
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<tr>
<td></td>
<td></td>
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<td>• Policy decisions are reactive</td>
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<tr>
<td>The more risk we try to mitigate, the more risk we perceive</td>
<td>‘Certainty through knowledge’</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Bushfire inquiries are for learning how to do better next time</td>
<td>• Simplification of complex knowledge</td>
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<td></td>
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<td>• Science quantifies risk</td>
<td>• We selectively choose which quantitative knowledge as proof for way to proceed</td>
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<td></td>
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<td>• More scientific data will help control bushfires</td>
<td>• The challenge of gaining quantifiable knowledge to control ‘catastrophic’ fires</td>
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<tr>
<td>We try to control the uncontrollable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The more we try to learn from history, the less we seem to know</td>
<td>‘Government control’</td>
<td>• Governments are blamed for not controlling fire or vegetation as a risk to humans</td>
<td>• Government controls most fires</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Government should have learnt from history</td>
<td>• Individuals learn from history and adapt policies to solve problems arising from reactionary policies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Pre-European environment is perceived as being risk free</td>
<td>• Reinterpreting Traditional fire as a ‘solution’</td>
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<td>The more risk we try to mitigate, the more risk we perceive</td>
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Table 5 Summary of results: Paradoxes and their relationship with myths and the contradictory storylines that help paradoxes function, and their consequences.
Paradox 1: The more we try to learn from history, the less we seem to know

This paradox is concerned with what and how we seek to learn from history. The myths’ contradictions note that what is learnt is that there is even more to learn. Learning can be experiential, academic and technical, but in the context of bushfire much of this learning is questioned in the myths. Hence, this paradox concerns the challenges faced when society attempts to learn from history, but does so in the turmoil of a crisis understood through multiple myths and powerful storylines. The summary of the relevant myths, with key storylines and contradictions, are shown in the table below.

<table>
<thead>
<tr>
<th>Myth</th>
<th>Main storylines</th>
<th>Contradictions</th>
<th>Paradoxical outcomes</th>
</tr>
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<tbody>
<tr>
<td>‘cultural landscape’</td>
<td>• Nineteenth-century landscapes idealised as the ‘gentleman’s park’&lt;br&gt;• Establishment of peri-urban bush havens&lt;br&gt;• Development of the ‘Bush Capital’</td>
<td>• ‘Haven’ is misleading in our environment&lt;br&gt;• People in havens are disconnected from environment&lt;br&gt;• Population densities increasing in peri-urban areas&lt;br&gt;• Inconsistencies between land management and planning</td>
<td>Living in and learning from havens</td>
</tr>
<tr>
<td>‘community’</td>
<td>• Community heroes are volunteers&lt;br&gt;• Heroes are needed to fight battles to take control and confront risks</td>
<td>• Agency firefighters not portrayed as part of ‘community’, so who is community?&lt;br&gt;• Community presented as complacent&lt;br&gt;• Apolitical and blameless narratives of community</td>
<td>Bushfires remind us what we think we need to learn</td>
</tr>
<tr>
<td>‘certainty through knowledge’</td>
<td>• Bushfire inquiries are for learning how to do better next time&lt;br&gt;• Science quantifies risk&lt;br&gt;• More scientific data will help control bushfires</td>
<td>• Simplification of complex knowledge&lt;br&gt;• We selectively choose which quantitative knowledge as proof for way to proceed&lt;br&gt;• The challenge of gaining quantifiable knowledge to control ‘catastrophic’ fires</td>
<td>Official learning is blame ridden</td>
</tr>
<tr>
<td>‘government control’</td>
<td>• Governments are blamed for not controlling fire or vegetation as a risk to humans&lt;br&gt;• Government should have learnt from history&lt;br&gt;• Pre European environment is perceived as being risk free</td>
<td>• Government controls most fires&lt;br&gt;• Individuals learn from history and adapt policies to solve problems arising from reactionary policies&lt;br&gt;• Reinterpreting Traditional fire as a ‘solution’</td>
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</table>
Living in and learning about havens

In the context of the paradox of ‘the more we learn from history, the less we seem to know’, the cultural practice of creating bush havens in forested peri-urban areas has become a deeply contested interpretation of history. The case study bushfires compelled urbanised society to confront what can be described as the ‘wisdom’ of living so close to fire-prone native vegetation. Exploration of the paradox suggests that whether societal learning has actually progressed or not is not a straightforward question. Questions regarding the learning about havens arise partly because the learning claimed to be necessary is contingent on multiple competing and contradictory factors: ecological dynamics, how people live in the environment, how the environment is valued by multiple sectors of society, and State and Federal political cycles. The situation remains one of conflict. Interviews, environmental histories and debates in the media suggest that havens are culturally less tenable, while at the same time, the legislative duty to conserve biodiversity surrounding these havens has been argued to cause threats to human safety.

This persistent, paradoxical situation is influenced by contemporary European Australian attempts to learn from the patchy records of colonial history. These historical snapshots become embedded in sense-making myths as adaptations (Honko, 1972, p. 14). As part of those adaptations, native vegetation is integrated into an historically derived portrayal of the ideal landscape. Mythologised havens and gentlemen’s parks are found in the myth of the ‘cultural landscape’. The portrayal of these ideal, romanticised landscapes assists people to persistently assign contradictory and confusing historical aesthetics and cultural interpretations to the environment.

Canberra, as a contrived early twentieth-century bush haven, yet a capital city, is a contradictory, indeed paradoxical, example of the subjective learning noted in the myth of the ‘cultural landscape’. The integration of nature into suburban areas was initially a bold design celebrating connecting humans with the health benefits of nature. The active and benign conservation of ridgelines and frosty drainage lines of once wind-swept paddocks, along with neglected development sites, have become ecological refugia for conservation of rare fauna and flora. The successful establishment of conservation reserves has enhanced social and scientific appreciation of nature, and thus, sectors of the community have
become more protective of these sites for recreation and ecological research. However, the myth-rich cultural image of the ‘Bush Capital’ was shattered in 2003, not just by the bushfires, but also by the realisation that shifts in broader social conceptualisations of ‘nature’ have to evolve over time. Thus, the pursuit of restoring nature has been actively challenged in the twenty-first century.

Another paradox exists in relation to the management of contrived, domesticated bush havens. Sectors of the community have learnt that someone else is responsible for the landscape-scale management of the bush, just as there are expectations that someone else will rescue residents when things go wrong. Each bushfire inquiry stipulates the need for more government action to prevent such tragic human losses, and consequently fosters the public expectation that this is the status quo. Rather than fostering experiential learning of the dynamic, and at times, perilous consequences of living in areas likely to burn, incorporating the bush into a city, as in the case of Canberra, or a small town set amidst forests of the Central Highlands of Victoria, has led many to have a false sense of security and a perverse ecological disconnect. As a consequence, this paradox underlines how authorised responses help foster the mythic belief in preserving the haven lifestyle. The myths represent a ‘mirror’ which reflects paradoxical attributes of society and culture (Honko, 1972).

The contradictions within the ‘cultural landscape’ myth suggest that the adaptive value of havens may no longer be as relevant as in the past. Human settlements set amongst dense native vegetation are described by some in the myths of ‘conservation’ as an inevitably dangerous mix, which contradicts the mythic belief in idyllic havens. Hence, the post-bushfire focus on learning from history and reducing bushfire hazards has culminated in the establishment of Asset Protection Zones and more radical planned burning programs. However, some ecologists argue that these actions both harm biodiversity and add further confusion to residents’ expectations that they will be protected from harm while remaining in their haven landscape.

The case studies present a conundrum: aspects of ecological systems are being actively managed; but what are the consequences of this activity when management occurs in accordance with policies and public discourse that are at odds with one another? This
situation is exacerbated during a bushfire crisis; when accepted perceptions of reality are disrupted and challenged by the post-bushfire uncertainty, and when patchy and misinterpreted references to historical records of native vegetation are exposed to reveal gaps in past learning. Compared with what was described amorphously as the ‘bush’ in the early 1800s, native vegetation is now understood differently, and more precisely, in terms of management requirements, species diversity, ecosystem function and technical ability to approach native vegetation issues.

The sculptural storylines deflect from crisis narratives used elsewhere, and they emphasise the need for ideological change in order to learn from alternative understandings of history. Embodying a living sculpture, the National Arboretum provides an educative experience that links the region to other parts of the world in a changing climate. With its vast scale and grand vision, this highly visible public space celebrates diversity in tree species, as well as human intervention to protect vegetation. In contrast, the smaller community-based memorial sculptures articulate local voices and experiences; the metaphor of regeneration and deep connections to place are emphasised in depictions of homes set within ‘nature’ and community. Ephemeral sculptures at King Parrot Creek in Victoria show subtle, delicate environmental connections by young people who returned to live amongst the dynamic bushfire-affected natural environment. These ephemeral sculptures challenge the more static learning from history that reifies haven landscapes through the sculptures’ incorporation of transience. Hence, the sculptural narratives are complex, in contrast with the simplified interpretations of reality found in the myths of ‘community’ and ‘cultural landscape’: celebrations of human survival, regeneration and persistent connections to the environment involve an inherent contradiction against which communities struggle in post-bushfire discourse, both culturally and politically.

*Bushfires remind us of what we think we need to learn*

The case study bushfires are transformed as mythological presentations of historic moments. This transformative process allows bushfires to be publically reinterpreted and reiterated in order to understand how to learn from history. However, these public interpretations of bushfires, as catastrophic crises, weighted with painfully emotive responses, become inevitably distorted by grief, politicisation and power, as shown in the
myths of ‘community’ and ‘conservation’. These responses are aided by the media’s use of rhetoric and simplified narratives in order to present dramatic aspects of bushfire events. Consequently, the instinctive response to know why these disasters happen, and how to learn from them, becomes entangled with repeated storylines that refer to and depend upon ‘precedents of the past’ (Honko, 1972, p. 13). Our efforts to solve social-ecological problems are thus influenced.

The conjunction of one historical event such as a bushfire, with another form of historical event, such as British colonisation of Australia, is one example debated in another aspect of the ‘the more we learn from history, the less we seem to know’ paradox. A consequence of these debates is that contemporary understandings of historical eighteenth- and nineteenth-century interpretations of the environment are used to support arguments to increase planned burning on public land. The myths of ‘government control’, ‘certainty through knowledge’ and the ‘cultural landscape’ present a much sought-after solution to the bushfire problem, but is a solution that conflates Western mastery or control over the environment, with recognition for Indigenous land managers. Yet, efforts to establish respectful relationships in order to genuinely integrate Indigenous people and their culture with contemporary Western land management, struggle to compete with organisational procedures and political pressures in the tense post-bushfire management context.

A claim embedded in the myths of ‘cultural landscape’ and ‘certainty through knowledge’ is that the environment was more harmonious prior to the arrival of Europeans, and that reinstating Traditional fire regimes is portrayed as a solution to regain balance between humans and their use of the environment. This solution also appears to provide some atonement for past and present racial discrimination, yet it paradoxically exposes gaps in the relationships between Indigenous and European Australians. To adopt Traditional fire regimes for the purposes of risk management and enhancing biodiversity, as well as for rebuilding the cultural and human losses, appears, courtesy of the contradictory storylines, as a tokenistic ploy that overlooks many other conflicting issues. This is because the debate around Traditional burning appears to overlook changes in the physical environment and human population densities (particularly in peri-urban settlements), organisational procedures, and the context in which Indigenous Australians are to undertake these
practices is significantly different from the pre-1788 context. Another problem with this solution is that the appropriation of Traditional fire does not adequately recognise what such fire represents to Indigenous Australians in south-east Australia, nor does it consider how they may be able to contribute to a more nuanced cultural land management. This more nuanced management would, if enabled, consider Indigenous Australian focuses on expanding language skills and other ceremonial practices on country, in addition to more genuine investment by European Australians in building and maintaining respectful relationships with Indigenous Australians within government departments.

Official learning is blame ridden

There are numerous thematic references to blame in the myths, which functions as a ‘safety valve; blame legitimate certain behaviours, and therefore expresses heightened emotions (Honko, 1972, p. 14). This venting of feelings however, limits opportunities to reflect on, and learn more broadly from, historical social-ecological issues. The ability to reflect upon questions of how and what to learn from history is shown in the case studies as being dependent on the litigious-style quest for more knowledge that occurs in bushfire inquiries. Inquiries, therefore sanction a cycle of seeking out those at fault, supported by the quasi-legal structure, and ideological influences are disguised. Thus, despite working from supposedly objectively-defined protocols in an emotionally disrupted time of heightened psychological, social and political anxiety, the inquiry process is shown, paradoxically, to further fracture the relationships humans have with the environment, rather than to enhance them. Reactive policies endorsed by inquiries reassert the need to control fearful elements of the environment, rather than to learn new ways to act. For example, the storylines in the myths of ‘community’, ‘conservation’ and ‘government control’ contain polarising political characterisations of ‘right’ and ‘wrong’, or ‘good’ and ‘villainous’. Consequently, the myths confer an aura of moral righteousness on those who maintain the myths, including a defined and legitimised social order. Such ideological and political influences on public discourse frame the inquiries’ terms of reference for learning from history, which results in the learning process being politicised and distrustful of those who fall outside of this social order.
Adhering to an historical, mythic faith in these inquiries implies that we do not learn from individual personal experiences, but instead we learn according to the decisions of outside arbitrators who are professionally disconnected from ecology. In the case of the 1939 royal commission, Stretton is portrayed as a revered, but outdated, figurehead. However, the official learning from inquiries is shown to be far from objective, since there are inconsistencies between some of the reports, in which emerges from the contradictions of the myths of ‘certainty through knowledge’ and ‘government control’. A further irony is that the ACT 2003 inquiries and Victorian 2009 royal commission findings assert the need for more personal responsibility, yet contradict this by seeking a source for blame: that being agency failure to protect people and historically to control native vegetation. This research argues that the inquiries were focussed on seeking those responsible for the disaster, instead of considering the historical tendency for European Australians to live in idealised landscapes that have historically burnt, with catastrophic consequences.

Blame was also noted in other research into community-based environmental storylines of fire-affected communities in south-east Australia (Aldunce et al., 2015). Their findings contrasted with those of this research, as it endorsed agency staff who blamed an inability to develop social capital in community resilience capacity-building on an increased sense of individualism, arising from the modern way of life. In this case, blame is depersonalised. Those who fail to learn from history are not drawn into the blame scenario, since the problem is depicted at a much greater societal scale. Agency staff perceived the issue at fault to be outside the scope of the agency’s program. In contrast, this research notes that the myths successfully direct a far more personalised form of blame onto certain social groups, individuals from these groups and government organisations.

Eburn and Dovers (2015) noted in their review of bushfire inquiry findings and processes that findings were inevitably negative. They argue that there may be alternative processes to explore bushfires, rather than reverting to the more historically-anticipated quasi-litigious inquiry format that represents more divisive methods of learning. Supporting Eburn and Dover’s recommendation, this thesis argues that if bushfire inquiry findings are considered to involve societal learning following an environmental crisis, then learning from history is distorted by the ideological pressures of the day, and exacerbated by the shock and grief of
Learning in the context of bushfire will inevitably be indelibly tainted with blame. This type of learning reinforces historical conflicts between social-organisational hierarchies that arise from the conflicts associated with the distribution of power and knowledge regarding management of the environment. The paradox of ‘the more we try and learn from history, the less we seem to know’ also results in a focus on changing certain aspects of human and organisational behaviour that may not be achievable because of the preference for structured, and ideological, learning.

Paradox 2: The more we try to mitigate risk, the more risks we perceive

Exploring the myths and their contradictions in the context of this paradox provides an opportunity to consider a complex cycle of how risk is defined, and therefore how interpretations of risk influence broader societal understandings of the environment, in terms of more recent attempts to mitigate for bushfire risk in dynamic ecological circumstances. This cycle is paradoxical, in that it involves contradictory, subjective, and simplistic interpretations made more complex because of the bushfire disaster scenario to which mitigation responds.

<table>
<thead>
<tr>
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<td>Nineteenth-century landscapes idealised as the ‘gentleman’s park’</td>
<td>‘Haven’ is misleading in our environment</td>
<td>Confusing interpretations: which risk are we trying to mitigate?</td>
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<td></td>
<td>Establishment of peri-urban bush havens</td>
<td>People in havens are disconnected from environment</td>
<td>Public perceptions of living in peri-urban areas</td>
</tr>
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<td></td>
<td>Development of the ‘Bush Capital’</td>
<td>Population densities increasing in peri-urban areas</td>
<td>The media’s influence on risk perceptions</td>
</tr>
<tr>
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<td>Agency firefighters not portrayed as part of ‘community’, so who is community?</td>
<td>Community management of risk: the need for heroes</td>
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<td></td>
<td>Apolitical and blameless narratives of community</td>
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<td>‘conservation’</td>
<td>Conservation creates environmental risks that threaten humans</td>
<td>Uncertainty if fuel reduction burning will reduce risks to humans</td>
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<td>Native vegetation needs to be controlled to protect humans</td>
<td>Policies create false sense of security for those in high risk areas</td>
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<td>‘Green’ political influences exert control over environmental management policies</td>
<td>Biodiversity and native vegetation policies are contradictory</td>
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<td>Policy decisions are reactive</td>
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Certainty through knowledge

- Bushfire inquiries are for learning how to do better next time
- Science quantifies risk
- More scientific data will help control bushfires

Simplification of complex knowledge

- We selectively choose which quantitative knowledge as proof for way to proceed
- The challenge of gaining quantifiable knowledge to control ‘catastrophic’ fires

Government control

- Governments are blamed for not controlling fire or vegetation as a risk to humans
- Government should have learnt from history
- Pre-European environment is perceived as being risk free

Government controls most fires

- Individuals learn from history and adapt policies to solve problems arising from reactionary policies
- Reinterpreting Traditional fire as a ‘solution’

Managing biodiversity in a context of uncertainty and crisis

Table 7 An overview of key components (highlighted) to the paradox of ‘the more we try to mitigate risks, the more risk we perceive’, showing the consequences that are discussed below.

Confusing interpretations: which risk are we trying to mitigate?

This section provides an overview of the challenging concept of understanding risk in the context of disasters, in this case bushfire. While there are various approaches to understanding and quantifying risks (see Sjöberg, Moen, & Rundmo, 2004), traditionally risk is broadly understood as the probability of events occurring with assigned outcomes caused by social, physical or biological origins (Dovers, chap. 21 in Bammer & Smithson, 2008, p. 249; Jasanoff, 1999; Renn, Burns, Kasperson, Kasperson, & Slovic, 1992). However, risks are not solely predicated on neat probability assessments. Due to the variable nature of people’s evaluation of, and response to, the environment and risk, social constructivism emphasises the qualitative attributes of risk (Jasanoff, 1999; Renn, 2008; Wachinger et al., 2013). Risks are perceived differently according to values, cultures and social groups (Douglas & Wildavsky, 1982), alongside the psychological construct of uncertainty (Paul, 2011; Sjöberg et al., 2004).

Risks are associated with a range of physical events that are likely to impact humans, and in the case of the environmental risks, typically described as natural hazards or disasters, or as ‘calamities’ (Egner, Schorch, & Voss, 2015). In the risk management field, the rate or speed of the onset of the disaster is known either as slow (or creeping) or rapid (or sudden) onset disasters (Pan American Health Organisation, n.d; Paul, 2011). Mitigation and remedial responses to natural disasters are closely aligned with this temporal aspect of the events. Drought, for instance, is a slow-onset disaster exacerbated by secondary hazards such as
deforestation and bushfires (Paul, 2011, p. 17). The impacts of drought and secondary hazards require different mitigation and responses from those of bushfire, which is treated as a primarily rapid-onset disaster (Pan American Health Organisation, n.d). Thus, in the context of these cases studies, the slow-onset disaster of drought often results in bushfires as a rapid on-set risk event, which stimulates a cascade effect in the form of further slow-onset risk impacts on the ecology, economics and mental health of those regions burnt (Middleton & Sternberg, 2013).

Western society’s preferences for scientific, normative and objective models of risk assessment ‘simplify the world so as to lower the regulator’s overall perception of risk. Thus, the impact of multiple exposure routes and possible synergistic effects is rarely captured in routine risk assessments’ (Jasanoff, 1999, p. 140). Jasanoff’s exploration questions whether what is quantified as risk will ever be sufficient to provide a sense of certainty, either across the landscape, or to increase perceptions of known risks. This research presents circumstances where not only is complex knowledge in myths and risk assessments simplified to such a degree as to influence regulator’s perceptions of risk, but misunderstandings of risk perception are shown to extend to the broader public who actually live within the regions identified to be at risk. Further, framing of environmental risks through the influence of myths results in the community learning through representations, or simple constructions, about quantitatively defined risk and risk management. What the community experiences is a very different, chaotic and personal form of risk: ranging from financial loss, fear, a heightened sense of uncertainty and danger, and social disorder. Because these constructions of risk are inconsistent, and often divisive in their simplicity, grief and anxiety are further exacerbated. The maintenance of myths does not allow for a negotiated understanding of disasters, since myth is historically the static, sense-making narrative device which is repeatedly referred to at times of crisis.

Bushfire hazard is bound up in risk perception. In south-east Australia, the potential for major bushfire occurs annually. The myths of ‘conservation’ and ‘community’ present harrowing examples of bushfire hazards as dread risks, where the consequences of known risks are on a catastrophic, fatal scale, and are experienced as a feeling of dread on ‘a gut level’ (Fischoff, 1978, cited in Fox-Glassman & Weber, 2016, p. 2). Yet, despite the scale of
loss, sense of dread and increasing frequency of such major bushfires, the land and emergency organisations in the case studies are continually confounded in their efforts to raise community awareness of bushfire risk. The frequency of experiencing the risk of a low frequency, high intensity event such as catastrophic bushfire can be perceived as a less important concern when compared to daily risks. For example, the Victorian case study showed a new mother who was more concerned about her small baby than about preparing for a bushfire. This research suggests that merging quantifiable and subjective perspectives of risk in simplistic mythic storylines, juxtaposes what is perceived as a real risk with what is mythic. Hence, contradictory and confusing understandings of how to manage risk occur in myths as part of the process of fractured sense-making.

Underpinning much research into risk management is the premise that, the more knowledge there is about risk, the better the management of risks to humans (for example the work of Burchell (1998); Buxton et al. (2011); and Renn et al. (1992)). However, bushfire inquiries exemplify the paradox of mitigating risk by stressing the quantitative representation of risk, and simultaneously becoming entangled in the power of more subjective and symbolic representations of risk. In circumstances such as a bushfire disaster, preferred knowledge forms are not static, but are instead manipulated. Accordingly, the case study myths also emulate Jasanoff’s observations that risk analysis is influenced by power and knowledge (1999), and is upheld by proponents of the myths and their use of emotive language and mythic authority figures.

**Risks of trees**

Management of public land near peri-urban settlements exemplifies a paradoxical scenario. Risk assessment of fire-prone areas is on one hand seen as objective and is becoming increasingly well-defined or ‘knowable’. The Victorian government’s development of the ‘Phoenix’ fire model is an example designed to assist in bushfire risk predictions. On the other hand, risk is perceived temporally and spatially very differently by some community members who have contrasting values and experiences, or those from ecology backgrounds. Both the ‘certainty through knowledge’ and the ‘cultural landscape’ myths refer to the conflicting ways that risk perception can be manipulated. For example, a mythic belief in idealised landscapes that signify a mythic adaptation to the environment (Honko, 1972)
justifies the desire for a risk-free landscape, but in doing so, the mythic portrayal twists the frame of Eucalypt trees into one of human harm. Therefore, the bushfire context leads to conflict over the rights of public landholders to remove vegetation. The conflicted and politicised public attention on an attempt to control trees persists, despite accounts in the two case study bushfires which show that bare ground, areas of open woodland and grasslands were burnt, not only trees. Adding to this contradiction is that more people are choosing to live in peri-urban areas with significant amounts of woody native vegetation, in part due to the attractive aesthetics of the landscapes adjacent to public land. As an adaptation to life, these high fire-risk landscapes are therefore paradoxical. Not only is bushfire risk high, but some ‘tree-changers’ are also associated with removal of trees in a symbolic attempt to control their environment that contravenes biodiversity management policies, thus contributing further to the ecological risk of deforestation.

The subjective preference for particular quantifications of risk is also noted in the statistics that are omitted from ‘certainty through knowledge’ and ‘government control’ myths. Following the huge loss of life in 2009, research that modelled house loss in high bushfire risk areas determined that approximately one in three properties would be burnt on catastrophic or extreme fire days, regardless of any amount of planned burning (Gibbons et al., 2012). Yet this statistic is, as far as this research could verify, rather oddly omitted from current public policy discourse. This research proposes that this information is just too overwhelming for public consideration due to the embodiment of a statistical hyper-reality that we would prefer not to confront, either for land management or peri-urban settlements. The statistical omission also denotes the success of myth; there is a cultural preference to present terrifying stories in mythic form rather than as a hard scientific fact. Actions depicted in myths therefore help to define perceived adaptations but, paradoxically, they foster inconsistent connections with the environment. Consequently, the subjective social construction of risk, distorted through myth, contributes to the paradoxical management of native vegetation.

Ongoing public and political expectations that the technical capacity of risk abatement in fire-prone areas will increase, perpetuates the paradoxical risk cycle. As the odds increase of not being able to reduce the risk of catastrophic bushfires, more technology and knowledge
is sought. Additionally, there is an increasing policy emphasis on community responsibility in high risk zones, in part to combat what is understood by some as the public's complacency regarding bushfire. However, contradicting this policy direction are accounts of landholders expecting fire-fighters to protect residential properties, which are supported by the findings of official inquiries that recommend governments improve their fire-fighting and bushfire risk-mitigation capacity by increasing planned burning and equipping fire-fighting services with highly technical equipment. The metaphoric implications of an engineered land and emergency management service, which describe agencies mechanistically, emphasise the portrayal of a dehumanised government service that is expected to function efficiently in crises. Paradoxically, high community expectations of being rescued are unfeasible because of the paring back and ad hoc funding of government services in a hierarchical bureaucratic system, described as the ‘rolling back’ of government (Wachinger et al., 2013). Perversely, as shown by analysis of the ‘government control’ myth, the community do not trust the government to undertake the responsibility of managing risks. Confused and inconsistent public perceptions of what environmental risk, combined with expectations of agency capabilities, engenders a perplexing desire for certainty.

More trusting relationships between organisations and communities are needed to abate environmental threats as those threats become more complex (Beilin & Reid, 2013; Sharp et al., 2009) if government services continue to be reduced or funded for short periods of time. Exemplifying this situation, inquiries, reports and research into the social-economic responses of the 2002-2003 Victorian bushfires were undertaken (for example Marton & Phillips, 2005; Sharp et al., 2009; Technology, 2003; The Eureka Project, 2003). What emerges from these reports is that major bushfires have profound social impacts on persistent, sceptical and mistrustful relationships between city-based agencies and regional communities. The myths and paradoxes identified in this research highlight an alternative perspective on why such negativity exists. When both community and land management agencies develop expectations about managing uncertain levels of risk, or implementing impossible targeted policies, the result will inevitably lead to failure in meeting the expectations of the broader public and regional agency staff.
The media’s influence on risk perceptions

Augmenting the disaster event, bushfire inquiries deepen depictions of bushfire and native vegetation as potent, socially relevant issues. These official framings of the environment, in combination with crisis narratives in the media, contain negative depictions of increasingly hazardous regions, which are then translated into policies and public perceptions of the environment. Media presentation of graphic metaphoric imagery and literary descriptions at the time of bushfires increases the prevalence of such perceptions; the scale of fire is always portrayed in its most volatile stages. Bainbridge and Galloway (2010) in their study of Black Saturday 2009 media communication referred to newspaper coverage of the disaster. In urban areas, where bushfire risk is negligible, bushfires make exciting, ‘threatening destructive events to be consumed as spectacles’ for a limited amount of time and are dependent on the narratives of crisis (Cohen et al. 2006: 3-4, cited in Bainbridge & Galloway, 2010, p. 101). Similarly, this thesis demonstrates that the myth storylines successfully and repeatedly depict the crisis and drama of the case study bushfires, and in doing so, simplify complex concepts for re-telling in the public sphere. This finding differs in one aspect from Bainbridge and Galloway who, although noting the influence of blame in the media reportage of the 2009 bushfire crisis, claim that sense-making was ‘undermined’ (Bainbridge & Galloway, 2010, p. 100). This research argues that sense-making occurs through the re-telling of myths, and that as a result environmental risk perceptions have become a reflection of the cultural and ecological chaos that is experienced after major bushfire. Thus, experts and government compete alongside a complex cycle of conflicting and contradictory public perceptions and reactions. Social constructs of bushfire risk in the media are presented in ways that symbolise harm inflicted upon humans by the environment, juxtaposed with agency attempts to deal with scientific uncertainties of bushfire frequency and severity.

If the media is known to misrepresent technical knowledge to the public, the myth of ‘certainty through knowledge’ presents an interesting dilemma for fire ecologists and land managers. Some interviewees — dependent upon the media for transferring information and knowledge — nevertheless had direct experience of media misrepresentation when attempting to contribute to constructive narratives around risk and uncertainty. For this
reason, journalists are widely distrusted. Paradoxically, the agencies’ inability to re-frame complex concepts of risk contributes to the maintenance of more simplified and static mythic storylines. If there is a call for more knowledge following bushfire disasters, and if much of what is articulated is misunderstood or misrepresented, then perceptions of the most appropriate knowledge to mitigate bushfire risk will inevitably be inconsistent and questionable.

Different knowledge backgrounds lead to variable translations of the key terms, so sharing expert understandings of complex issues relating to risk is problematic and this adds to the paradoxical situation. For example, the ‘conservation’ and ‘government control’ myths present negative, anti-climate change narratives in association with conservation of native vegetation narratives, that together discredit broader views on environmental management issues relating to catastrophic fire. When communicating risks and uncertainties such as climate change, the media is the main conduit for both the public and politicians (Collins & Nerlich, 2015; Nerlich, 2010). Further, Collins and Nerlich (2015) noted that even when scientific language was calibrated, misleading analogies and similes were used by journalists that resulted in the misrepresentation of important scientific concepts. Nerlich (2010, pp. 427-428) also analysed climate sceptic narratives and found that many media narratives were affiliated with both the religious and the conservative right. This thesis concurs with Nerlich’s findings; when scientific findings conflict with conservative beliefs regarding native vegetation management, framing science in religious terms enabled climate change sceptics in the media to embellish their narratives with powerful archetypal religious symbols. In the process of making sense of the crisis, the Herald Sun for example, used hyper-religious metaphors, which subsequently discredited scientific perspectives and ‘Green’ politics as a false set of beliefs that transgressed Christian moral authority. As a result, this framing projected government fire-fighting agencies as incompetent at managing risk and native vegetation conservation, and their efforts as delusional.

An additional layer of persuasive moral power exists in the media narratives, which present mythic storylines of catastrophic government failure to control the bushfire disaster. As noted in analysis of the ‘government control’ myth, persuasive stories were provided by the forestry lobby and angry private landholders who defied vegetation conservation legislation.
Therefore the media accentuated the perceived need for Government to adopt redemptive actions, demonstrated by the Victorian government’s introduction of the 10/30 Vegetation Clearance regulation (Department of Environment and Primary Industries, 2013), and a review of the native vegetation and biodiversity management policy (Department of Sustainability and Environment, 2012b). Hansen reports the increasing use of third-party lobby groups to pressure policy development within the public sphere (2011), and in particular large corporations sought to discredit climate change policies, supposedly on behalf of the ‘public interest’ (Beder, 2002, cited Hansen, 1991, p. 13). Hansen suggests that further research is needed to investigate the power dynamics and strategies in environmental science communication and the impacts of a short-term attention cycle when reporting the longer time-scales of environmental issues. Similarly, this research notes that while the bushfire-native vegetation myths may persist over time, they are only re-told in the media during moments of crisis, when public interpretations are easily distorted by emotion and ideology.

Community management of risk: the need for heroes

As with any human disaster, post-bushfire crises fragment communities and create great uncertainty and disorder. During these moments in history, myths guide society by referring to traditional, but potentially divisive, moralistic terms of appropriate human behaviour (Honko, 1972) in order to prevent social order from dissolving (Dundes, 1984). The process of depicting certain roles in myths allows them to influence debates and to reassess appropriate relationships with the environment. This dealt with particularly in the myths of ‘conservation’, ‘community’ and ‘government control’ analysis. People are depicted dichotomously as either noble heroes, evil-doers, benignly complacent or revered authority figures. Evidence of such archetypal associations with disasters is found in nineteenth-century literary depictions of fire and fire-fighting. Moore, whose interest is in bushfire and early Australian fiction, believes this portrayal of people in the Australian landscape reflects a ‘construction of the tenacious settler’ that contributes to narratives of heroism and survival in a new land, to ‘[assert] mastery over the often un-tameable bushfire’ (2013, p. 55). Similarly, depictions in the case study media narratives present a mythical framing of the volunteer hero in catastrophic bushfires, and communities in exceptionally dangerous
situations, distorting bushfires into a war waged against a mythical enemy. The hero role claims to solve problems by brute force, whereas the more nuanced narrative forms reflected in the sculptural responses are less attention-grabbing, despite their potential as equally powerful myths of hope or, as a state of dynamic continuity reflected in themes of regeneration. Importantly the presence of a hero — typically masculine, rugged and placed in grave danger in catastrophic conditions likened to ‘hell’ — implies that adaptation to the environment is based upon actions and measures that have not been promoted in policies.

Despite the hero role being immediately identifiable and historically resonant, depicting heroes in the myth of ‘community’ isolates a vast range of people from their communities, and exacerbates dichotomies between agency firefighter and volunteers involved in the management of response to such disasters. Since the thrust of the storyline in the myth of ‘community’ concerns how heroes arrive on the day of great tragedies, there is no role available to those who deal with issues preceding the fire events. Consequently heroes are placed outside risk mitigation measures and community recovery programs, where no role is prescribed for the heroes outside of the immediate emergency; felt by interviewees as impotence (chapter 4).

In telling the story of how we attempt to deal with and conceptualise risk, we target those people who present a risk to societal norms. Notably, if desirable public attributes are largely portrayed as residing in volunteer heroes, this framing also impacts other storylines. The roles of others in society, designated to manage the environment, are therefore framed in derogatory terms. During a crisis, conservation and native vegetation represent aspects of reality that challenge mythic concepts of successful risk mitigation, because the burning of the uncontrolled environment has caused terrible harm to people. The vitriolic public fear of ‘greenies’, with their attachments to, and affiliation with, native vegetation, is reflected in the public fear of uncertainty, because the framing of enemies helps embody a physical, but also a moral risk to society. Since the bushfire myths and characterisations (heroes, for example) are easily understood — being widely disseminated in the media and accessible to people regardless of their formal knowledge and expertise in a topic — the protocols for behaviour are subsequently widely understood. If the bushfire myths disseminate a particular code of moral behaviour, the same myths also limit a cultural worldview and
hence they limit the range of possible responses to the environment. It is useful to reflect upon the memorial sculptures which defy this view. They present contradictory storylines that integrate and acknowledge the subtleties and resilience of the environment and of the people living within fire-affected areas, for example, through intricate and complex layers of social-ecological regenerative themes in the mosaic letterboxes of Strathewen. The predominant mythic themes of blame, complexity and politicisation, which contribute to expectations of redemption from public harm, are contradicted by the incorporation of environmental motifs and regenerative symbolism.

Emotive language, roles and symbols portrayed in conservation conflicts are similar to those used in risk management; where people follow protocols and have defined roles to play, and conform to command-and-control language. Holling and Meffe (1996) describe the command-and-control approach to the environment as leading to a false sense of stability or predictability, yet in this research, both are attractive narratives for myth during times of bushfire disaster. According to Yanow (1992), policy myths lack the traditional hero and heroic actions, however these myths are still bound by tensions between the mythic contradictions. In contrast, this research’s exploration of myths shows conflicting perspectives in management (for example, command-and-control language) that do, in fact, combine with archetypes (that is, heroes, hell and havens). As a result, environmental policy is inexorably touched by heroic action in some form, and this is further emphasised by the depiction of metaphoric wars against the environment. This additional twist in understanding policy myths supports Yanow’s other observation that through policy, people communicate knowledge in mythic form without making knowledge explicit, ‘thereby maintaining silences in public discourse’ (Yanow, 1992, p. 403). It is in the contradictions of myths that we have an opportunity to become aware of these silences, as was shown in the sculptural and interview narratives.

*Managing biodiversity in a context of uncertainty and crisis*

Risk-based bushfire and native vegetation management policies are shown in this research to be reactively developed following bushfires and official inquiries, and this produces perverse, unintended and politically-charged consequences. Paradoxical perceptions of risk are bound up in public claims for control, since heightened anxiety around safety and well-
being are implicated in increasing risk perceptions. The metaphoric ‘war’ on vegetation and the struggles with (and within) agencies, described in the analysis of ‘community’ and ‘conservation’ myths, contribute to the type of behaviour that myth prescribes: there is an ongoing ‘battle’ to create ‘strategies’ to regain control of the environment.

When confronted with significant blame, the development of a sense of certainty in the public domain is illustrated by comparing the interface between those working in an objective and logical conceptual fire-ecology knowledge field, with those who deal with the more subjective notions of public perceptions of the environment. These two fields operate in a context that is frequently disconnected not just by the environmental impacts of fire, but because of differences in theoretical conceptualisation of risk. In the attempt to achieve certainty, it is apparent from the interviews that variable, and often contradictory, risk analysis and knowledge is applied in native vegetation and bushfire management. Making matters more difficult, accounting for uncertainty in policy or government narratives is not possible due to the role of government in adopting a prescriptive redemptive role, described in detail in the myth of ‘government control’ section. Thus, environmental policies are developed with an inherent sense of failure that maintains a paradoxical cycle.

Two perverse examples of how risk is dealt with during crisis moments in history arose after the 2009 bushfires: the Victorian five percent planned burn policy and the 10/30 Vegetation Clearance regulations. Rather than creating long-term processes for establishing quantitative bushfire risk certainty, the implementation of these policies produced increased uncertainties in terms of monitoring and evaluation. Policies were found to be based upon uncertain scientific data that purported to prove negative implications for biodiversity and human risk management that were unfounded. Case study interviews describe considerable unofficial staff effort which evolved over time to deal with environmental management policies that lacked sufficient consideration of socio-ecological complexity and emotive responses to risk. Interviewees discussed how staff persevered, using their understanding of fire, ecology, organisational history, policy and networks, to correct the policy outcomes of official inquiries, and to develop programs such as the strategic planning Risk Landscape project. These efforts are associated with the paradox of ‘the more we try to learn from history, the less we seem to know’, which produced a
discrete expression of learning from history to enable a politically that provided a tenable way out of an uncertain policy.

At the interface of both public and private land tenures, particular management actions are claimed to be more appropriate. For example, the storylines within the myths of ‘conservation’ and ‘certainty through knowledge’ concern public land and fire management, so do not directly concern controlling those fires that originate on private land. Landholder rights to control native vegetation are considered specifically relevant, because of the threat which fire from public land poses to landholders. This depiction is partly a consequence of the bushfire inquiries which confirmed that government is primarily responsible for environmental risk management. In particular, the myths of ‘conservation’ and ‘government control’ justify the need to create a buffer from the threat of public land fuel. These buffers are metaphoric defence lines to limit the harm and hurt that trees inflict on people. Therefore, the myths obligate and justify certain defensive behaviours (Honko, 1972).

A contrary portrayal of the environment is articulated in interviews and sculptural memorials which deal with these contradictions. These examples show how the paradox accommodates inconsistent aspects of human perceptions of risk; for instance in the celebration of trees (the Strathewen Blacksmiths’ Tree is a grand example), rather than the widely disseminated metaphoric depictions of demonised and demonic native vegetation. A consequence of this paradox is that biodiversity management policy-making decisions are reliant upon omitting diverse perceptions of risk found in interpretations of history, societal learning and qualitative knowledge of risk perception.

This exploration of the paradox of ‘the more we try to mitigate risk, the more risks we perceive’ has introduced some of the issues to provide context for the next section concerning the paradox of ‘trying to control the uncontrollable’.

**Paradox 3: Trying to control the uncontrollable**

The paradox of ‘trying to control the uncontrollable’, in association with the paradox of ‘the more we try to mitigate risk, the more risks we perceive’, reflects a nexus of public fear and political will. The paradox alludes to the difficulties in controlling human responses to the uncontrollable, and to perceptions of things being out of control.
contribute to the belief that when chaos reigns, more control is needed. Social-ecological uncertainties are symbolised in various myths involving historical-cultural perceptions of heroes, government failures and anthropogenic mastering of the environment. Myths present a static world, and the paradox of ‘trying to control the uncontrollable’ in particular, depends on maintaining static presentations of the world. The contradictory aspects of the myths broadly present the struggle by European Australians to adapt to and control the environment.

<table>
<thead>
<tr>
<th>Myth</th>
<th>Main storylines</th>
<th>Contradictions</th>
<th>Paradoxical outcomes</th>
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<tbody>
<tr>
<td>‘community’</td>
<td>• Community heroes are volunteers&lt;br&gt;• Heroes are needed to fight battles to take control and confront risks</td>
<td>• Agency firefighters not portrayed as part of ‘community’, so who is community?&lt;br&gt;• Community presented as complacent&lt;br&gt;• Apolitical and blameless narratives of community</td>
<td>Government failure to control the uncontrollable: the blame/redemption cycle&lt;br&gt;Management of native vegetation as control&lt;br&gt;Climate change&lt;br&gt;The language of myth as an instrument of control</td>
</tr>
<tr>
<td>‘conservation’</td>
<td>• Conservation creates environmental risks that threaten humans&lt;br&gt;• Native vegetation needs to be controlled to protect humans&lt;br&gt;• Green political influences exert control over environmental management policies</td>
<td>• Uncertainty if fuel reduction burning will reduce risks to humans&lt;br&gt;• Policies create false sense of security for those in high risk areas&lt;br&gt;• Biodiversity and native vegetation policies are contradictory&lt;br&gt;• Policy decisions are reactive</td>
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<tr>
<td>‘certainty through knowledge’</td>
<td>• Bushfire inquiries are for learning how to do better next time&lt;br&gt;• Science quantifies risk&lt;br&gt;• More scientific data will help control bushfires</td>
<td>• Simplification of complex knowledge&lt;br&gt;• We selectively choose which quantitative knowledge as proof for way to proceed&lt;br&gt;• The challenge of gaining quantifiable knowledge to control ‘catastrophic’ fires</td>
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<tr>
<td>‘government control’</td>
<td>• Governments are blamed for not controlling fire or vegetation as a risk to humans&lt;br&gt;• Government should have learnt from history&lt;br&gt;• Pre-European environment is perceived as being risk free</td>
<td>• Government controls most fires&lt;br&gt;• Individuals learn from history and adapt policies to solve problems arising from reactionary policies&lt;br&gt;• Reinterpreting Traditional fire as a ‘solution’</td>
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Table 8 Summary of the myths, contradictions and consequences for the paradox of ‘trying to control the uncontrollable’. Highlighted sections are discussed below.

*Government failure to control the uncontrollable: the blame-redemption cycle*

While there are more frequent uncontrollable and catastrophic fires occurring and social expectations of control are increasing. These public calls for control function as a means of knowing, in order to provide a sense of certainty in a time of turmoil. The need to control
potentially uncontrollable processes is present in land management legislation. There are a range of controls over access-rights to land (for both Indigenous and European Australians, and involving both public and private tenure), as well as regarding the management and use of native vegetation.

Blame is an important theme in the paradox of ‘trying to control the uncontrollable’, and has also been described in terms of the paradox of ‘the more that we try to learn from history, the less we seem to know’. In this paradox some storylines use blame to identify who is responsible for controlling the uncontrollable: bushfire and the environment are portrayed in the myths as something that should be controlled in order to prevent harm to humans. Following each bushfire the failure to control both fire and native vegetation becomes embroiled in public debates about wresting control of organisational and political obstructions. Storylines consequently conflate domestic space risks with those associated with bushfire and native vegetation management across the broader landscape.

Another more nuanced influence of blame on the paradox of ‘trying to control the uncontrollable’ arises as a result of the myth of ‘community’, which omits agency staff from the fire-fight in. The noticeable absence of public depictions of agency staff in the bushfire media narratives infers that the government fire-crews are not brave or heroic, nor do they form a significant part of community during a tragedy. Consequently, another significant, but silent, storyline presented in the ‘government control’ and ‘conservation’ myths is that, since governments are blamed for not controlling the catastrophic bushfires, people associated with the government are responsible for government mismanagement of control. These individuals, mostly members of the same fire-affected communities and often traumatised themselves, are directly, and morally, implicated for causing the bushfire problems that must be corrected by community volunteer troops.

The contradictions within the myths of ‘conservation’, ‘community’, ‘certainty through knowledge’ and ‘government control’ articulate different voices of experts, scientists and government agencies in relation to controlling the environment and social chaos. In contrast, the myths of ‘community’ and ‘conservation’ present a very strong community voice, declaring that they already deal with environmental risks such as uncontrolled native vegetation and major bushfires, and do better at controlling them than government
agencies. City-based bureaucrats, ‘greenies’ and incompetent land management agencies are framed negatively, and this functions to create a psychological, but paradoxical, sense of control identifying those at fault. To admit that there is an alternative perspective of agency bravery would undermine the social order prescribed by those social institutions which maintain the myth (Yanow, 1992), as depicted in the myth of ‘community’ and ‘government control’ sections.

Despite the conflict-laden and emotional debates over permissible levels of risk management, or control, and over the responsibility required in high fire-prone settlements, local governments and land developers contribute further to the confusion by enabling continued settlement in these zones. Amidst such conflicting views of justified forms of behaviour (Honko, 1972, p. 13), it is apparent that the paradox in fact signifies a lack of certainty rather than a proposed state of order.

**Management of native vegetation as control**

Even under extreme bushfire conditions the ‘trying to control the uncontrollable’ paradox portrays the environment as controllable. Similarly, mythic expectations are that native vegetation should respond to changes in climatic and ecological conditions in a quantifiable, knowable way. As a result of politicised voices that heighten hazard awareness, biodiversity conservation issues are misinterpreted and misrepresented during the upheaval following bushfires. Perceptions of environmental risk compound the mythic fear of uncertainty, and of unpredictable aspects of the environment and those who work to protect and manage it. It is during these highly emotive periods that, perversely, concerted effort is made to amend and atone for ecological and human losses by implementing reactive changes to policy. During times of such conflicting emotions, the post-bushfire setting has made it historically impossible for governments to wrest control of a situation that is increasingly shaped by the politicised narrative themes of blame, in order to fulfil their redemptive role.

As a result of reactive policy and conflicting perspectives on responsibility, native vegetation has an important but contradictory role in the paradox of ‘attempting to control the uncontrollable’: firstly as an element in fire management where native vegetation, described as ‘fuel’, is the only controllable element available to control fire; and secondly in
conservation management, native vegetation requires regulatory controls to ensure that it is protected. Within such a policy context, the myth of ‘conservation’ legitimates societal behaviour to assert the need for (albeit reactive) native vegetation management policy amendments that in fact serve another purpose: to help people manage their personal fears when their own sphere of reality is out of control. Thus, although people voluntarily place themselves in homes where native vegetation is a defining component of the local environment that historically burns, the onus is on land managers to actively manage native vegetation in order to remove this feeling of unease.

As a result, an outcome of re-telling the ‘conservation’ myth is an increased expectation of organisational and political responsibility. Inevitably, framing the environment negatively portrays the need for additional vegetation removal or other controls to reduce fuel levels; otherwise the environment will be out of control and will continue to inflict harm on humans. For example in Canberra, introducing Asset Protection Zones within conservation reserves signifies that human assets are now valued for protection, in preference to the biodiversity that was originally determined as worth conserving in legislated reserves. This policy shift indicates that the ‘cultural landscape’ myth portrayal of the Bush Capital is a deeply ironic misnomer.

Findings from workshops with 2009 bushfire-affected communities (McLennan et al., 2012), describe how community members want to control their own recovery efforts following fire. However, they believe there are ‘systemic and institutional factors that breed an expectation amongst people that someone else has control’ (p. 12), which contradict these efforts. According to this thesis, this problem is in part explained by the mythic expectations that governments should be more in control of the environment. This thesis also suggests that a sense of redemptive responsibility includes conflicting views about who has responsibility for maintaining control, and what control actually entails. Both ‘control’ and ‘risk’ are subjective and misleading terms.

**Climate change**

The paradox of ‘trying to control the uncontrollable’ refers to knowledge and ways of thinking which may be out-dated and defy logic. An example is climate change. Rather than featuring in a myth storyline, climate change instead emerges as a contradiction that
unsettles more traditional ways of viewing the world. Scientific research and numerous policies state that the precedence for more frequent catastrophic fires are likely to increase under a changing climate. Interviewees stated that no amount of on-ground support or planned burning will counter the likely horrific impacts of those events.

Since the most powerful of myths are understood to concern ‘extremity’ and force people to consider things outside of their own experiences (Armstrong, 2005, p. 3), the lack of serious acknowledgement is a contradictory omission. Climate change is a story to be honoured by myth. Instead, the global issue is subject to refutation by the more conservative and religious sectors of the media and by influential lobby groups, as discussed in the previous paradox. As a mirror of contemporary cultural perceptions of the environment, this omission reflects how global-scale environmental problems are still denied by sectors of the Australian society, even though the issue is embedded in policies (indicating the scale of problems being managed). Hence, proponents of the ‘government control’ and ‘conservation’ myths espouse different moral obligations for government in controlling uncontrollable vegetation, rather than considering the links between anthropocentric impacts on climate and ecosystems. The framing of a very visible and blackened enemy (the environment filled with fire demons and ‘greenies’) diverts attention away from other potential ‘baddies’ in society that may be contributing to severe bushfire. Acknowledging climate change as a certainty implicates the actions and lifestyle choices of the whole of Australian society, rather than isolated sectors of society which can be blamed.

The language of myth as an instrument of control

If language is considered a mirror of cultural responses to problems expressed in the myths (Honko, 1972), then a noticeable aspect of the language used in the five myths and across all paradoxes is the frightening metaphoric imagery that contributes to sense-making aspect of paradoxes. In this way, myths are able to control and direct the power of language. Dryzek describes the use of metaphors as a ‘crucial’ dependence in environmental discourse (2005, p. 18), and this can be seen in the paradox of ‘trying to control the uncontrollable’, where vivid metaphoric symbolism strengthens the claims to control uncontrollable mythologised elements such as fire, native vegetation, aberrant behaviour and government agencies. In this research, archetypal metaphors emphasise native vegetation as something
to fear and therefore to control — in order to prevent harm — since fire is a beast
devouring entire landscapes of trees, and native vegetation is both ‘rubbish’ and ‘fuel’ that
needs to be ‘cleaned up’; native vegetation is therefore disposable.

There is evidence that this archetypal fear of the bush has been inexistence for over one
hundred years, portrayed in the bush fairy images by Lambert (1898), and in a manuscript
by a sixteen-year old in the early twentieth century:

‘Alas! The poor Bush’ sobbed the Wattle-Queen, ‘how can we save it?’ ‘only Prince
Rain can save us’, said Red-Gum sadly ... the gully was doomed ... Suddenly a tongue
of flame shot up on the ridge that walled in the gully ... Old Red-Gum could see the
Fire-Gogs leaping from branch to branch ... and look! there on the hill top stood the
cruel Fire Demon. A red-hot branch was in his hand and he plunged it among the
fluttering leaves. ‘Spare us, spare us’, they cried, but his hard heart was immovable
(McGrath, 1918).

Over a long period, such demonised storylines construct the framing of bushfire merging
with vegetation as something that contaminates the civilised environment and the purity of
the bush. Negative metaphors assist in framing similarly negative attitudes and reactive
responses to the portrayal of bushfire and native vegetation. The social-ecological landscape
is constructed as being invaded by an ominous beast, and landscapes are ‘destroyed’ as a
result of wars with bushfire. In addition, the presence of conservationists as de-humanised,
dangerous ‘greenies’ populate the post-bushfire landscape with a plethora of enemies. To
place them into the ecology of these events vindicates the myth of ‘conservation’, since
these wrong-doers, as enemies, can be drawn into the battles presented in the myth of
‘community’. For those who re-tell the myths, using war metaphors increases the impact of
a constructed reality that is hinged upon controlling disaster. These archetypal images are
depicted particularly effectively in the media, and more subtly in other forms of narrative.
Chew and Laublicher (2003, p. 15) noted that ““enemy” is fundamentally a human construct
identifying a malevolent foe’. Enemies in these myths are an archetypal representation in
‘villain-saviour’ storylines that perversely present a symbolic and narrative ‘balance’ where
the hero confronts the enemy. The metaphoric ‘fire as devil’ enemy has associations with
very early European conceptions of the ‘evil one’, who at night, stealthily killed off
vegetation during winter (Fiske, 1872, p. 121).
The use of war metaphors to articulate human relationships with the environment is widespread (Dryzek, 2005). Eskridge and Alderman (2010) found that the negative framing of exotic weedy vegetation in the US induced ‘fear-laden’ responses which in turn enabled legislative measures for control that supported broader societal needs for a sense of security. This situation is not dissimilar to the framing of native vegetation in the case studies, in particular trees, as a threat that requires legislative measures, and in doing so, creates a greater sense of security for post-bushfire society. What differentiates these examples is that in Australia native vegetation is presented as a threat and as inferior to exotic vegetation (Eskridge & Alderman, 2010, p. 111); thus we see reflected in the myths the persistence of deep cultural disconnects from the nineteenth century, and the portrayal by European Australians of monotonous and miserable landscapes (Griffiths, 2001).

The influences of Christianity on Australia’s largely secular society can be seen in the overtones of religious metaphors which describe the ‘hellish’ fire events into which innocent people are pitched. The environment is distorted into a far more allegorical narrative structure that includes themes of good and evil, and subsequently, becomes another justification for blame and redemption. Allegorical storylines feature those who fight the battle and confront foreign elements which subject the innocent to harm. This form of moralising storyline in the ‘community’ hero myth sets up the need for redemption and atonement in the myth of ‘government control’, since land management agencies are associated with vegetation management and are therefore drawn into the ‘evil’-doing that bushfire represents. They are therefore expected to right the wrongs done against the innocent and brave defenders of the civilised and good. Thus, significant conflict arises from the emotive theme of religious catastrophe in an effort to control uncontrollable emotional responses, where the metaphoric entailments stress the need for action.

Even though society is not presented in myth as a necessarily a like-image (Honko, 1972), this discussion has shown that history, societal learning and perceptions of risk merge into the final paradox that explains the intractable issues of control which become embedded into management and public responses. Thus, the paradox of ‘trying to control the uncontrollable’ represents the conclusion to both paradoxes of ‘the more that we try to learn from history, the less we seem to know’ and ‘the more risk is mitigated, the more risks
are perceived’. This research into the inter-relationships between myth and the contradictions involved, has shown that the contradictions within myths reveal important ‘values which would otherwise be difficult to detect’ (Honko, 1972, p. 14).

Concluding comments

Throughout the discussion evidence has been provided to answer questions that concern how social mechanisms build and reinforce paradoxes of native vegetation management following bushfires and, how social mechanisms and paradoxes influence native vegetation management thinking and practice.

In response to the first question, the discussion has considered how mastery of the environment, as a significant social mechanism, influences native vegetation management. The Western understanding of mastery and control has been an historical influence on European Australian cultural perceptions, actions and storied accounts of both ‘knowledge’ and ‘control’ of the environment. The case study paradoxes provide evidence that this social mechanism filters into public discourse and community responses following bushfire disasters, and that they focus on elevated perceptions of risk.

Myth-making can also be considered a social mechanism, since the process builds and reinforces particular perceptions, behaviours and ways of ‘knowing’ the world, particularly in the context of disasters and abating ensuing social chaos. Therefore, cultural, political and social sense-making is inevitably and inherently paradoxical because of the way myths are re-told following major bushfire.

What an understanding of paradox means for land managers

Paradoxes influence native vegetation management specifically through the simplified and mythic framing of complex issues relating to bushfire and to the broader conceptions of the south-east Australian landscape. The paradoxes themselves are evidence that native vegetation and bushfire management are less influenced by the regenerative storylines and symbols, but more by simplified storylines featuring contestation of power and religious archetypes. Consequently the influential tone of blame, politicisation, and the simplification of complexity override alternative mythic constructions of realities after major bushfire.
A range of researchers interested in myth and its applications (for example Armstrong, 1993, 2005; Bliesemann de Guevara, 2014; Dundes, 1984; Fiske, 1872; Honko, 1972; Yanow, 1992), note that myth has always been used to understand and represent the world. This research suggests that because of our innate sensitivity to myth, myth is vital for sense-making during significant moments such as bushfire disasters, by referring to symbolic forms and storylines. Armstrong (2005) notes that, since the Enlightenment Western civilisations have shunned mystical and religious explanations in favour of more rational and logical explanations of reality. As this research shows, the need for mythic explanations has not been completely relegated to the past. The issues confronting land management do not just concern the sense of entrapment by powerful mythological storylines, but also the sense of being confronted by the contradictions of mythic sense-making that abuts pragmatic, objective ways of knowing. Hence, broader society repeatedly experiences the contestations of bushfire with native vegetation both as signifier of this mis-representation of sense-making, and as the signified. This is where European Australians remain philosophically in relation to their connections with the environment.
Chapter 6: Concluding reflections on the research

This research has referred to two bushfire case studies to explore complex and conflict-laden issues relating to native vegetation management in the context of bushfire in south-east Australia in the twenty-first century.

In this concluding chapter I present the main findings and show how they contribute to the practice and theory of native vegetation management in south-east Australia.

Main findings and their contributions to practice and theory

Following an explanation of why myths and paradox create social understandings of bushfire, the environment and those who manage it, this section presents findings and contributions in two groups. The first group addresses the final research question of how an understanding of paradox may assist land managers. The last group, while still relevant for land managers, contains significant contributions to help increase a broader understanding of how to consider intractable social-ecological problems in the twenty-first century, based upon the approach used in this research.

Why native vegetation management in the context of bushfire is so full of paradox

Complex, wicked problems associated with native vegetation and bushfire are paradoxical because they are constructed around multiple myths.

Paradoxical problems are entrenched because paradoxes function through the re-telling of captivating sense-making myths during times of crisis. This re-telling provides a sense of certainty, social cohesion, and moral guidance for appropriate behaviour.

Myths contain appealing, but essentially unattainable, conclusions to simplified storylines, a feature which contributes to the deeply paradoxical situations that land managers confront. The disjunction between the complexities of the crisis event and the simplified version told in myth contributes further to the wickedness of social-ecological issues relating to bushfire and native vegetation management.
How understanding myths helps understand contradictory circumstances

Myths are especially effective in shaping perceptions of the world, or reality, in a paradoxical form. Myths appear to be unequivocally accepted, since myths are normative and are transferred over time and place. In addition to their re-telling, the five myths identified in this research — ‘cultural landscape’, ‘community’, ‘conservation’, ‘certainty through knowledge’ and ‘government control’ — evolve and are maintained by referring to historical events, interpretations of early European Australian history, Indigenous Australian cultural practices, and organisational and political influences. These known, or knowable, mythic guiding storylines are accepted because they are predictable and they frequently feature bold archetypal symbolism. The roles of actors in the myths are prescriptive, while the storylines and impacts of myths on paradoxical management issues are rarely questioned. Repetition of these myths means that alternative storylines are ignored or frequently derided; the alternative hidden storylines are embedded within myopic constructions of reality. Exploring the language of myths contributes a deep understanding of the framing of learning and knowledge in relation to the environment. While others have established that the telling of myths is innate and inevitable following human disasters, this research suggests that emotion and crisis are expounded in myths, which function as culturally defining narratives.

Why multiple data sources helps explore the intersection of mythic storylines

A key contribution of this thesis is that it incorporates a ‘trilogy’ of narrative components into social constructivist approaches: paradox, metaphor and myth, in combination with reflexive and interpretative methodologies.

This research has benefited from the inclusion of history, art and lengthy in-depth interviews through which rich and deep understandings of paradoxical situations can be developed. A wide search for similar approaches has led me to believe that this approach is novel; it is almost certainly novel for research into social-ecological bushfire and native vegetation management issues. The benefit of using this research approach is that it is complementary to a number of other researcher’s work on bushfire conundrums both in Australia and elsewhere (Moore, 2015; Penman et al., 2014; Schirmer et al., 2012; Sword-
Daniels et al., 2016) (Beilin & Reid, 2015; Llausàs et al., 2016; McCaffrey et al., 2013), so the work presented here contributes depth to an existing and important field of inquiry.

Myths frame perceptions of risk and control at critical moments, which coincide with reactive policy-making.

During moments of crises, media is a conduit for constructed public narratives that provide psychological and political certainty. Ironically, the media is unable to effectively articulate broader concepts of uncertainty, but instead distorts understandings of certainty in order to resolve public fear of the environment at crisis moments. Consequently decisions and policy-making are often based upon either misrepresentation or misinterpretation. One result of this research is that we need to question what knowledge is required to change policies relating to risk, control and uncertainty, if much of what is referred to in myth is based upon misunderstandings. Re-telling some myths fosters even more uncertainty, impounded as a societal fear, but this uncertainty is hidden within the predictability of mythic storylines. Reflecting upon this question could assist a broader organizational understanding of paradoxical policy and media responses during and following crises. In the search for ways to deal with the inconsistencies, disconnects and deeply paradoxical outcomes of policy changes following catastrophic bushfire, exploring paradox through myths provides new ways of reframing the roles and language used in moments of crisis. Therefore, understanding the content and use of myths is vital to provide not just fresh insights for policy-making, but also to revise existing approaches that consider narrative construction in environmental management scenarios.

Even the most diligent attempts to undertake objective scientific research and policy-making are ultimately influenced by social responses, augmented by mythic influences, rather than by wholly scientific evidence-based and objective analysis. A consequence is that science will never provide policy-makers with sufficient certainty if simplified, public contestations, presented in myths, remain the predominant way of integrating science with policy. This research showcases an approach that provides organisations an opportunity to explore both science and policy-making narratives in the context of being merged with myth. Doing so enables considerations of paradoxical, complex social-ecological issues outside of the divisive influences of disaster-oriented public narratives. This in turn
facilitates confronting the philosophical basis from which we believe we learn (that is, reliance upon objective evidence-based decision making), with much more subjective, fallible and contextual ways of understanding situations, people and changes that lie outside human endeavours.

**Group one: Key findings of relevance to land managers**

When land managers confront on-ground management challenges in a bushfire context, having an understanding of the interdependent influences of myth and paradox can be of assistance. To be empowered, land managers need awareness of how the social mechanism of environmental mastery functions, and how myths work. Empowering land managers would also need development of a greater, shared awareness of paradoxes by agency staff. Thus, the land management organisations may be better able to separate the unattainable, simplified conclusions to which they respond, from their work with the more helpful and deeper analysis of alternative perspectives, which can be found in the contradictions to myths.

A first step to empower land managers is to better understand the influences of language, and therefore narratives, as well as the knowledge that is embedded within these discursive constructs. In particular, the myths of ‘certainty through knowledge’ and ‘government control’ set up a process for atonement for the harm caused by the fire-vegetation war on civilisation. The perspectives of land and emergency management staff demonstrate how complex associations with political and economic factors become entwined in decision-making processes which are unrelated to biodiversity and fire management. As the main tool for ‘atoning for harm’, planned burning remains a deeply contested and complex conclusion to the allegorical storyline. Aside from the limitations of the public service code of conduct, staff have had no choice but to remain silent in the discourse of bushfire and native vegetation management, and especially because the predominant myth has no place for those who subscribe to a conservation role, since they fall outside the mythic roles of heroic management.

An awareness of myth and paradox could be integrated into existing frameworks where there is inter-agency dialogue, such as in the example of the ACT SBMP process. In addition,
developing a greater understanding of the paradoxes of the policy-making process could aim to reflect more honestly the influence of mythic storylines as part of emotional public policy-making narratives prior to bushfire events (see finding above). Hence, future development of environmental policies could emphasise greater awareness of paradoxical situations in order to allow for the subjective social and emotional responses that have been shown to influence policy-making, as presented in the paradoxes of ‘the more risk we try to mitigate, the more risks we perceive’ and ‘controlling the uncontrollable’. While academia and staff recognise that reactionary ‘knee-jerk’ policy responses occur during crisis moments, this understanding is not articulated in mythic storylines. To acknowledge influences on policy, and therefore stimulate changes in policy development, there is a need for clear explanation of risk and complexity in narratives appropriate to the broader community. Such a shift could help deal with the confluence of emotion and political decision-making that has been presented in the contradictions to the myths.

Land managers need to also confront themes of blame, complexity and politicisation, in order to fully comprehend how thematic emphases influence the tone of mythic storylines.

These potent themes, and others such as redemption, are enhanced and reinforced by the use of symbolic language such as metaphor, in both textual and visual forms. Arguments that seek cultural change following bushfires, which have been identified in the contradictions to the myths, are vilified in the media narratives in favour of storylines that uphold more traditional, or static, ways of living in the environment, such as those re-told in myths. Considering this, it is questionable if the crisis moment, even if historically significant, is the most appropriate context for debating major societal and policy shifts regarding the predominant Western view of the environment and its management. If land managers can be more aware of the myth-telling process, agencies could better respond to public discourse and understand how the broader public understandings of ostensibly objective knowledge become distorted. There is reason to question government reliance on bushfire inquiries to reaffirm objective responses to disasters, when these inquiries are hampered by ideological and acrimonious mythic storylines. The findings in this thesis question the effectiveness of bushfire inquiries.
Paying greater attention to the power of language when identifying multiple mythic elements that create conflicting, paradoxical situations could also assist land managers when considering strategies and policy development. They should be encouraged to look deeper than the surface-level intentions of text, to a more complex representation of a narrative, embedded in myth, as a means of making sense of complex scenarios. Language is something that can be actively adapted, and used to shape new realities that better reflect the diversity of bushfire experiences. The language within the myths presented in this thesis is powerful, but by questioning these myths through the exploration of contradictions, we find new insights into typical paradoxical responses to intractable problems. When carefully undertaken, such an approach can help shift the dichotomous interpretations of environmental and bushfire scenarios.

Discovering new ways of understanding is in itself empowering, and sheds light on these deeply entrenched and wicked social-ecological problems. For those in management agencies who are bound into the mythic storylines of redemption, or as anti-heroes, exploring the cues within contradictions of myths can enable ways of reframing in order to find ways out of these socially constructed, polarising narratives.

The efforts taken by governments to integrate Indigenous Australian cultural knowledge and communities into policies and management strategies are undeniably an important step. The research findings suggest a need for greater support for Indigenous Australian language and cultural ceremonies to be conducted on country, before launching into the more dramatic ‘we need more fire as a solution’ approach. Lobbying by some European Australians to promote Indigenous Australian cultural burning practices confuses the fire practice and oversimplifies the complex history of land management through the European appropriation of indigenous knowledge, in order to satisfy political objectives. Consequently, there is a risk that Western understanding of what Indigenous burning practices are is flawed, and that relationships between European and Indigenous Australians are still based upon the acquisition of misconstrued cultural knowledge. Misconceptions of bushfire risk can also result from this oversimplified interpretation, overlaid on complex social, economic and political landscapes where population and land use differ dramatically from broad-scale land-use by Indigenous Australians.
Mythic storylines inhibit and stymie organisational responses, roles and individual relationships with one another, leading to more defensive organisational responses.

Fear in many forms merges with public expectations to pressure organisations to be more responsible for management of public land. Royal commissions and official inquiries play a significant role in repeatedly supporting such responses, but they result in short-term reactionary changes to policies, social thinking and attitudes towards the environment. Additionally, and as a consequence of being blamed for wrong-doings in terms of catastrophic bushfires impacting on human livelihoods and life, there are significant and unreasonable negative impacts on land and emergency managers who experience the bushfires, the inquiry process and subsequent public retribution. Metaphoric representations of de-humanised agencies help cultivate these public responses. There are very real psychological impacts on staff, yet broader public responses fail to acknowledge their need for greater support and public recognition as community members of fire-affected regions. When considering policy changes and government responses, the welfare of staff must be considered, and the realities of implementing policies once the focus of the fires shift to other policy arenas or disasters. Active confrontation of blame in a more neutral, facilitated setting that considers they ways community and agency roles are presented in myth, compared with those described by active participants, could assist in communities reacting to, and relying upon, divisive and defensive representations of the tragic events.

Using a facilitated process to confront myths and the roles they prescribe as narrative constructions, rather than personalised attacks, could create new mythic structures which could guide collaborative responses to contemporary social-ecological issues relating to bushfire in our twenty-first century landscapes. Reframing of myth, symbol and prescriptive roles would help both agencies and the communities impacted directly by catastrophic bushfire achieve greater respect for the challenges confronting agencies, their staff and affiliated communities in a changing climate. These re-framed myths would also better reflect the themes being promoted by government for sustainable and resilient ecosystems, responsible and resilient human communities and responsive departmental actions.
In this research, exploring paradoxes and myths has helped illuminate how inadequately supported learning and management processes that could benefit the fulfilment of policies are already in existence within and across some land and emergency management agencies. More consistent support of programs and staff efforts is required, to build upon more nuanced and qualitative approaches to bushfire and native vegetation management. The current Victorian DELWP bushfire-focussed Learning Network is one forum in which this could be developed in more detail, but which, based upon the program’s history, requires greater ongoing organisational support.

Group two: Key contributions to enhance broader understandings of complex social-ecological problems.

Applying a social constructivist methodology to a reflexive research structure has resulted in a significant finding that concerns societal learning and knowing. The research approach used in this thesis facilitated understanding of how socially constructed bushfire myths function in relation to paradox. It also revealed that myths are exemplars for how societal learning and knowing occurs in conflicted policy arenas that are influenced by a complex web of social, political and historical mythic storylines. Another contribution of this approach for understanding complex social-ecological problems is that it reveals how history is framed as a means to learn. The results show learning is based upon historical representations that are loaded with mythic roles and characterisations of how to connect with, and manage, the environment.

The roles depicted in post-bushfire myths are based upon simplistic, binary typologies that exacerbate the sense of mistrust and cultural polarisation within organizations and communities. The narrative silence of alternative voices that exist in the myths’ contradictions is in itself both deeply saddening and ironic. If society is made up of the stories told to one another, yet only a select few are listened to, then without support to listen to alternative silent stories, there are few opportunities to learn from them.

Many depictions are framed around mythic responses to social-environmental tragedies that stimulate fear of the environment. Land management policies and public discourse both respond reactively to these paradoxical perceptions, repeatedly questioning and debating how to objectively control and reduce those fears, as shown in the paradoxes of
‘the more risks we try to mitigate the more risk we perceive’, and ‘trying to control the uncontrollable’. The advantage of exploring temporal narratives from multiple perspectives is the opportunity to delve into more nuanced understanding of contemporary management issues. In particular, myths can be referred to as temporal representations of reality when dealing with paradoxical management issues. Thus, myths help de-personalise conflicting perspectives to shift attention away from personal and emotionally-confronting issues. This key contribution could help defuse the conflict in public discourse around native vegetation management in the context of bushfire, especially when considered prior to the onset of crisis events. Another contribution of this research is as a guide for academic, community and organisational responses to bushfire disasters. One step is to consciously move away from socially-constructed fortifications and metaphorical depictions of war, to a more unifying and less blame-ridden discourse.

**Limitations of the research**

One challenge of reflexive, interpretative social constructivist research is how to write about the representations of other storied accounts of reality, without falling into circular re-telling, while accurately and respectfully representing the realities of others. Abstraction from the events into the realm of myths may appear to trivialise the bushfire experiences, but this is not the intention; the reality of these tragic events is in no way negated. Accordingly, this research documents my own interpretations, which are now presented in a storied account of its own, in order to represent the paradoxes and myths that have preceded this work and the bushfire events to which they refer. My interrogation of the materials and reflection on the perverse, the tragic and the potential for change in this research area are presented with the intention that others can reflect upon them and share them more widely.

The strong focus on personally reflexive and interpretative methods that could influence the range of perspectives presented is a potential limitation of this research. Yet without this personal approach and prior experience of the issues that were developed into formal research questions, the depth of reflection and ways to explore the case studies would not have evolved. What is on one hand a potential limitation can be viewed as a strength: from teasing out local-scaled, nuanced aspects of issues, to the selection of interviewees and
knowledge of local points of relevance. The success of this approach has been demonstrated in the rich interview reflections as data, and the positive feedback and ongoing interest in the research from interviewees in the ACT case study that was formed to counter any personal bias in the Victorian case study.

Conclusion

The nexus between myths and their contradictions mirrors the fragility and ongoing challenges being faced within social-cultural and organisational structures. If agencies hope to challenge, and step outside of the current cycle of reactive and redemptive responses to paradoxical situations which are overshadowed by the power of politicised discourse, alternative ways of listening and trusting have to be embraced. Rather than continuing to react to ideological and dichotomous ways of dealing with bushfire as presented in myths, land and emergency management agencies could consider the astute observation of Pyne, a bushfire historian:

*Like the drunk who keeps searching for his lost keys under the streetlight because ‘that’s where the light is,’ fire research continues to elaborate a physical paradigm because that’s where the funded science is. But the keys to understanding may lie elsewhere. The time has come to rechart our conception of what fire is, how we might study it, and how we ought to manage it* (Pyne, 2007, p. 271).

Both organisations and communities could take up Pyne’s challenge to ‘rechart’ the predominant mythic cultural, scientific, and historical depictions of fire, in order to seek out an understanding of the paradoxes that are inexorably bound up in myth. By looking carefully and deeply into the way we construct these myths, in order to create fresh, inclusive narratives, we can take steps to re-engage with one another and re-work our relationships with the environment. Doing so can assist a cultural shift from the polarising influences of destructive archetypal storylines depicted in contemporary bushfire-related myths.
5 February 2015

Dear Ms Strong,

The CSU Human Research Ethics Committee (HREC) operates in accordance with the National Health and Medical Research Council's National Statement on Ethical Conduct in Research Involving Humans.

The HREC has reviewed your report requesting an extension for your research project "Exploring paradoxes of native vegetation management in SE Australia in the 21st century", protocol number 2014/06 and I am pleased to advise that this request for an extension meets the requirements of the National Statement; and an extension for this research is granted for a twelve month period from 5 February 2015.

Please note the following conditions of approval:

- all Consent Forms and Information Sheets are to be printed on Charles Sturt University letterhead. Students should liaise with their Supervisor to arrange to have these documents printed;
- you must notify the Committee immediately in writing should your research differ in any way from that proposed. Forms are available at http://www.csu.edu.au/_data/assets/word_doc/0012/963768/Research-Extension.doc (please copy the above link and paste into your browser to access the form) you must notify the Committee immediately if any serious and or unexpected adverse events or outcomes occur associated with your research, that might affect the participants and therefore ethical acceptability of the project. An Adverse Incident form is available from the website: as above;
- amendments to the research design must be reviewed and approved by the Human Research Ethics Committee before commencement. Forms are available at the website above;
- if an extension of the approval period is required, a request must be submitted to the Human Research Ethics Committee. Forms are available at the website above;
- you are required to complete a Progress Report form, which can be downloaded as above, by 20 November 2015 if your research has not been completed by that date,

Extension.doc

Last updated: February 2014
Next review: September 2015

www.csu.edu.au

CRICOS Provider Numbers for Charles Sturt University are 00003F (NSW), 01941J (VIC) and 029625 (TU). ABN: 63 878 388 381
- If an extension of the approval period is required, a request must be submitted to the Human Research Ethics Committee. Forms are available at the website above;
- You are required to complete a Progress Report form, which can be downloaded as above, by 14 November 2014 if your research has not been completed by that date;
- You are required to submit a final report, the form is available from the website above.

YOU ARE REMINDED THAT AN APPROVAL LETTER FROM THE CSU HREC CONSTITUTES ETHICAL APPROVAL ONLY.

If your research involves the use of radiation, biological materials, chemicals or animals, a separate approval is required from the appropriate University Committee.

The Committee wishes you well in your research and please do not hesitate to contact the Executive Officer on telephone (02) 6338 4628 or email ethics@csu.edu.au if you have any queries.

Yours sincerely

Julie Hicks
Executive Officer
Human Research Ethics Committee
Direct Telephone: (02) 6338 4628
Email: ethics@csu.edu.au
Co-De Chair: Dr Rik Houlston

This HREC is constituted and operates in accordance with the National Health and Medical Research Council’s (NHMRC) National Statement on Ethical Conduct in Human Research (2007).

Approval of further information.doc

Last updated: February 2013
Next review: February 2014
COPY OF TYPICAL EMAIL SENT TO INTERVIEW PARTICIPANTS PROVIDING BACKGROUND TO THE RESEARCH:

I am currently conducting research for a PhD at CSU with support from the Institute of Land Water & Society that explores paradoxes of native vegetation management in the SE of Australia in the context of bushfire this century. My qualitative research considers the multi-disciplinary nature of native vegetation management and centres around two case studies to undertake analysis of post-bushfire narratives in order to explore the paradoxes in detail: the 2003 Canberra bushfires and the 2009 Victorian Central Highlands bushfires. In addition to interviews I will be analysing selected published environmental histories, government documents and strategies, media as well as selected public artwork memorialising the two bushfires. This stage of research is being conducted with approval from CSU's Human Ethics Committee under protocol number 2014/016.

My interest in this issue developed when employed as a bushfire recovery community engagement officer for Parks Victoria, based in Alexandra in 2010-2011, and living in the region affected by the Black Saturday bushfires. During this time I completed a research report that explored media narratives of three major Victorian bushfires in the nineteenth and twentieth centuries for a Masters in Environmental Management from CSU. Based on these findings, I have been stimulated to explore a range of issues further in my PhD research.

As part of this research I am conducting interviews this year with a range of people involved in the fire case studies. I am particularly keen to meet those who have been involved in land management, bushfire recovery agencies and/or ecological research. I am seeking to explore a range of experiences and views from practitioners linked to the post-fire stages in land management- which includes park managers, fire planners, recovery agency staff, ecologists and fire ecologists, RFS staff and so on. I am doing interviews with a similar range of people here in Victoria who have links to the Central Highlands Bushfires of 2009. Each person's role and experiences bring in different perspectives on how native vegetation is managed following major ecologically and socially devastating bushfires. I am seeking to involve people who would like to contribute their own perspectives on how it is to work within these changed physical and organisation/social environments. Some of my questions relate to changes and development to policy, the media's presentation of native vegetation and bushfire and key moments in the history of native vegetation management. What I don't want to focus on is the bushfire event.

So often it is difficult to hear- and see them represented in research and public narratives- the voices of the practitioners in the field following major bushfires, so my research aims to include the viewpoints and reflections of those either in the public service or in positions where it is difficult to articulate openly. The aim of my work is to provide something for practitioners to assist them in future management processes.
The constructions of our narratives around native vegetation and its management within the context of fire is central to my research, so I am comparing those that are represented in a range of public fora, such as the media, policies and environmental histories. As part of this enquiry, I am seeking to include practitioner’s narratives.

If you are interested and have some time, I would be very appreciative to discuss with you some of your thoughts around the aftermath of the 2003 Canberra bushfires. If you are unable to meet me, I would be very interested to meet others involved in the Canberra bushfires who you think may be interested in participating. I have attached a letter of introduction that explains a little more about the research I am undertaking.

Yours faithfully,

Sam Strong
Exploring paradoxes of native vegetation management in SE Australia in the twenty-first century: Semi-structured interviews

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I, ............................................................................. understand that I am free to withdraw my participation in the semi-structured interview/s with CSU's ILWS PhD candidate Samantha Strong as part of her exploratory research into the paradoxes of native vegetation management in south-eastern Australia in the 21st century at any time, and that if I do I will not be subjected to any penalty or discriminatory treatment.

The purpose of the research project's interviews has been explained to me, including the (potential) risks/discomforts associated with the research and I have been given the opportunity to ask questions about the research and received satisfactory answers. I also understand that the interviews will be recorded as written notes and audio-recorded as part of data collection for the research project.

I understand that any information or personal details gathered in the course of this research about me are confidential and that neither my name nor any other identifying information will be used or published without my prior written permission.

Charles Sturt University's Human Research Ethics Committee has approved this study (protocol number 2014/016).

I understand that if I have any complaints or concerns about this research I can contact:

Executive Officer
Human Research Ethics Committee
Office of Academic Governance
Charles Sturt University
Interview guide provided to CSU Human Ethics Research Committee: Semi-structured Interviews

The structure of the interviews is designed to stimulate and support stories from informants that encompass experiences and personal understanding of native vegetation and bushfire. Questions are not designed to raise any experiences that may be personally sensitive, unless they are provided voluntarily by the informant.

Topics will vary depending on the background experiences of each informant. In general discussions will cover the following points of interest:

- Describe/talk about their own experiences of native vegetation management and if it involved bushfires in the 21st century.
  - Talk about their own experiences and interest in the field- where they’ve worked and they’re involvement, which may encompass community, agencies, on-ground, writing, etc. (This may lead onto other issues that they deem important);
  - Discuss any significant moments that they think have shaped vegetation and bushfire management and policy;
  - Discuss broader public narratives they are aware of concerning bushfire and native vegetation and its management;
- Discuss the influences of bushfire on vegetation management policy in the 21st century-such as impacts and consequences for agencies and communities;
- How do they consider/reflect upon media involvement in the bushfire/native vegetation management story over time?
  o Social media; newspapers; internal agency situations
  o Construction of the imagery and response to both elements
  o Important/influential actors involved in developing and communicating about bushfire and native vegetation management
  o What are the themes in the narratives?

- What do you think would be appropriate stories/narratives about bushfire, native vegetation and its management?
  o How would/could they best be told to the public?
  o How would they vary over time and place?

These topics will be introduced informally throughout the interview, as I am seeking individual and personalised structures to the stories, rather than me influencing how informants should structure them.

1. Can you describe for me what your professional experiences are concerning fire and native vegetation management during and/or after major bushfires (this century)?

2. How would you describe some of the key moments in native vegetation management?

3. How important to you is fire in the landscape- as a management tool? As an ecological element (like flood)?

4. How does this differ to your understanding of fire/native veg as culturally valued elements?

5. Can you/How would you describe (how you visualise) fire and native vegetation- separately and as linked…. (to seek out metaphoric/analogies)

6. Can you tell me a bit about the differences or similarities between the professional story of native vegetation management, and the public’s?

7. How are these linked to the ‘bigger picture’ of environmental management, sustainability issues - are there any significant ‘worldview’ links that are relevant?

8. I’m interested to hear some of your reflections on policy changes since major bushfires

9. How has /does this impact/influence how you undertake your role?

10. How does this impact on professional relationships-after the ‘crisis’ has passed?

11. ... between agencies/divisions?

12. In a regional context, do you think there are there influences on local communities & stakeholders?

13. Are there impacts after bushfires on land management agencies this century as a consequence of policy and its development? And how you implement policies?

14. Do you feel like agencies have/can have any influence on policies?
15. Where do you think the influences on policy development come from?

16. How is fire and native vegetation management communicated in comparison to the media’s? Or — What is the dominant ‘story’?

17. Can you explain key your understanding of risk management issues in regards to fire and native vegetation management; How important is this?

18. What/How would you describe the consequences, if any, of this?

19. How would you explain the idea of ‘scientific knowledge’ around native vegetation management and fire? Do you think this has this changed over time? If so, how?
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