



Original paper

Legal Aspects of Risk Management in Australia¹

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Abstract This paper questions whether disaster risk management is moving from reducing the risk to communities to reducing the risk to governments and emergency managers, that is, the risk to professional standing and reputation that often comes with a catastrophic disaster. It is argued that the modern rhetoric around ‘shared responsibility’ may be a way to shift ownership of residual risk in order to avoid blame rather than to protect vulnerable communities. Suggestions are made for reforms that could remove the need to find blame post disaster.

Key words Risk management; Law; Governance; Australia

1. INTRODUCTION

Risk management is seen as the key to living with potentially catastrophic hazards, but the language of disaster risk management carries with it the implication that all risks can in fact be eliminated. This implies that if there is an adverse outcome, even accepting an inherent residual risk, there must have been a failure by ‘someone’. The concept of risk management therefore raises the further risk of being blamed for failing to meet community expectations and that risk, too, needs to be managed. Power (2004) says:

“... experts who are being made increasingly accountable for what they do are now becoming more preoccupied with managing their own risks. Specifically, secondary risks to their reputation are becoming as significant as the primary risks for which experts have knowledge and training.”

This paper explores the question of risk management, including secondary or reputational risk, from a legal and governance perspective. We focus on developments in Australian law and policy, as a jurisdiction where significant attention has been focused on these questions in the wake of recent, major disasters. The paper uses past and current policy statements and their implications, and the findings of post-disaster inquiries and legal proceedings, as material to identify trends in the policy and practice toward, interpretations of, and attitudes to risk. In doing so, the paper does not offer definitive findings

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but rather, in the tradition of much public policy research, seeks to identify emerging tensions and issues that require proactive policy attention.

2. RISK MANAGEMENT FROM A LEGAL AND GOVERNANCE PERSPECTIVE

In today's 'risk society' (Beck 1992), the focus of governments and individuals has shifted from creating benefits to avoiding harm (Mythen 2004). Everyone, governments, the public and private sectors and individuals, are encouraged to manage their risks. Risk management principles are not 'specific to any industry or sector' but are to be applied '... to a wide range of activities [and] ... to any type of risk, whatever its nature, whether having positive or negative consequences' (Standards Australia 2009).

In the context of disaster and hazard management the focus has moved from hazards – floods, fires, earthquakes and storms – to risk and vulnerability. The latest Australian policy statement, the *National Strategy for Disaster Resilience*, recognises that hazards are an inevitable part of the Australian landscape. As the hazard event cannot be avoided, the focus must change from emergency management to risk management. The objective is to build resilient communities that share responsibility for risk management (COAG 2011). The precursor to the National Strategy, the 2009 National Disaster Resilience Statement said:

“Disaster resilience is the collective responsibility of all sectors of society, including all levels of government, business, the non-government sector and individuals. (COAG 2009).”

The National Strategy is to inform communities and encourage active participation in order that communities can understand their environment and hazards and plan to reduce the impact of natural hazard events (COAG 2011). But there is another, hidden implication.

Regardless of the complexity of the event (Alexander 2014) when a natural hazard impacts with devastating consequences, the focus quickly shifts to who can be blamed for failing to properly manage the risk? (Quigley and Quigley 2013; McFarlane et al 2011). As Whittaker and Mercer (2004) have observed “A common feature in the aftermath of all major bushfire events in Australia invariably has been the apportioning of blame”. Rochford (2007) argues:

“An increasing perception of risk has resulted in a pervasive culture of risk management. This, in turn, has given rise to increased risk of litigation, as the expectation that risks will be managed professionally through mechanisms such as risk assessment leak from the commercial to the domestic realm... we do not take our notion of reasonable care from the common sense of the commuter on the Clapham omnibus or Bondi tram, but rather from the machinery of risk management, which rationalises and systematises our responses to risks. ... [R]isks that a reasonable person would consider insignificant become significant because the reasonable person is now exposed to the expectations imposed by strict liability regimes which employ risk management strategies (pp 272-274).”

We have shown (Eburn and Dovers 2012) that litigation against the Australian fire agencies is not common when it comes to routine operations but “significant fire events, such as the 2009 Black Saturday fires, trigger litigation almost before the fires are extinguished” (p 291).

The culture of blame for emergencies is now the subject of very public and high profile cases. In Australia emergency managers have been subject to severe criticism in post event inquiries (Doogan 2006, Teague et al 2009, Holmes 2012). Following the inquiry into the Queensland floods, three flood engineers were referred for possible prosecution but no further action was taken (Jerrard 2012). In litigation over the Australian wildfires of 2003, the action was against the State of New South Wales but the State of New South Wales can only act through its staff. Although it was the State that was found to have been negligent (but not liable due to various statutory defences), it was the actions and decisions of the

individual incident controller that were subject to scrutiny and which were found to fall below the standard of reasonable care expected by the common law (*Electro Optic Systems Pty Ltd & West v New South Wales* [2012] ACTSC 184).

It follows that one risk is the risk of being blamed for a disaster. The consequences of that blame can range from legal liability and an obligation to pay compensation, loss of one's job and career to loss of liberty and incarceration. If potential blame is a risk, then given risk management principles are not "specific to any industry or sector" and can be applied "to any type of risk" (Standards Australia 2009, p 1), that risk is also a risk that can and should be managed. The danger will be that this secondary risk will attract more focus and attention than the primary risk – governments and others may be more concerned with managing their risk, to ensure that they are not blamed for the impact of a natural hazard, rather than with managing or reducing the risk to vulnerable populations.

There are a number of strategies to reduce the risk of blame or liability that governments can engage including blame avoidance by delegation, where governments allocate responsibility for risk management to others so that the government or minister cannot be blamed (Hood 2002). Hood (2002) identifies

"the 'ideal' design for a regulatory regime is one in which standards are set by international experts, monitored by autonomous agencies and enforced by local authorities — leaving those politicians in the happy position of being able to blame everyone else rather than being blamed themselves when things go wrong" (p 20).

As Hood notes, however, such strategies are "likely to be less credible in parliamentary than presidential regimes" (p 25).

In parliamentary regimes, such as Australia, the relevant Minister is responsible for the actions of the agencies within his or her portfolio. In Australia the key emergency response agencies are part of essential, central government agencies (see, for example, the *Government Sector Employment Act 2013* (NSW)) or, where they are independent authorities, they are subject to the direction and control of the minister (see for example *Fire and Emergency Services Act 2005* (SA) s 7; *Fire Service Act 1979* (Tas) s 11; *Country Fire Authority Act 1958* (Vic) s 6A; *Victoria State Emergency Service Act 2005* (Vic) s 8; *Fire and Emergency Services Act 1998* (WA) s 5). The direct supervisory responsibilities of the elected Minister means that an Australian parliamentary government is less able to shift responsibility by pointing to failings by the Commissioners or Chief Officers. The coroner's inquiry into the 2003 Canberra wildfires heard evidence that:

"Ministers are appointed to administer Departments and associated agencies. They are required to be pro-active and to accept responsibility. There has been a convention that if things go seriously wrong the Minister responsible may feel compelled to resign... (Doogan 2006, p. 153)."

The Coroner rejected the submission of the then Chief Minister, Attorney General and acting Minister for Emergency Services, Jon Stanhope, that as Minister he did not "... have control of the administrative units... such control resides with the Chief Executive of the administrative unit" (Doogan 2006, p. 45). The Coroner made adverse findings against the Minister "... in accordance with the conventions of the Westminster model of responsible government, which apply in Australia ..." (Doogan 2006, p. 166). The Minister, as well as the officers in charge of the emergency response, were subject to explicit, adverse criticism (*Lucas-Smith v Coroner's Court of the ACT* [2009] ACTSC 40).

If there is only limited ability to delegate risk to agencies, governments may seek to delegate responsibility or risk to those outside of government such as the private sector or, increasingly, individuals – "Privatization and outsourcing in principle offer risk-averse politicians a way to transfer liability" (Hood 2002, p. 28). Quiggan (2007) argues that the transfer of risk from government to individuals "has been one of the most significant outcomes of the neoliberal era" reflecting the philosophy that "individuals, households and businesses should manage all risks by themselves" (p. 3).

Rochford (2007, p. 175) agrees, she says:

“Mechanisms of contract are employed by neo-liberal governments to allow the government to retreat from a range of state activities, devolving responsibility to agencies, institutions or regions. Individuals are called upon to be responsible for the risks of global calamity - potential risks of genetic engineering are thrown back on the 'informed consumer', the risks of global warming are the sum of market forces based on individual decisions to consume, the risks of school funding crises fall back on school councils run by parents, and so on. Similarly, an individual must make an actuarial calculation in relation to other risks, such as the risk of injury, or future job prospects and unemployability, and property damage, as government is replaced by the market.”

Hemshall (2006) says that neo-liberal governance encourages ‘responsibilization’:

“The responsible citizen knows what is expected and does it. These expectations are conveyed through a social policy infused with notions of responsibility – for one’s own health, pension planning, employment skill updating, lifelong learning and so forth. ... Thus, the individual, not society, becomes the primary site of risk management and the ‘good’ citizen is the responsible and prudent one... [S]ocial policy is no longer about the alleviation of individual needs or about the pursuit of a collective good. Rather, it is about the prevention of risk and the displacement of risk management responsibility onto the ‘entrepreneurial self’ who must exercise informed choice and self care to avoid risks.”

The Australian *National Strategy for Disaster Resilience* is a ‘social policy infused with notions of responsibility’ – responsibility of government, the private sector, communities (however they may be defined) and individuals:

“Disaster resilience is based on individuals taking their share of responsibility for preventing, preparing for, responding to and recovering from disasters. They can do this by drawing on guidance, resources and policies of government and other sources such as community organisations.” (COAG 2011, p v).

The broad policy is also reflected in the policy statement adopted by Australia’s fire and emergency services through the peak industry body, the Australasian Fire and Emergency Services Authorities Council (‘AFAC’). AFAC is explicit – in extreme conditions, on those days when the risk to life and property is highest, “there will be instances when agencies are unable to provide sufficient firefighting resources to prevent loss of life and damage to property, infrastructure and community assets” (AFAC 2012). In those circumstances, on the days of catastrophic fire weather, people should not, and cannot expect a fire truck to turn out to protect their property (see for example, TFS 2013; RFS 2009). In those instances their response to, and ability to survive, a wildfire will be determined by their own actions and resiliency. At the time of highest danger people must expect, and be prepared to be, on their own and responsible for their own decisions and actions.

Asking people to take responsibility for their response to a wildfire impacting upon their home in the circumstances where the fire authorities will be overwhelmed is to ask people to take responsibility for the response to a very low probability but very high impact event. With respect to house losses due to bushfire, one study reported that:

“... the annual probability of building destruction has remained almost constant over the last century despite large demographic and social changes as well as improvements in fire fighting technique and resources... the average annual probability of a random home on the urban–bushland interface being destroyed by a bushfire to be of the order of 1 in 6500, a factor 6.5 times lower than the ignition probability of a structural house fire. [That is] ... about a sixth of the risk of a structural fire and half the risk of a random person being killed in a traffic accident (McAneney et al. 2009, p. 2819).”

Even the risk of dying is not great. Bushfires killed 552 civilians (non fire-fighters) between 1901 and 2008 (Haynes et al 2010). A further 172 civilians died in the Black Saturday fires of 2009 giving a total of 724 deaths in the 109 years from 1901 to 2009 inclusive, an average of 6.65 deaths per year. Compare these figures to the national road toll - in 2008 alone, 1,464 people were killed in road accidents (Department of Infrastructure etc., 2009), that is twice the entire number of people killed in bushfires in the preceding century.

The 2012 Report on Government Services (Productivity Commission 2012), using data supplied by AFAC, reported on the number of deaths in landscape fire over several years. Death by bushfire is a rare event “punctuated by large, irregular, events ... such as the Black Saturday fires”. The number of deaths, reported as “landscape fire deaths” is shown below (Productivity Commission 2012):

	New South Wales	Victoria	Queensland	Western Australia	South Australia	Tasmania	Australian Capital Territory	Northern Territory	Australia - totals
2006-07	0.1	0.2	–	0.5	–	2.0	–	–	0.2
2007-08	–	–	–	1.4	0.6	–	–	4.6	0.2
2008-09	–	32.6	–	–	–	–	–	–	8.1
2009-10	–	0.2	–	–	–	–	–	–	0.0
2010-11	0.1	–	–	0.4	–	–	–	–	0.1

Table 1. Landscape fire death rate, per million people

Excluding the Black Saturday death toll, that is an average in ‘normal’ years of 0.125 deaths per million people or 1 bushfire death for every 8 million people. With “an increasing total population and a relatively stable pattern of deaths... the per capita risk of death by Australian bushfires has decreased” (ibid).

On most days a fire, even if one is burning in the vicinity, will not impact upon a particular home. On most days a well-informed and prepared homeowner can take effective measures to stay and defend their property (Gibbons et al 2012; AFAC 2012). On most days, when a fire is in the vicinity, the state fire agencies are very effective at turning out and controlling the fire and minimising its impact. (Figures from Victoria’s Country Fire Authority show that between 2008 and 2011 (inclusive), fire crews (including volunteer crews) responded to a fire call within their targeted time plus one minute, in 94.5% of cases (CFA 2009; 2010; 2011; 2012)).

Assessing the risk of catastrophic losses from the perspective of the people in charge of responding to fire, the Minister, the Commissioners and Chief Officers, produces a very different picture of risk. The risk facing a homeowner, even in bushfire prone areas, is the risk of a low probability but personally

catastrophic event. For head of a fire service, on the other hand, it is inevitable that at least some homes and lives will be lost to bushfire during his or her tenure. Putting aside issues of emotional trauma and even compounded trauma that may lead to mental illness, there is, at least not necessarily, any dramatic and personal cost for them. They can go back to their homes and their lives even though they have witnessed death and destruction to others.

For emergency managers and governments, the real risk is ‘reaction’. Emergency services, fire brigades and governments cannot predict whether the community will see the outcome as success or a failure. There is no simple metric, such as the number of houses or lives lost, that define success or failure and what measure will be applied cannot be determined in advance (Keelty 2011). The situation is further complicated if there is an opportunity to use a tragedy for political advantage; for the opposition to call for the resignation of a Minister or Chief Minister or to promise that they would manage a future situation differently. Fire agencies therefore have to manage an unpredictable risk, the event is inevitable but the ‘consequence’ will vary depending on community outrage and reaction.

What is at stake is the residual risk and the discussion of ‘shared responsibility’ can be seen as negotiating ownership of that residual risk. Citizens cannot defend themselves during catastrophic natural hazards – it is at that very time that they need government agencies with their greater resources to come to their aid. Governments however, cannot always respond in a way that the community expects. When the community needs them most is when they are unable to respond due to the overwhelming nature of the event. The risk to citizens is obvious; there is the risk of property loss and death. Governments face economic costs but individual ministers and chief officers are unlikely to die or suffer personal losses, but if they are blamed after the event they suffer a challenge to their personal identity and their careers.

That agencies and their staff fear being blamed is evidenced in many reports and post-event reviews (Malone 2013; Eburn and Dovers 2012; Wenger *et al.* 2012; Nairn 2003). If governments cannot avoid blame by delegating authority to agencies then they can try to avoid blame by transferring the residual risk to home and property owners. If governments and agencies can persuade citizens that they own the residual risk – that they need to manage their risk by taking steps to prepare themselves and their property, to make their own response and evacuation plans and to look to the market, in particular the insurance market, to maintain their resilience, then governments and their agencies can reduce, or manage the risk, of being blamed for an adverse outcome.

3. ALTERNATIVES

Whether a desire to avoid blame is a conscious motivation in developing public policy is hard to test as policy makers would be unlikely to acknowledge such personal motivation, but anecdotally it does appear that one measure of success in emergency management is that the community does not blame the emergency managers and services after an event. Whether research could confirm, or deny that supposition is beyond the scope of the discussion here but it may well warrant further investigation. If, however, we accept for the sake of the argument that attempts to ‘share’ responsibility are, at least in part, motivated by a desire to avoid blame, then it does raise a concern that governments and their agencies are in fact looking to protect themselves rather than the community. This motivation may be well intentioned, in particular with those organisations that depend on volunteers and who need to ensure that their members are not criticised or blamed for their performance for fear that it will discourage volunteers and thereby deplete the emergency services workforce, but even so it is less than ideal; the motivation should be community protection.

What follows are two suggestions for ways to remove or manage the risk of being blamed, in particular for the outcome of extreme events, that would, it is suggested allow communities and agencies to work together to address the risk of harm to communities. Neither of the suggestions are well

developed nor fully justified, rather they are suggested as areas that need further investigation in order to help communities and agencies learn from past events rather than focus on who is to blame.

3.1 Review the lesson learned process

Currently, following major events such as the Black Saturday fires or the 2011 Queensland Floods, the Australian states and territories tend to rely on wide reaching inquiries often in the form of a Royal Commission with extensive power to call witnesses, to require the production of documents and to remove a person's right to refuse to answer incriminating questions. Royal Commissions may be held for many reasons, to advise parliaments on policy options but also to reveal corruption or malfeasance. Although not necessarily intended for that purpose, post event Royal Commissions have been theoretically grouped with the latter class of case (Ransley 2013).

Inquiries, including coronial inquiries are not intended to be accusatorial or tools to allocate blame, but they often apply process that make them look like litigation and single out individuals for blame (Doogan 2006; Schapel 2008; Teague et al 2010). An approach has to be found to allow a genuine review of events in a safe, no blame environment (Eburn and Dovers, forthcoming).

3.2 Remove the need to find someone to blame

Vulnerability is not simply a matter of choice by individuals deciding where to live; it is also a product of a number of features of each community. People may live in hazard prone areas because they are cheap, or because they are beautiful, or because they are close to work and amenities. Decisions on what land to release for development, what building codes (if any) to enforce as well as decisions about the level of investment in prevention and response are all decisions that are made long before any particular hazard intervenes. When a hazard reveals vulnerability, in particular when it reveals the limitations inherent in the ability to either prevent or respond to the hazard, it reveals the shortcomings of the political decisions made at an earlier time (Eburn, forthcoming).

People can expect the state and the emergency services to respond within a reasonable time and with reasonable resources in the normal course of events; equally the agencies can reasonably expect people to take reasonable care of their own interests in the normal course of events. For a routine, even large fire or other emergency, individuals can be left to accept responsibility for their decisions on whether or not to prepare their property or take other remedial action. Equally if the State fails to fulfil its obligations in preparing for and responding to a routine event, those that suffer losses may be able to seek compensation for the state's unreasonable failing.

A catastrophic event is however different. During a catastrophic event, even if it is not unprecedented, the event will overwhelm both the state and individuals. The vulnerability of both stakeholders is a product of both collective and individual decision making. In that case it may be appropriate to consider a catastrophic insurance scheme where losses that reflect our social, collective decisions are paid for collectively. The scheme could be modelled on the 9/11 compensation scheme where the families of those killed, and those injured in the September 11 2001 terrorist attacks on New York and Washington were awarded compensation on condition that they waived the right to sue the airlines as well as the various defence, security and response agencies (Feinberg 2005).

Such a scheme would not be without its difficulties. Questions about how to fund it; to what sort of events it would apply; how to avoid the moral hazard of people electing not to take steps to prepare themselves, choosing not to insure or electing to live in hazard prone areas; the risk of subsidising high risk choices and the like would need to be addressed (Lehmann 2013; King 2012; Postal 2013).

The principle benefit would be that after a catastrophic event there would be a public acknowledgement that the losses are not just those of the individual but reflect both costs and decisions

that are imposed by society as a whole, including decisions about how to and where to live and how much to invest in emergency management. Further exploration of the issues involved in funding the recovery from major events is required to determine whether or not there is a feasible, financially sound way to provide catastrophic loss cover for all the community so that the temptation to look to the courts to find someone to blame might be avoided.

These suggestions, looking at reviewing the lessons learned process as well as studying how recovery can be financed to achieve socially desirable outcomes whilst avoiding hidden incentives to take risks will be the subject of further investigation at the Australian National University, supported by the Australian Bushfire and Natural Hazards Cooperative Research Centre. The research will learn lessons from, and deliver lessons to the broader international emergency and disaster management community.

4. CONCLUSION

It has been argued here that at least part of the motivation of moving to social policies “infused with notions of responsibility” is not to manage the risk of death and destruction due to fire, flood or other hazard, but to manage the secondary risk to governments, their agencies, employees and volunteers. The secondary risk is the risk that governments and their agencies will be blamed for adverse consequences in particular the adverse outcomes of catastrophic events.

Whilst it may be true that decisions made by governments, agencies and individuals contribute to vulnerability, it is also the case that those decisions, many made long in the past, reflect the political compromise that is essential when balancing risk against other important considerations such as economic development (see Eburn, forthcoming). Individuals and agencies may be appropriately blamed or criticised if they fail to respond to events that are within their normal operations and expectations but blame for failing to manage an event that is beyond the expectation, understanding or resources of all concerned is a counter productive exercise.

It has been further argued that in the Australian context, the move to privatise responsibility is really a symptom of negotiation over who should bear the residual risk for property loss and death. Rather than contest that risk some suggestions were made; they were first that we need to redesign the processes of after event reviews to properly focus on learning how vulnerability was exposed by the hazard and what can be done to increase resilience at all levels, rather than play the emotionally satisfying (for some) and emotionally damaging (for others) (Thomson 2012) but ultimately unproductive ‘blame game’ (Hood 2002). Second it was suggested some form of social welfare in the form of a catastrophic insurance fund to reflect the fact that vulnerability to catastrophic events is the residual risk left from decisions made collectively at local, state and region levels and so it is appropriate to share that residual risks across the collective whole. How that could be funded, how moral hazards could be avoided has not been discussed here but could, and should be the subject of further research.

REFERENCES

AFAC – see Australian Fire and Emergency Services Authorities Council

Alexander, D.E. (2014) ‘Communicating earthquake risk to the public: the trial of the “L’Aquila Seven”’, *Natural Hazards*, 72(2), pp. 1159-1173.

Australian Fire and Emergency Services Authorities Council (2012) *Bushfires and Community Safety v 5.0* (Melbourne). Available at: <http://www.afac.com.au/docs/position/bushfires-community-safety.pdf?sfvrsn=20> (Accessed: 12 September 2013).

- Beck, U. (1992) *Risk Society; towards a new modernity*. London; Sage.
- CFA – see Country Fire Authority.
- COAG – See Council of Australian Governments
- Council of Australian Governments (2009), *COAG National Disaster Resilience Statement*. Canberra; Commonwealth of Australia. Available at: <http://www.coag.gov.au/node/90> (Accessed: 12 September 2013).
- Council of Australian Governments (2011) *National Strategy for Disaster Resilience*. Canberra; Commonwealth of Australia. Available at: <http://www.ag.gov.au/EmergencyManagement/Pages/NationalStrategyForDisasterResilience.aspx> (Accessed: 12 September 2013).
- Country Fire Authority (2009) *Annual Report 2008*. Melbourne; Government of Victoria.
- Country Fire Authority (2010) *Annual Report 2009*. Melbourne; Government of Victoria.
- Country Fire Authority (2011) *Annual Report 2010*. Melbourne; Government of Victoria.
- Country Fire Authority (2012) *Annual Report 2011*. Melbourne; Government of Victoria.
- Department of Infrastructure, Transport, Regional Development and Local Government (2009), *Road Deaths Australia 2008 Statistical Summary*. Canberra; Commonwealth of Australia. Available at: http://www.infrastructure.gov.au/roads/safety/publications/2009/rsr_04.aspx (Accessed: 12 September 2013).
- Doogan, M. (2006) *The Canberra Firestorm: 'Inquests and Inquiry into Four Deaths and Four Fires between 8 and 18 January 2003*. Canberra; ACT Coroner's Court. Available at: <http://www.courts.act.gov.au/magistrates/page/view/596> (Accessed: 12 September 2013).
- Eburn, M & Dovers, S (forthcoming) 'Learning lessons from disasters: alternatives to Royal Commissions and other quasi-judicial inquiries', *Australian Journal of Public Administration*.
- Eburn, M. & Dovers, S. (2012), 'Australian wildfire litigation', *International Journal of Wildland Fire*, 21(5), pp. 488-497.
- Eburn, M., (forthcoming) 'Bushfires and Australian emergency management law and policy: Adapting to climate change and the new fire and emergency management environment' in Burton, Lloyd and Sun, Lisa (eds) *Studies in Law, Politics, and Society Special Issue: Cassandra's Curse*.
- Feinberg, K.R. (2005), *What Is Life Worth?: The Inside Story of the 9/11 Fund and Its Effort to Compensate the Victims of September 11th*. New York; Public Affairs.
- Gibbons, P., van Bommel, L., Gill, A.M., Cary, G.J., Driscoll, D.A., Bradstock, R.A., Knight, E., Moritz, M.A., Stephens, S.L. & Lindenmayer, D.B. (2012), 'Land Management Practices Associated with House Loss in Wildfires' *PLoS ONE*, 7(1), e29212. Available at: <http://www.plosone.org/article/info:doi/10.1371/journal.pone.0029212> (Accessed: 12 September 2013).
- Haynes, K., Handmer, J., McAneney, J., Tibbits, A. & Coates, L. (2010), 'Australian bushfire fatalities 1900–2008: exploring trends in relation to the 'Prepare, stay and defend or leave early' policy', *Environmental Science & Policy*, 13(3), pp. 185-194.
- Hemshall, K. (2006) 'Social Policy and Risk' in Walklate, S. & Mythen, G. (eds) *Beyond the Risk Society: Critical Reflections on Risk and Human Security*. Maidenhead: Open University Press.
- Holmes, C. (2012) *Queensland Floods Commission of Inquiry; Final Report*. Brisbane: Government of Queensland. Available at: <http://www.floodcommission.qld.gov.au/publications/final-report/>

(Accessed: 12 September 2013).

- Hood, C. (2002) 'The Risk Game and the Blame Game', *Government and Opposition*, (37)1, pp.15-37.
- Jerrard, J. (2012) *Advice of John Jerrard QC concerning examination of material provided to the Crime and Misconduct Commission pursuant to Recommendation 16.1 of the Queensland Floods Commission of Inquiry's final report*. Brisbane: Queensland Crime and Misconduct Commission. Available at: <http://www.cmc.qld.gov.au/topics/misconduct/investigating-misconduct/public-hearings/2012-examination-of-wivenhoe-dam-engineers-conduct/advice-from-john-jerrard-qc.pdf> (Accessed: 12 September 2013).
- Keelty, M. (2011) *A Shared Responsibility: The Report of the Perth Hills Bushfire February 2011 Review*. Perth: Government of Western Australia. Available at: <http://www.publicsector.wa.gov.au/document/inquiry-perth-hills-bushfire-2011-shared-responsibility-report> (Accessed: 12 September 2013).
- King, R.O. (2012) *National Flood Insurance Program: Background, Challenges, and Financial Status*. Washington DC; Congressional Research Service. Available at: <http://www.fas.org/sgp/crs/misc/R40650.pdf> (Accessed: 12 September 2013).
- Lehmann E. (2013) 'With hurricane season underway, lawmakers want to overhaul disaster spending' *ClimateWire; The Politics and Business of Climate Change* (13 June 2013), Available at: <http://www.eenews.net/cw> (Accessed: 11 September 2013).
- Malone, T. (2103) *The Malone Review into Rural Fire Services in Queensland*. Brisbane; State of Queensland. Available at: <http://www.ruralfire.qld.gov.au/Malone-Rural-Fire-Service-Review.pdf> (Accessed: 12 September 2013).
- McAneney, J., Chen, K. & Pitman, A (2009) '100-years of Australian bushfire property losses: Is the risk significant and is it increasing?', *Journal of Environmental Management* 90, pp. 2819-2822. Available at: <http://www.sciencedirect.com/science/article/pii/S0301479709001054> (Accessed: 12 September 2013).
- McFarlane, B., McGee, M.T. & Faulkner, H. (2011) 'Complexity of homeowner wildfire risk mitigation: an integration of hazard theories', *International Journal of Wildland Fire*, 20(8) pp. 921-931.
- Mythen, G. (2004) *Ulrich Beck: A critical introduction to the risk society*. London; Pluto Press.
- Nairn G., (Chair) (2003) *A Nation Charred: Inquiry into the Recent Australian Bushfires*. Canberra; Parliament of Australia. Available at: http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=bushfires/index.htm (Accessed: 12 September 2013).
- Postal, A.D. (2013) 'As NFIP Faces Deepening Debt, Some Call for More Subsidies and Lower Rates' *PropertyCasualty360*⁰. Available at: <http://www.propertycasualty360.com/2013/03/25/as-nfip-faces-deepening-debt-some-call-for-more-su?t=commercial-business> (Accessed: 11 September 2013).
- Power, M. (2004) *The Risk Management of Everything*. London: Demos. Available at <http://www.demos.co.uk/publications/riskmanagementofeverythingcatalogue> (Accessed: 12 September 2013).
- Productivity Commission (2012) *Steering Committee for the Review of Government Service Provision, Report on Government Services 2012*. Canberra; Commonwealth of Australia. Available at <http://www.pc.gov.au/gsp/rogs/2012> (Accessed: 12 September 2013).
- Quiggin, J. (2007) *The Risk Society: Social Democracy in an Uncertain World*. Centre for Policy Development Occasional Paper number 2. Sydney; Centre for Policy Development. Available at: <http://cpd.org.au/2007/07/the-risk-society/> (Accessed: 12 September 2013).

- Quigley, K.F. & Quigley, J. (2013) "Of Gods and Men": Selected Print Media Coverage of Natural Disasters and Industrial Failures in Three Westminster Countries'. *Homeland Security & Emergency Management*, 10(1), pp. 2194-6361.
- Ransley, J. (2013) "Inquiries into Political Wrongdoing." Presentation at *Royal Commissions and Public Inquiries – Australian and International Trends and Issues*, Australian Catholic University, Public Policy Institute, University of Queensland and Griffith University Roundtable, Canberra, 23 April 2013.
- RFS – see Rural Fire Service
- Rochford, F. (2007) 'The Law of Negligence in a 'Risk Society'; Calculating Ideas of Reasonable Risk'. *Griffith Law Review*, 16(1), pp. 172-191.
- Rural Fire Service (2009) *Fire Danger Rating* (Sydney). Available at: http://www.rfs.nsw.gov.au/file_system/attachments/Attachment_FireDangerRating.pdf (Accessed: 24 August 2013).
- Schapel, A.E. (2008). Inquest into the Deaths of Star Ellen Borlase, Jack Morley Borlase, Helen Kald Castle, Judith Maud Griffith, Jody Maria Kay, Graham Joseph Russell, Zoe Russell-Kay, Trent Alan Murnane And Neil George Richardson ('Wangary fires'). Adelaide; South Australian Coroners Court.
- Standards Australia (2009) *AS/NZS ISO 31000:2009 Risk Management Principles and guidelines* (Sydney).
- Tasmania Fire Service (2013) *New Fire Danger Ratings* (Hobart). Available at <http://www.fire.tas.gov.au/Show?pageId=colFireDangerRatings> (Accessed: 12 September 2013).
- Teague B., McLeod, R. & Pascoe, S. (2010) *2009 Victorian Bushfires Royal Commission: Final Report*. Melbourne; State of Victoria. Available at: <http://www.royalcommission.vic.gov.au/> (Accessed: 12 September 2013).
- TFS – see Tasmania Fire Service
- Thomson, V. (2012) *Ashes of the Fire Fighters': Our Personal Journeys*. Muttama NSW; Vivien Thomson.
- Wenger, C., Hussey, K. & Pittock, J. (2013) *Living with floods: key lessons from Australia and abroad*. Gold Coast; National Climate Change Adaptation Research Facility. Available at: <http://www.nccarf.edu.au/publications/living-floods-key-lessons-australia-and-abroad> (Accessed: 12 September 2013).
- Whittaker J. & Mercer, D. (2004) 'The Victorian Bushfires of 2002-03 and the Politics of Blame: a Discourse Analysis' *Australian Geographer* 35(3), pp. 259-287.

Legislation

- Country Fire Authority Act 1958* (Vic) (Available at: <http://www.legislation.vic.gov.au/>).
- Fire and Emergency Services Act 1998* (WA) (Available at <http://www.slp.wa.gov.au/index.html>).
- Fire and Emergency Services Act 2005* (SA) (Available at <http://www.legislation.sa.gov.au/index.aspx>).
- Fire Service Act 1979* (Tas) (Available at <http://www.thelaw.tas.gov.au/index.w3p>).
- Government Sector Employment Act 2013* (NSW) (Available at <http://www.legislation.nsw.gov.au/>).
- Victoria State Emergency Service Act 2005* (Vic) (Available at: <http://www.legislation.vic.gov.au/>).

Case law

Electro Optic Systems Pty Ltd & West v New South Wales [2012] ACTSC184. Available at: <http://www.courts.act.gov.au/supreme/judgment/view/4902/title/electro-optic-systems-pty-ltd> (Accessed: 12 September 2013).

Lucas-Smith v Coroner's Court of the ACT [2009] ACTSC 40. Available at <http://www.courts.act.gov.au/supreme/judgment/view/3223/title/lucas-smith-ors-v-coroner> (Accessed: 12 September 2013).