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# POLICIES, INSTITUTIONS AND GOVERNANCE OF NATURAL HAZARDS

2016-2017 Annual Report

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## ABSTRACT

**Michael Eburn**, *ANU College of Law, Australian National University, ACT*

The resilience of a community is dependent on more than just engineering and preparation. Government policies, institutions and governance arrangements fundamentally affect how individuals and communities prepare for, respond to and recover from natural hazard events. Understanding relevant institutions and how they influence disaster management is essential to develop whole of government and whole of community understanding of risks and how to manage them.

This research project has shed light on policy, institutional and governance arrangements with a view to developing new approaches to shared responsibility (COAG 2011) to increase community resilience to all natural hazards. This project will deliver:

- Evidenced based suggestions for policy, institutional and governance reforms to improve the ability of communities to actively participate in emergency risk management (Theme 1);
- Information for communities, agencies and government on the perverse incentives and hidden barriers to shared responsibility for emergency management (Theme 2); and
- Recommendations for a revised post event inquiry process to better identify lessons from past events (Theme 3).



## END USER STATEMENT

**John Schauble**, *Emergency Management Victoria, VIC*

Developing policy that will help to strengthen communities against natural (and human caused) disasters is increasingly driven by the need to build resilience into the fabric of these communities.

Of course, the term community itself is contested space. The definition of communities of place within which exist a range of communities of interest may not be flexible enough for the challenges Australia may face in future, but for the moment it is one that some policymakers find useful.

Translating policy into actual community safety and strengthening outcomes remains problematic, not just in the sphere of disasters and emergencies but across a broad range of social, political and economic areas. This is an activity with a very long tail and while there are some examples of significant success (e.g. road safety, smoking) it is harder to point to absolute wins and easy to identify legion examples of failure.

This research points to a central dilemma in current policy development: the tension between collective and individual responsibility, in which the collective is represented by the state. Government agencies have traditionally played a central coordinating role disaster management. The more recent and emphasis on community and individual responsibility is, as the research points out, a vaguer and ill-defined concept.

The influence of insurance and insurers in the mitigation of natural disaster loss is an area of rich inquiry. This project has focussed on bushfire but there is clearly scope for wider application across a range of hazards.

Finding new ways to investigate, reflect upon, review and make recommendations for change in the natural disasters field is a tougher ask. The researchers have opened up a line of inquiry into restorative justice as a path away from more traditional (and arguably ineffective) adversarial and inquisitorial models. Where that leads remains to be seen.

The outcomes of this exploratory research will doubtless become more important with the passage of time and as the impact of larger and more frequent events increases.



## INTRODUCTION

The resilience of a community is dependent on more than just engineering and preparation. Government policies, institutions and governance arrangements fundamentally affect how individuals and communities prepare for, respond to and recover from natural hazard events. Understanding relevant institutions and how they influence disaster management is essential to develop whole of government and whole of community understanding of risks and how to manage them.

Whilst there are many policies and institutions that contribute to and influence hazard management, this project is looking at:

- What is 'community' and how can governments share responsibility with communities as well as individuals?
- How can insurers play a more active role in communicating risk and encouraging hazard mitigation? and
- Is there a better process or institution for effective lesson sharing after natural hazard events?

This research project shed light on current policy, institutional and governance arrangements with a view to developing new approaches to shared responsibility (COAG 2011) to increase community resilience to all natural hazards.



## BACKGROUND

This project was a multi-disciplinary project involving academics and students from both the ANU College of Law and the Fenner School of Environment and Society. The project, along with our colleagues from the University of Western Sydney and their project on 'Scientific diversity, scientific uncertainty and risk mitigation policy and planning' forms part of the **Governance and Institutional Knowledge** cluster.

The project worked on three themes:

1. Sharing responsibility with community;
2. Perverse incentives in disaster insurance; and
3. Improved institutions for lesson learning.

## THE STATE OF THE PROJECT

This project was funded from mid-2013 to mid-2017. Formal funding arrangements concluded on 30 June 2017.

Even with the end of formal funding there is sufficient funds to ensure the completion of the final papers on themes 2 and 3, discussed in detail below. Further work should also be considered to encourage adoption of the research findings, in particular the findings from theme 3 also discussed in more detail, below.



## WHAT THE PROJECT HAS ACHIEVED

### THEME 1: WHAT IS 'COMMUNITY' AND HOW CAN GOVERNMENTS SHARE RESPONSIBILITY WITH BOTH COMMUNITIES AND INDIVIDUALS?

The researchers analysed the National Strategy for Disaster Resilience, which had the stated aim of 'Building the resilience of our nation to disasters'. This high-level policy statement prescribes or implies shared emergency responsibilities to different sections of the 'community'. The 'community' is defined by the Strategy as 'communities of place' within which exist multiple and diverse 'communities of interest'. For the purposes of this theme, the researchers focused on the different actors within a community of place, such as households and individuals, private businesses, infrastructure operators, government agencies and community organisations.

The analysis clarified the types of societal actors and the responsibilities that they have. For example, the Strategy outlines four broad responsibilities for individuals on the preparation and response phases of a disaster.

These are:

1. Understanding their risks and adequately preparing for them
2. Becoming actively involved in their local community disaster preparedness
3. Acting on relevant advice received from government and other community sources; and
4. Assuming responsibility for vulnerable household members (including pets and livestock).

The analysis also outlined the range of potential policy options that could enforce these responsibilities, which includes education and training, financial incentives and disincentives, and legislation, among others. The analysis also revealed a significant tension in the existing policy between the role of government agencies as central coordinating authorities in disaster management and the vaguer emphasis on community and individual empowerment.

Work in this theme culminated in the publication of:

Lukasiewicz, A., Dovers, S. and Eburn, M., Shared responsibility: the who, what and how (2017) *Environmental Hazards* (Online early; <http://dx.doi.org/10.1080/17477891.2017.1298510>).

This research demonstrates that to achieve disaster resilience, community actors must be aware of and able to accept the various responsibilities that the Strategy assigns them. This is why community empowerment and capacity building are also emphasised. However, they are more vaguely defined. By clearly articulating community actors' responsibilities, the analysis underlines tensions and contradictions that can arise. One such tension is the capacity of actors to fulfil their responsibility to prepare for disasters that may require substantial physical modifications to a property. This often leaves renters with relatively little direct power to act as they rely on their landlords to ensure disaster



preparedness. Conflicts can also arise between the need of emergency services to be in control of disaster response and businesses wanting to maintain or resume normal activities (one of their stated responsibilities). This is regularly illustrated post bushfires when affected areas are closed to ensure public safety while local farmers wish to enter as soon as possible to take care of affected livestock. Solutions to these tensions exist and are best implemented in the preparation phase of disaster management, which is why the Strategy focuses on collaboration and partnership between emergency services and community actors.

The general policy trend to promote community empowerment while maintaining government control over disaster management is consistent with many other countries, making the project's analysis of 'community responsibilities' and their policy implications internationally relevant.

Related to work in this theme, congratulations are due to BNHCRC PhD scholar, Caroline Wenger who completed her thesis on "Flood management in a changing climate: integrating effective approaches." Her work included researching resilience theory and developing a methodology for analysing resilience interpretations to floodplain management. Caroline was awarded her doctorate at a ceremony at the Australian National University on 14 July 2017.

Susan Hunt, a BNHCRC scholarship holder is continuing work on her thesis "Implementing policy for enabling adaptive capacities for disaster resilience in the Australian federation." Susan is working with groups across different levels of government, business and the not-for-profit sector that demonstrate 'good practice' in terms of successful disaster resilience policy to explore what effective implementation of disaster policies looks like in practice.

Work on this theme is complete.

## **THEME 2: HOW CAN INSURERS PLAY A MORE ACTIVE ROLE IN COMMUNICATING RISK AND ENCOURAGING HAZARD MITIGATION?**

The researchers identified and analysed two key arguments: that insurance price does and should reflect bushfire risk, and that insurance price signals might encourage those seeking insurance against bushfire losses to mitigate their bushfire risk. The research identified why pricing bushfire risk is not an attractive option for the insurance industry, even though it is the insurers that are exposed to risk of financial loss through bushfires. Individual risk assessment of properties would be prohibitively expensive for insurance companies to countenance given that house loss by bushfires, even after catastrophic events, does not represent a major cost to the industry. Other natural hazards – flood, cyclone and hail – are much more costly and are considered in finer detail by Australian insurers.

The research identified some alternative tools that could be incorporated into insurance to encourage risk mitigation, such as the adoption of a 'no claim bonus', providing rebates for mitigation measures, asking relevant questions and relying on the homeowner's duty to reply with 'utmost good faith' to bind the owner to those answers, and external certification of homes and risk mitigation.



However, these have their limitations and costs, for example a 'no claim bonus' scheme, such as that used in motor vehicle insurance, may reflect risk when there is a recurring activity, such as driving, but will be less accurate when the risk is damage from a rare but catastrophic event. A rebate scheme may reward property owners for investing in mitigation such as water tanks, pumps and sprinklers, but does not guarantee that they are actually installed and ready for use. Asking relevant questions may give risk information about a property but actually calculating different premiums to reflect risk may cost more than the benefit to insurers. Finally, private certification would no doubt lead to an industry of certifiers. A 'qualified inspector' would see an incentive to provide the cheapest and fastest fire-risk assessment. There would also be pressure to certify that a home is more fire ready than it actually is. Insurers would find it difficult to verify the quality of fire-risk assessment and they may inadvertently undercharge policyholders. Such a process most closely equates to an individual risk assessment by the insurer but does not avoid the costs and problems associated with calculating individual premiums.

The paper:

Sundar, V., Hussey, K. and Eburn, M., 'Insurance as an (ineffective) tool to communicate bushfire risk in Australia – Problems and suggestions for reform.'

was submitted to the *International Journal of Wildland Fire*. Comments of reviewers have been received and work will resume to address the issues raised for final submission.

This research demonstrates to the bushfire community that insurance price should not be relied upon as an effective tool for communicating risk or for encouraging risk mitigation by individuals, in particular with regard to bushfire risk. While insurers may allow premiums to reflect risk on a landscape level, individual risk is too expensive and complex to quantify. Communicating the message for individual, property-level mitigation will require other policy responses.

Further work related to Theme 2 is being undertaken by Stephen Dovers in the area of urban planning. Key to the governance of disasters are our systems of urban and regional planning. Although this is subsidiary to the main themes of our project and the research cluster, there has been ongoing activity seeking to bring emergency management and the profession of planning closer together. To this end, Steve Dovers with University of Melbourne colleague Alan March have published a conference paper on urban planning and emergencies entitled "Disaster Risk Reduction and Urban Planning: A Case of Uneven Mainstreaming?" in the 2015 State of Australian Cities Conference Proceedings and have a forthcoming book chapter on the same topic.

Subject to reviewing and responding to the reviewer's comments on the paper submitted to the IJWF, work on this theme is complete.

### **THEME 3: IS THERE A BETTER PROCESS OR INSTITUTION FOR EFFECTIVE LESSON SHARING AFTER NATURAL HAZARD EVENTS?**

Work on this theme is progressing on multiple fronts. Past publications by Michael Eburn and Steve Dovers (Eburn & Dovers 2015) have established the



shortcomings of existing methods of post-event inquiries into disasters (i.e. Royal Commissions and Parliamentary Inquiries). Building on from this is the consideration of alternatives to the current ways of doing things. Formulating an alternative type of response to disasters has taken Michael Eburn into the field of justice research where he is investigating adapting aspects of restorative justice (McCold, 2000) to disaster management. This is a novel and very under-researched application of a justice concept (Cooper, 2008) that could prove very useful in improving the process of learning from disasters.

A discussion paper has been published by the CRC.

Eburn, M. & Dovers, S. Discussion paper: Learning for emergency services, looking for a new approach. (Bushfire and Natural Hazards CRC, 2016; <http://www.bnhcrc.com.au/publications/biblio/bnh-3054>).

Feedback has been obtained on this paper.

During 2017, the Chief Investigator, Michael Eburn, undertook a period of sabbatical leave at the Disaster and Development Network, Northumbria University, Newcastle-upon-Tyne (UK). The CRC research on the adoption of restorative practices in post event inquiries was presented at:

- The 14<sup>th</sup> International Association of Wildland Fire Safety Summit, Barcelona, 31 January 2017; and
- A public lecture hosted by the Emergency Planning College (EPC) at Easingwolds (UK), 17 May 2017. A video of that presentation can be found on the EPC website - <http://www.epcresilience.com/media/lessons-from-disasters-new-ways-to-learn/>.

Further research was undertaken in collaboration with academics and practitioners engaged with restorative practices in Hull and Newcastle.

The findings of this project will also be presented at the AFAC 2017 conference.

In order to complete this work, discussions have begun about the possibility of extending the project for another 12 months. This would allow the research team to complete the final paper on the use of restorative practices and convene a symposium on the use of restorative practices in inquiries.

The proposed symposium would hear from practitioners on what restorative practices are and their underlying rationale and whether they can be extended to inquiries where facts are disputed.

Further there has been significant recovery efforts that have used community building and restorative process. A symposium could hear from these involved in 'recovery' to discuss whether the earlier use of restorative practices could that community recovery.

It is anticipated that this extra work could be funded out of the current project budget without or with only limited call for further funds from the CRC.



## OTHER ACTIVITIES

Apart from meeting our agreed milestones, members of the project team have made the following contributions to the sector and our understanding of policies, institutions and governance in emergency management.

- Michael Eburn participated as an international assessor at the 2017 SimEX counter disaster exercise conducted by the University of Portsmouth and Hampshire Fire and Rescue Service. His role was to comment on how the exercise raised, and participants dealt with, emerging legal issues in disaster response.
- Based in part on the theme 2 research, Michael Eburn wrote an opinion piece that appeared as 'Should governments allow fire affected communities to rebuild?' (2017) 16(4) *Risk Frontiers Newsletter* pp. 2-5.
- Another paper by Michael Eburn, 'Coordination of federal, state and local disaster management arrangements in Australia: lessons from the UK and the US' was commissioned by the *Australian Strategic Policy Institute* and should be published soon.
- Professors Dovers and Hussey contributed to the paper Steele, W.E., Hussey K. and Dovers S., 'What's Critical about Critical Infrastructure?' (2017) *Urban Policy and Research*  
DOI: 10.1080/08111146.2017.1282857



## PUBLICATIONS LIST

Our publication list includes articles and papers that have been submitted or published over the life of the project. Not all papers were directly related to the project but were only made possible with the financial and in-kind support of, or drew on, research conducted for the BNHCRC under the auspices of this project.

### BOOKS AND BOOK CHAPTERS

- March, A & Dovers, S (forthcoming). "Mainstreaming Urban Planning for Disaster Risk Reduction." In: Vella, K. and Sipe, N. (eds). *The Routledge Handbook of Australian Urban & Regional Planning*. Routledge (due 30th September 2017).
- McDonald, F, Eburn, M and Smith, E (2017). "Legal and Ethical Aspects of Disaster Management." In: Fitzgerald, G, Aitken, P, Tarrant, M and Fredriksen, M (eds) *Disaster Health Management: A Primer for Students and Practitioners*. Routledge.
- Eburn, M, (2016). "The international law of wildfires." In: Breau SC and Samuel, KLH (eds) *Research Handbook on Disasters and International Law*. Edward Elgar Publishing.
- Eburn, M (2015). "Bushfires and Australian emergency management law and policy: Adapting to climate change and the new fire and emergency management environment." In: Burton, L and Sun, L (eds) *Cassandra's Curse: Law and Foreseeable Future Disasters*. Studies in Law, Politics and Society; Elsevier.
- Eburn, M (2015). "Managing 'civil contingencies' in Australia." In: Walker, C (ed) *Contingencies, Resilience and Legal Constitutionalism*. Routledge.
- Eburn, M (2015). "Disaster Risk Reduction in the Shadow of the Law." In: Collins, AE, Jones, S, Manyena, B and Jayawickrama, J (eds) *Hazards, Risks, and Disasters in Society*. Elsevier, Hazards and Disasters Series.

### JOURNAL ARTICLES AND OTHER RELEVANT PUBLICATIONS

- Eburn, M and Dovers, S (Forthcoming). "Reviewing High Risk and High Consequence Decisions: Finding a Safer Way." *Australian Journal of Emergency Management*. (Accepted for publication in the October 2017 special AFAC conference issue).
- Wenger, C (Forthcoming). 'The oak or the reed: how resilience theories are translated into disaster management policies' *Ecology & Society*.
- Dovers, S, Eburn, M, Hussey, K, Pittcock, J, Lukasiewicz, A, Wenger, C and Hunt, S (2017). "Policy reforms should ease shared disaster onus." *Bushfire and Natural Hazards CRC Hazard Note*.
- Lukasiewicz, A, Dovers, S and Eburn, M. (2017) "Shared responsibility: The who, what and how." *Environmental Hazards* (Online early; <http://dx.doi.org/10.1080/17477891.2017.1298510>).



- Wenger, C (2017). "Technical report: translating resilience theories into disaster management policies. Report No.251.2017." *Bushfire and Natural Hazards CRC*, Australia.
- Eburn, M and Dovers, S (2016). "Discussion Paper: Learning For Emergency Services, Looking For a New Approach." *Bushfire and Natural Hazards CRC*, Australia.
- Neale, T, Weir, JK and Dovers, S (2016). "Science in motion: integrating scientific knowledge into bushfire risk mitigation in southwest Victoria." *Australian Journal of Emergency Management* 31 (2), 13-17.
- Hunt, S (2015). "Building Adaptive Capacities For Disaster Resilience: What Role For Government?" *Australian Journal of Emergency Management* 31(1), 31-36.
- Wenger, C (2015). "Building walls around flood problems: the place of levees in Australian flood management." *Australian Journal of Water Resources* 19(1), 3-30 (<http://dx.doi.org/10.7158/W15-008.2015.19.1>)
- McLennan, BJ & Eburn, M (2015). "Exposing hidden-value trade-offs: sharing wildfire management responsibility between government and citizens." *International Journal of Wildland Fire* 24, 162-169.
- Eburn, M & Dovers, S (2015). "Learning Lessons from Disasters: Alternatives to Royal Commissions and Other Quasi-Judicial Inquiries." *Australian Journal of Public Administration* 74(4), 495-508.
- Eburn, M (2015). "Are Fire Brigades Liable for Poor Operational Decisions." *The Bulletin* (Official journal of the Law Society of South Australia) 37(1), 8-11.
- Eburn, M & Dovers, S (2014). "Risk Management from a Legal and Governance Perspective." *Journal of Integrated Disaster Risk Management* 4, 61-72.

## CONFERENCE PAPERS AND PRESENTATIONS

- Wenger C. (2015)-(2017). Three Minute Thesis Competition "Immovable oaks and unbreachable dykes":
  - Science Colleges 3MT competition, Finkel Lecture Theatre: 18 August 2015(awarded: CMBE People's Choice award; CMBE Runner-up);
  - ANU Open Day, Haydon-Allen Tank: 29 August 2015;
  - ANU Final Llewellyn Hall, School of Music: 16 September 2015: can be viewed at: <https://www.youtube.com/watch?v=XEbZnJ3wW2A>;
  - AFAC and Bushfire & Natural Hazards CRC Conference 2015, Adelaide (2 September 2015);
  - BNHCRC RAF, Canberra (19 October 2016);
  - BNHCRC Showcase 2017, Adelaide (5 July 2017).



- Eburn, M (2017). "Lessons from Disasters? Looking For a New Way to Learn." UK Cabinet Office's Emergency Planning College, Easingwolds (York).
- Eburn, M (2017). "Disasters and Law." Lecture for students enrolled in KE6017 – Development and Disasters at Northumbria University, Newcastle-upon-Tyne.
- Eburn, M (2017). "Recognising the limits of International law in Disaster Risk Reduction (DRR) – why it is part of the problem, and only part of the solution." Staff Seminar presented at Northumbria University, Newcastle-upon-Tyne.
- Eburn, M (2017). "Reviewing High Risk and High Consequence Decisions: Finding a Safer Way." 14th International Wildland Fire Safety Summit, Barcelona (Spain).
- Eburn, M (2017). "International Disaster Law- an issue of Sovereign or Human Rights?" Inaugural conference of the UK Alliance for Disaster Research, King's College, London.
- Wenger C (2016) "Symbiotic relations in flood management." Fenner School of Environment and Society: Public seminar (4 May) and the Hydrological Society, Canberra.
- Eburn, M (2016). "Lessons From Emergency Services." Australian Institute for Disaster Resilience (AIDR) Lessons Management Forum, Melbourne.
- Eburn, M and Cary, G (2016). "You own the fuel, but who owns the fire?" Australian Fire and Emergency Services Authorities Council (AFAC)/Bushfire and Natural Hazards CRC (BNHCRC) annual conference, Brisbane.
- Lukasiewicz, A, Dovers, S. and Eburn, M. (2016). "Sharing responsibility for disaster resilience: what are the obligations of community?" Australian Fire and Emergency Services Authorities Council (AFAC)/Bushfire and Natural Hazards CRC (BNHCRC) annual conference, Brisbane.
- Wenger C. (2015). "Flood management in a changing climate." Fenner School of Environment and Society: PhD mid-term review seminar.
- March, A & Dovers, S (2015) "Disaster Risk Reduction and Urban Planning: A Case of Uneven Mainstreaming?" In S.: Burton, P. & Shearer, H. (eds). State of Australian Cities Conference: Refereed Proceedings, Gold Coast: Urban Research Program at Griffith University on behalf of the Australian Cities Research Network, ISBN: 978-1-925455-03-8.
- Eburn, M (2015). "Natural hazard risk – to disclose or not do disclose – that is the question?" Western Australian Local Government Association and Local Government Insurance Service, Bunbury and Perth, Western Australia.
- Eburn, M (2015). "The Legal Consequences of Ignoring Climate Change." Western Australian Local Government Association and Local Government Insurance Service, Bunbury and Perth, Western Australia.
- Eburn, M (2015). "Disaster Law Seminar." Centre for Military & Security Law, Australian National University.



- Eburn, M (2015). "The ILC's Draft Articles on Protection of persons in the event of disasters." Presentation to Department of Foreign Affairs and Trade and Attorney-General's Department, Canberra.
- Eburn, M (2015). "Legal implication of HS@W legislation, the Rural fire fighters perspective" and "Legal implication of HS@W legislation, the Fire Service perspective." Forest and Rural Firefighters Association of New Zealand, Annual Conference, Blenheim (NZ).
- Eburn, M (2015). "Regional Cooperation on Disaster Management in the Asia Pacific." Disasters and International Law in the Asia-Pacific Workshop, University of New South Wales, Sydney.
- Eburn, M (2015). "The Australian Experience in the Cooperation on Disaster Management." Presentation at the launch of the Italian IDRL report, Bolgona (Italy).
- Eburn, M (2015). "Trends in Australian Wildfire Litigation." Plenary Keynote presentation, 9th Annual Wildland Fire Litigation Conference, Monterey, (California, USA).
- Eburn, M (2015). "Questions about liability." Canobolas Zone, NSW Rural Fire Service.
- Hussey, K & Dovers, S (2014) "Managing Critical Infrastructure in a Changing Climate: Risk, Roles, Responsibilities and Politics." Australian Fire and Emergency Services Authorities Council (AFAC)/Bushfire and Natural Hazards CRC (BNHCRC) conference, Wellington (NZ).
- Eburn, M, Hudson, D, Cha, I and Dovers, S (2014). Learning from Adversity: What has 75 years of bushfire inquiries (1939-2013) taught us? Australian Fire and Emergency Services Authorities Council (AFAC)/Bushfire and Natural Hazards CRC (BNHCRC) conference, Wellington (NZ).
- Wenger, C. (2014). "Flood management in a changing climate." Fenner School of Environment and Society: PhD proposal seminar.
- Wenger, C (2014). "Climate Change Adaptation and Flooding: Australia's Statutory and Institutional Arrangements." 54th Floodplain Managers Association National Conference, Deniliquin.
- Wenger (2014). "Flood management in a changing climate" (awarded: prize for 'Best Student Talk'). The Hydrological Society, Canberra and the International Association of Hydrogeologists, Canberra.
- Wenger, C (2014). "Building Walls around Flood Problems: lessons from four countries" and "Panel session 4 - How can we manage the risks of flooding related to climate change? (Chair: Jamie Pittock; panelists Gerry Galloway, Susan Hunt, Caroline Wenger)." National Climate Change Adaptation Research Facility Annual Conference, Gold Coast.
- Eburn, M (2014). "Perth Airport – Emergency Law." Perth Airport Emergency Committee, support agencies and airlines, Burswood.
- Eburn, M (2014). "WHS for WA volunteer firefighters." Albany.



- Eburn, M (2014). "Volunteer to career..." After dinner talk, NSW Rural Fire Service, Region West Group Captains Meeting, Young.
- Eburn, M (2014). "Three cases from 2012." NSW Rural Fire Service, Region West Group Captains Meeting, Young.
- Eburn, M (2014). "Learning lessons." Australian Government Exercise Coordination Group, Canberra.
- Eburn, M (2014). "Emerging Legal Considerations in Emergency Management." Joint Emergency Management Australia & Australian Maritime Safety Authority Master Class, Darwin.
- Eburn, M (2014). "Disaster Resilience: Making the National Strategy local." The H. Drummond Memorial Lecture, Drummond and Smith College, the University of New England, Armidale.
- Eburn, M (2014). "Emerging Legal Challenges for the Sector." Australian & New Zealand Disaster and Emergency Management Conference, Gold Coast.
- Eburn, M (2014). "Learning lessons from disasters: alternatives to Royal Commissions and other quasi-judicial inquiries." National Security and Emergency Management Knowledge and Lessons Management Workshop, the Australian Emergency Management Institute, Mt Macedon, Victoria.

## POSTERS

- Eburn, M (2017). "Policy reforms should ease shared disaster onus". BNHCRC Showcase 2017, Adelaide (5 July 2017).
- Lukasiewicz, A, Eburn, M and Dovers, S (2016) "Policies, Institutions and Governance of Natural Hazards." Australian Fire and Emergency Services Authorities Council (AFAC)/Bushfire and Natural Hazards CRC (BNHCRC) conference, Brisbane, 4-7 September
- Wenger, C (2016) "Policy Transfer: Between Countries, Between Disciplines." BNHCRC Research Advisory Forum, Hobart, 11-12 May.
- Hunt, S (2016) "Implementing Policy To Enable Disaster Resilience: Making It Happen In A Federal System." BNHCRC Research Advisory Forum, Hobart, 11-12 May.
- Wenger, C (2015) Is 'Resilience' the Same as 'Adaptation'? Australian Fire and Emergency Services Authorities Council (AFAC)/Bushfire and Natural Hazards CRC (BNHCRC) conference, Adelaide, 1-3 September.
- Sundar, V, Eburn, M and Hussey, K (2015) "Insuring Against Disasters: Minimising Perverse Incentives and Promoting Mitigation" Australian Fire and Emergency Services Authorities Council (AFAC)/Bushfire and Natural Hazards CRC (BNHCRC) conference, Adelaide, 1-3 September.



- Wenger, C (2014) "Flood management in a changing climate." Australian Fire and Emergency Services Authorities Council (AFAC)/Bushfire and Natural Hazards CRC (BNHCRC) conference, Wellington, 2-5 September.
- Eburn, M, Hussey, K, Pittcock, J and Dovers, S (2014) "Policies, institutions and governance (PIGs) of natural hazards." Australian Fire and Emergency Services Authorities Council (AFAC)/Bushfire and Natural Hazards CRC (BNHCRC) conference, Wellington, 2-5 September.
- Wenger, C (2016)-(2017) "Policy transfer: between countries, between disciplines"
  - BNHCRC RAF, Hobart, 11-12 May 2016;
  - Australian Fire and Emergency Services Authorities Council (AFAC)/Bushfire and Natural Hazards CRC (BNHCRC) conference, Brisbane, 30 August-1 September 2016;
  - BNHCRC RAF, Canberra (19 October 2016);
  - BNHCRC Showcase 2017, Adelaide (5 July 2017).