RAISING THE BAR ON RISK REDUCTION
POLICY AND PLANNING

SCIENTIFIC DIVERSITY, SCIENTIFIC UNCERTAINTY, AND RISK MITIGATION
POLICY AND PLANNING

BACKGROUND
The increasing demand for evidence-based public policy places a premium on the need to translate scientific knowledge into policy, practice and common understanding. This translation is rendered even more challenging by the inherent uncertainty and diverse disciplines of the science behind the evidence. How should risk mitigation practitioners manage these scientific uncertainties and diversities in their strategic decision-making? This is a key question driving this project, which aims to help risk management practitioners to explain, justify and discuss mitigation practices to others, including mitigation professionals, the public, the media, and in court and inquiry processes.

The project uses qualitative social science methods, including scenario exercises, theoretical tools and case studies. It analyses how diverse knowledge is ordered and judged as salient, credible and authoritative, and its pragmatic meaning for emergency management across the prevention, preparedness, response and recovery spectrum.

RESEARCH ACTIVITY
The project has completed project development, literature reviews, fieldwork, publication development and end-user engagement. Three case studies have been scoped on bushfire and flood risk mitigation. Their various stages of development are outlined below.

   Over the past several years, the Barwon-Otway area in south west Victoria (including the Wye River and Separation Creek areas recently affected by bushfire) has been a pilot site for a new approach to bushfire risk calculation and mitigation led by Victoria’s Department of Environment, Land, Water and Planning.

This approach uses new scientific tools to plan mitigation activities, quantify mitigation effects and inform community stakeholders. For this case study the researchers have recruited a participant group, completed two rounds of in-depth interviews and convened a scenario exercise. The case study is now being developed for publication.

2. Bushfire risk mitigation in the Greater Darwin area, Northern Territory.
   Though a significant portion of its grassland is burnt each year, the Greater Darwin area is not historically a high-risk bushfire area. However, the recent spread of highly flammable gamba grass (Andropogon gayanus) and the continuing subdivision of flood-prone and marginal lands in Darwin’s urban/rural interface are both changing the level of risk and the need for mitigation solutions. A participant group has been recruited for this case study and the first round of in-depth interviews were held in mid-2015.

3. Flood risk mitigation in the Hawkesbury-Nepean Valley, NSW.
   Historical and predictive evidence suggested that the Hawkesbury-Nepean Valley is at risk of low-probability flood events with very high consequences. The issue of mitigating this risk is the objective of the Hawkesbury-Nepean Valley Flood Management Taskforce. A participant
group is being recruited for fieldwork that is scheduled to start in early 2016.

RESEARCH OUTCOMES
The project team has completed two literature reviews, with the findings informing the development of the case studies. Specifically, 250 sources on scenario exercises, methodology, analysis and design were reviewed. There are two dominant approaches, and while they can bring together diverse expert knowledges to better understand complex systems, the focus is often on the product and not the process. Scenarios are also vulnerable to being influenced by the interests of dominant participants.

Key scientific uncertainties encountered, managed and utilised by practitioners and decision-makers involved in bushfire and flood risk mitigation have been surveyed. They can be categorised as historicist, instrumental and interventionist uncertainties.

END USER STATEMENT
These projects are tackling some of the most challenging policy, governance and communication issues confronting emergency management. We all have a stake in resolving the public policy dilemmas of shared responsibility, resilience and accountability. Developing a common language between risk professionals, policy makers and the broader community, including politicians, lawyers and the media, is essential for managing differing opinions and uncertainties in relation to natural hazards. The combined efforts of this research cluster could lead to cultural change in how we approach and respond to a broad range of natural hazards – this is an exciting prospect.

– John Schauble, Strategic Advisor, Emergency Management Victoria

POLICIES, INSTITUTIONS AND GOVERNANCE OF NATURAL HAZARDS

BACKGROUND
Community resilience depends on more than just engineering and preparation. Government policies, institutions and governance arrangements also shape community resilience. These fundamentally influence how individuals and communities prepare for, respond to and recover from natural hazards. Both governments and communities need to understand the nature of this influence in order to fully comprehend and manage natural hazards.

This research project will shed invaluable light on current policy, institutional and governance arrangements with the aim of developing new approaches to shared responsibility that will increase community resilience to all natural hazards.

RESEARCH ACTIVITY
The project is working on three themes:

1. Delivering evidenced-based suggestions to help communities to share responsibility for emergency risk management.
2. Identifying perverse incentives and hidden barriers in disaster insurance.
3. Providing recommendations for a revised, post-event inquiry process to better identify lessons.

A research paper has been completed on disaster insurance policy, identifying some reasons why insurers are reluctant to more actively communicate and price risk, particularly with respect to bushfire. The paper also suggests some policy initiatives that might be adopted to encourage home-owners and insurers to identify and mitigate risk.

Dr Eburn has travelled to the United States to gather information about improved post-event learning. He visited Sacramento, California to attend the Facilitate Learning course offered by the National Advanced Fire and Resource Institute and the US Forest Service. He later visited the US Wildland Fire Lessons Learnt Centre in Tucson, Arizona.

Work on delivering evidence-based suggestions to help communities to share responsibility for risk management will be undertaken in 2016.

END USER STATEMENT
The Bushfire and Natural Hazards CRC is a national research centre funded by the Australian Government Cooperative Research Centre Program. It was formed in 2013 for an eight-year program to undertake end-user focused research for Australia and New Zealand.

Hazard Notes are prepared from available research at the time of publication to encourage discussion and debate. The contents of Hazard Notes do not necessarily represent the views, policies, practices or positions of any of the individual agencies or organisations who are stakeholders of the Bushfire and Natural Hazards CRC.

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