

Economics of natural hazards

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An Australian Government Initiative



**THE UNIVERSITY OF
WESTERN AUSTRALIA**

Project team

Researchers

- David Pannell
- Atakelty Hailu
- Michael Burton

Possible post-docs

- Abbie Rogers
- Fiona Gibson
- Veronique Florec
- Maksym Polyakov

- Plus PhD student(s)

Project team

End users

- **Ed Pikusa**
 - Fire & Emergency Services Commission, SA
- **Bruce Telfer**
 - Department of Fire and Emergency Services, WA
- **Samantha Ward**
 - Attorney General's Department, Canberra
- **Stuart Midgley**
 - Rural Fire Service, NSW
- **James Holyman**
 - Metro. Fire & Emergency Services Board, Vic
- **Sandy Whight**
 - State Fire Management Council, Tas.
- **David Launder**
 - Metropolitan Fire Service, SA

Questions

- Which strategies for managing natural hazards offer the best value for money?
- How can we value social and environmental benefits of management?
- How should emergency budget be set, recognising variability of need? (PhD)
- What are the requirements for sound economic analysis of natural hazard management?

Common factors for decision making about natural hazards

- **Complex**
- **Inherently multi-disciplinary**
- **High data requirements**
- **Some impacts relatively intangible**
- **Cost-constrained**
- **Under-researched**

Economic approach - features

- Integrative
- Long-term
- With versus without management
- Values and trade-offs
- Policy instruments
- Behaviour
- Risks
- Value for money – benefits and costs
- The language of treasury

Example: Mt Lofty Ranges



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- **Prescribed burning (PB)**
- **Alternative burning strategies**
- **In different land-use zones**
- **Provided Benefit: Cost Ratios for each option**
 - From 0.05 to 3.1
 - Higher when PB occurs closer to valuable assets
 - Most of the benefits are reduced losses, rather than reduced suppression costs
 - The big losses are from catastrophic fires, but PB makes little difference to them



Major outcomes

- **Improved decision making**
 - Weighing up alternative management options
 - Better targeting of effort and resources
- **Ability to evaluate and justify programs**
- **Capacity built**
 - PhD
 - Guidelines
 - Models/tools

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