

PROGRAM D



The Use of Worst Case Scenarios in Decision Making By Bushfire Fighters

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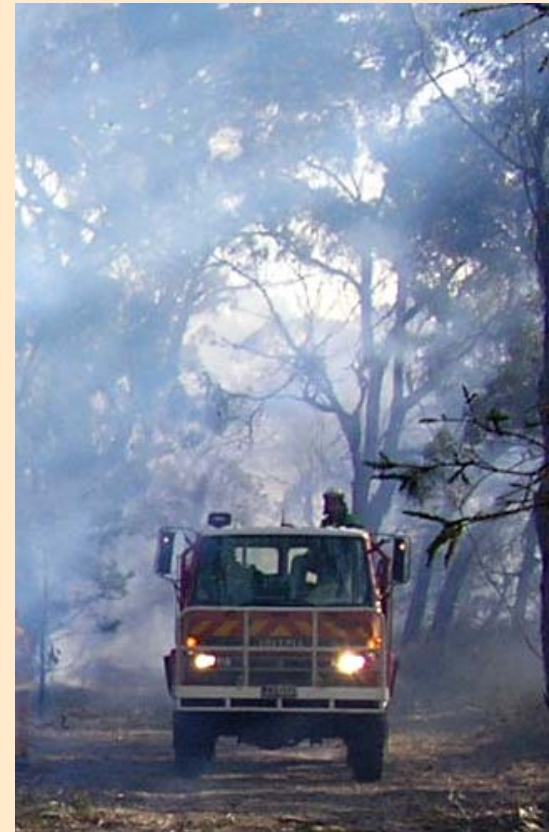
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The Bushfire Context

Difficult conditions:

- Time pressure
- Uncertainty
- High consequences
- Dynamic situation



Bushfire fighters regularly perform well under complex and dangerous conditions



Naturalistic Decision Making (NDM)

- Attempts to understand decision making in real world environments
- Domains of interest have common features
- Focus is on how quick and accurate decisions are made in difficult circumstances
- NDM approach aims to improve decision making in the field by development of tools, training and decision supports
- Foundation of NDM is expertise



Worst Case Scenarios

- As well as routine events, decision makers must also contend with extreme events
- Low-probability, high-consequences events
- Considering worst case scenarios involves the estimation of risk and anticipation of consequences
- Lack of experience of rare extreme events may result in a reduced capacity to recognise worst case scenarios



Past Findings

Findings from past bushfire incidents suggest failure to consider worst case scenarios can result in tragedy

Findings from research suggests the importance of considering worst case scenarios

Little dedicated research has been conducted into the influence of worst case scenarios on decision making processes



Post-Incident Interviews



- Recent non-problematic past incident
- Participants in leadership roles
- Participants from Vic CFA, Vic DSE and NSW RFS



HFIP Procedure

- 31 Interviews
- Seven La Trobe University Researchers
- Duration approx. 1-1.5 hours
- Locations on or near the fireground
- As soon as possible after fire incident



Human Factors Interview Protocol (HFIP; Omodei, McLennan, & Reynolds, 2005)

- Developed as part of Project 2.3 Safety in Decision Making and Behaviour at La Trobe University
- Multi-stage process that maximises quality and quantity of information gathered
- No prompts specifically concerning worst case scenarios



HFIP Stages

1. Set the parameters
2. Elicit the narrative and its chapters
3. Collaborative analysis of the chapters
4. Stepping back - the wisdom of hindsight
5. 'Anything else?' check
6. Bigger picture
7. Even bigger picture
8. Wrap up





Findings

- The HFIP produced rich and useful data for investigating worst case scenarios
- Participants consistently mentioned worst case scenarios when verbally recalling a past fire event
- Common themes provided insight into the impact of worst case scenarios on decision making
- Difference of reporting of worst case scenarios at different levels of command



Conclusions

- Understanding how worst case scenarios impact on decision making is critical
- The HFIP is a valuable and effective tool for eliciting knowledge
- Bushfire fighters report worst case scenarios in interviews after a fire incident
- Much research still needs to be done to fully understand the influence of worst case scenarios on decision making



Further Research



Targeted Interviews

Training development and
evaluation



Suggestions and Comments Appreciated

