



COMMUNITY PREPAREDNESS AND RESPONSES TO THE 2017 NEW SOUTH WALES BUSHFIRES

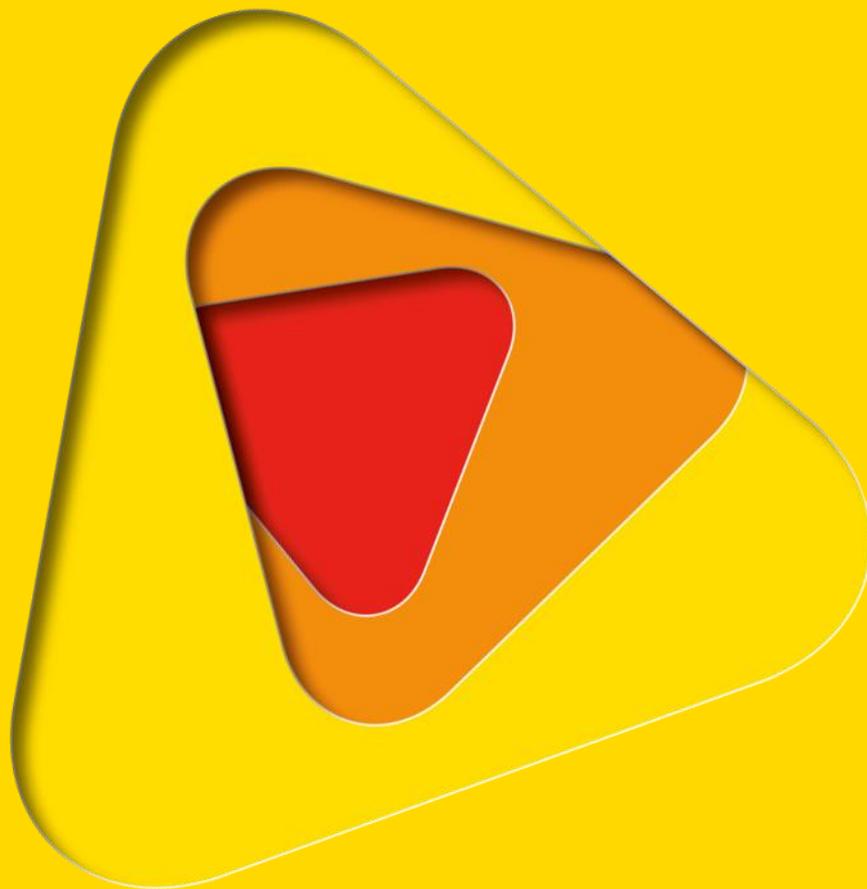
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ABSTRACT

BACKGROUND

January and February 2017 saw a number of destructive bushfires in New South Wales, some of which occurred during Catastrophic fire weather conditions. These fires damaged and destroyed a range of assets including houses, outbuildings, community halls, livestock, machinery, fences and other agricultural assets. Fortunately no human lives were lost.

RESEARCH SCOPE AND METHODS

The NSW Rural Fire Service (NSW RFS) commissioned the Bushfire and Natural Hazards Cooperative Research Centre to undertake research into community preparedness and responses to bushfires in NSW in 2017. The University of Wollongong and Macquarie University were engaged by the Bushfire and Natural Hazards CRC to conduct this research. The NSW RFS Statement of Work identified the following themes for investigation:

THEME 1: INFORMATION AND WARNINGS

The effectiveness of warnings delivered to the community during fire events and the resulting actions taken

- Did the warnings and information provided assist people to reduce the risk to agricultural assets?
- The delivery of Catastrophic fire danger messages to areas which were not impacted by fire, to investigate whether this may have an effect on future responses during fire events
- How people sought out information relating to the fires
- What were the drivers and motivators for those people who sought to reenter fire grounds? What was their perception of the risks associated with doing so?



THEME 2: PLANNING AND PREPAREDNESS MEASURES

- An understanding of the perception of risk, particularly in the farming communities affected by fires
- Responses by the community and how people prioritised their protective responses (such as livestock, machinery and housing)
- The perception of risk to and value of agricultural assets vs homes • What influence previous fire history had on their planning, preparedness and decisions • Identified intervention strategies
- What information or advice people sought out in the lead up to the specific fire event Investigation and analysis of firefighting responses and building impact assessments are outside the scope of this research.

The research involved 113 interviews with people affected by the Currandooley (n=36), Carwoola (n=38) and Sir Ivan (n=39) fires and an online survey of people (n=549) threatened or affected by bushfires throughout NSW in 2017. Survey results should be interpreted with caution due to biases associated with selfselected (non-random) samples.

KEY FINDINGS

Warnings

Key insight – A majority of survey respondents found warnings easy to understand, up-to-date and useful. Survey respondents and interview participants expressed a preference for highly localized information.

- Survey respondents most often identified Fires Near Me as their most useful information source. Fires Near Me was seen as easy to understand (88%), useful (82%) and sufficiently localised (76%). Two-thirds (66%) felt the information was up-to-date. Interviewees commonly expressed strong support and a high degree of satisfaction with Fires Near Me.
- Compared to SMS warnings, landline telephone warnings were more often seen as useful (78% v 67%), up to date (72% v 66%) and timely (68% v 66%). Nevertheless, survey respondents most often identified SMS as their preferred mode for delivery of warnings. Most people expect to receive warnings from multiple sources.
- Limited mobile phone coverage, particularly in the Sir Ivan and Currandooley fires, meant that some people did not receive SMS warnings.



Catastrophic Fire Danger Warnings

Key insight – Most people do not intend to leave before there is a fire on days of Catastrophic Fire Danger. Those who intend to leave will wait until there is a fire, and others intend to stay and defend.

- Survey respondents considered Catastrophic Fire Danger warnings to be easy to understand (88%), timely (83%) and useful (78%).
- Receipt of an official warning about Catastrophic Fire Danger prompted survey respondents to discuss the threat with family, friends or neighbours (63%) and look for information about bushfires in their area (62%). Equal proportions began preparing to defend (39%) or leave (39%) and a smaller proportion (12%) left for a place of safety.
- When asked what they would do if they received a message about Catastrophic Fire Danger next summer, 12% said they would leave before there is a fire and 24% said they would wait until a fire started, then leave. 27% reported that they would get ready to stay and defend, while 24% said they would wait for a fire before deciding what to do.
- Analysis of interview data highlights that many people believe it is impractical to leave on days of Catastrophic Fire Danger before there is a fire. Many are also committed to defending, despite being aware of the increased risks to life on such days.

How people accessed information

Key insight – In addition to internet, social media and other sources, people sought information about the fire itself through direct observation. Observing the fire appears to have helped people ready themselves to defend, or confirmed the need to leave.

- Half of all respondents accessed information via the internet (53%). They most commonly sought information about the location of the fire (91%), roads (e.g. traffic and road blocks) (64%) and weather conditions (60%). Around half looked for information about firefighting activities (54%) and the likely time of impact (43%). Websites most commonly used included Fires Near Me, the NSW RFS, Bureau of Meteorology and various Facebook pages (including NSW RFS and local community pages). Almost two-thirds (62%) of all survey respondents used social media during the fires.
- Interviewees and survey respondents often sought information about the fire through direct observation. Consistent with findings from past research, many residents left their homes and properties to go and look at the fire. For some people, observing the fire appears to have helped ready themselves to defend and, for others, confirmed the need to leave.



Drivers and motivators for returning

Key insight – The need to protect houses and property, rescue or assist vulnerable people, and protect animals are the main drivers for returning. Some interviewees passed through road blocks, or circumvented them, to return home.

- The majority of survey respondents were at home when they found out about the bushfire (60%). Of those who were not at home, 71% indicated that they tried to return to their house or property.
- The drivers for returning to fire affected areas are many, but most often revolve around the desire to protect houses and property, rescue or assist vulnerable people, and protect animals.
- While some interviewees complied with roadblocks, others described passing through or circumventing roadblocks in order to return. Some interviewees used backroads or gates through private property to return, sometimes on foot or in vehicles that were unsuitable for roads, tracks and paddocks. There was a perception that some people were exposed to more danger than if they had passed through the roadblock.

Perceptions of risk

Key insight – Some people may underestimate the risks to life and property if fire danger is not Catastrophic.

- Analysis of interviews with people affected by the Carwoola and Currandooley fires suggests that some may have underestimated the risks to life and property because fire danger conditions were not Catastrophic.
- Many interviewees affected by the Sir Ivan fire did not anticipate the size or severity of the fire. References to experience with smaller fires were common. Many felt that they were prepared to respond to smaller, 'normal' fires, but there was little they could have done to prepare for a fire of the size and severity of Sir Ivan.



Prioritisation of protective responses

Key insight – Many hobby farms, small acreages and large farm properties were significantly underinsured. Interviewees often discussed prioritisation of insurance, with many seeing insurance as cost-prohibitive.

- 48% of survey respondents left or were away from their house or property during the fire; 47% stayed to defend; and 6% sheltered inside a house or somewhere outside. Those who left prioritised the protection of life, even if that meant losing a house or property: 48% left because they felt it was too dangerous to stay; 33% left to remove household members or visitors from danger; and 31% left because it was a day of high fire danger. Those who stayed usually did so to protect property, and most (81%) did not feel their life was endangered at any point. Common reasons for staying were to protect the house and property (63%) and to protect livestock and other animals (43%).
- Rates of house insurance were high for houses on residential blocks, hobby farms/small acreages and large farm properties (all 92%). However, only half of all large farms and hobby farms/small acreages were fully insured (55% and 47% respectively). Affordability of insurance was an issue for many agricultural landholders. Interviewees discussed their decisions to insure some assets but not others. Insuring fences and livestock were seen as particularly cost-prohibitive.

Perception of risk to and value of agricultural assets vs homes

Key insight - Perceptions of value and risk to agricultural and domestic assets are complex. Economic value is important in decisions about what to protect, but is balanced against utility and sentimental values.

- Many farm properties were large with a wide distribution of assets. Some landholders also had additional blocks that came under threat. They often did what they could to prepare, for example by ploughing fire breaks and moving livestock, then fell back to protect what was manageable, typically the house and nearby paddocks and sheds. This appears to have been based on an assessment of what was possible with available resources and not necessarily what was valued most.
- Although there may be more financially valuable assets than houses, homes often have utility values that exceed their direct financial worth. For example, one farmer explained how the houses on his large farm property provided accommodation for workers, without which the business would be unable to re-establish. Houses also have sentimental or emotional values that also influence the prioritisation of protective responses.



Public expectations of the NSW RFS

Key insight – While limitations to NSW RFS support due to resource constraints are generally well understood (e.g. there are not enough fire trucks for every property), there is less appreciation of operational constraints imposed by Fire Danger conditions, fire behaviour and health and safety obligations.

- Most interviewees affected by the Currandooley and Carwoola fires praised the efforts of firefighters and did not expect to receive personal firefighting support. Residents in Carwoola were particularly cognisant of the limits to NSW RFS support, which had been clearly communicated by the local brigade over time.
- Some interviewees affected by the Sir Ivan fire were critical of the firefighting response. It is important to recognise that these criticisms reflect interviewees' personal views and, whether they are factual or not, or warranted or not, they provide insights into people's understandings of firefighting and their expectations of the NSW RFS and other emergency services. Criticisms varied in detail but typical reflected a belief that the NSW RFS prioritised the protection of houses over agricultural properties and assets; and that firefighting strategy was bureaucratic, directed from afar, and overly risk averse. These criticisms should also be viewed in the context of a large, destructive bushfire that burnt under Catastrophic conditions.

Implications and opportunities

The findings presented in this report have numerous implications and present opportunities for NSW RFS communications and community engagement. These include:

- The research confirms the tendency for people to observe the fire directly to ready themselves to defend or confirm the need to leave. This behaviour presents opportunities for emergency service personnel to meet people at a time when they are seeking and receptive to information and advice. Such meetings could occur at locally known observations points, or at locations designated by emergency services.
- There is a need to more clearly communicate the risks posed by fires burning under non-Catastrophic Fire Danger conditions. Such messages could be incorporated into community education and engagement resources, as well as emergency warnings and information.
- There is potential to develop additional resources to assist agricultural landholders to plan and prepare for bushfire. Resources are needed to help businesses more systematically identify assets and values, prioritise, and plan for their protection. These materials could include 'Best practice' case studies and information about insurance.



- There is a need to more clearly communicate the limits to NSW RFS response capacity. In addition to limitations due to resource constraints, which are generally well-understood, there is potential for enhanced communication of operational constraints imposed by Fire Danger conditions, fire behaviour and associated imperatives such as Occupational Health & Safety requirements. Findings suggest that local brigades can be effective in communicating these messages; however, this may require considerable engagement and training at a time when some NSW RFS members are finding training and time commitments challenging.