COMMUNITY UNDERSTANDING AND AWARENESS OF BUSHFIRE SAFETY: OCTOBER 2013 BUSHFIRES

RESEARCH FOR THE NEW SOUTH WALES RURAL FIRE SERVICE

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Cover:
The Mount Boyce fire in the Blue Mountains, October 2013. Photo by Gary P Hayes, provided by the NSW RFS.

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INTRODUCTION

This overview provides a consolidation of the findings from the interviews and online surveys conducted by the Bushfire CRC researcher into the community understanding of bushfire safety and responses in the context of the October 2013 Bushfires in NSW. This work was commissioned by NSW Rural Fire Service.

This research had two separate – but interconnected – components, (i) a series of interviews with residents in a number of fire impacted communities, and (ii) an online survey (also targeted to those communities but open more broadly to fire impacted areas in NSW) each of these has been analysed and reported upon in detail in the reports submitted. Both components focused on common themes and the following summarises the combined responses.

The executive summaries from the two individual reports are provided at the end of the consolidated findings.

FINDINGS

WHAT PEOPLE UNDERSTAND

This section discusses what people understand about bushfire danger, property preparation, warnings, and leaving early on days when bad fire weather is forecast

Both the interviews and the online survey showed people see their general area as being at higher risk than their personal property or their family.

About one-third of residents interviewed had some appreciation that they and their property are at some meaningful bushfire risk, one-third have never thought about it, and about one-third have an intellectual appreciation of potential bushfire risk (i.e. they know the area is at risk) but have not personalised it .

Both interviews and the online survey showed in response to a direct question that few people reported having a written bushfire survival plan or having practised it. However, the online survey, in particular, showed many households discuss plans and undertake basic bushfire 'easy' preparedness activities: clearing vegetation from near the house and cleaning gutters. Many other households had in mind a safe destination where they would go in the event of a bushfire; and some had prepared evacuation kits. In contrast, there was a very low proportion of respondents who had reported doing more expensive and/or complex preparations such as installing bushfire protection sprinklers. In essence, people were doing those things that were low-cost or took little time, but were not undertaking preparation activities that were harder, more time-consuming, or took a greater financial investment.

Expanding on this, the interviews provided a more complex picture differentiated by household intentions. Residents who wanted to defend did so because their property was a valued asset (this might be financial or economic, especially in a business, but also might be largely emotional 'attachment to place'). These people generally recognised that there is risk associated with this staying and defending. This group had usually done some property preparation, but less than half had what might be considered 'the basics' to be adequately prepared to stay and defend – about 50-60% had an independent water supply and fewer (25%) had non-mains electricity pumps – mostly petrol, very few diesel-powered.

For interviewees who indicated clearly that they were not going to stay and defend, about one-third (mainly those responsible for others, e.g. children, the elderly, those with a disability) were conscious of the danger of bushfire and did not stay because of this.

For those interviewees who didn't plan to stay and defend, less than half were able to describe where they would go and how to get there, and even fewer had a 'go kit'. It was also noted that very few were able to identify a specific trigger that would be the signal it was time to leave.

Very few of the interviewees who planned to leave reported undertaking meaningful property protection activity that would increase probability that the house would be standing upon their return. It would appear from the interviews that most residents felt property protection activities were linked to the decision to stay and defend. Respondents to the online survey did, however, indicate a high great level of preparedness, with basic actions being taken regardless of their intended action in the event of a direct bushfire theat.

Both the online survey and the interviews showed people are did not leave early because of an extreme fire weather forecast. For the very small who do leave (around 2% in this case/in these fires/in this study), this is because they have very specific vulnerabilities (elderly, young children) or have had' previous experience with a bushfire and do not wish to repeat that.

AWARENESS AND WARNINGS OF THE SPECIFIC FIRE

The first awareness of the fire in all locations (from both the interviews and the online survey) was overwhelmingly from physical cues: smoke, smell and hearing water-bombing aircraft. The next most common way of becoming aware of the fire was phone contact from family, friends and neighbours, many of whom were responding to those cues.

Once the interviewees knew a fire was in the area, 'official information' became very important and the major problem reported was the lag in such official information becoming available – especially for households near the point of origin of the fire. It should be noted this lag was most particularly mentioned with respect to the NSW RFS website information. Less concern was expressed with regard to the lag in information provided thorough NSW RFS Facebook or Twitter services.

WHAT PEOPLE DID BEFORE AND DURING THE FIRE, AND WHY

For those directly affected by the fire, the online survey showed for 40% (slightly more in the case of the interviews) of households, everyone left once the fire threatened. Of those who left, only a small proportion reported leaving under dangerous circumstances and these were mainly near the point of origin of the fire. Of those who left, the great majority felt they would do it again if threatened.

The major driver of the decision whether to stay and defend or to leave once the fire threatened was the initial plan. The connection between the plan and the action was strongest for those who intended to stay and defend, and if the plan had been to stay and defend, they generally did this. As noted above, the level of thought and planning for leaving was mostly less well developed.

In those 60% of cases where someone stayed to defend (with equal numbers of respondents reporting either all or part of the household doing so'), they generally did so because they felt confident of success (only about half actually had to actively defend). In this context, it should be noted that there were few interviews (or online surveys completed) by those who lost their property or who reported significant damage. Very few who stayed reported serious threat or danger, presumably because they were not exposed to intense bushfire threat conditions.

The online survey indicated that the average time for which people had to actively defend or monitor the fire threat to their property was 3 hours, and most (60%) indicated they didn't have or need help, with the remainder equally assisted by fire services (20%), family, friends, community Fireguard units or neighbours (20%).

Interestingly, and potentially quite dangerously (for both residents and fire crews), quite a number of respondents (both online and interviewees) were away from home when they first became aware of active fire in their area and many – two thirds in the online survey – tried to return, taking an average of around 40 minutes to get there, and then most subsequently left, although for those interviewed, half stayed to defend.

HOW DID THE RESIDENTS SEEK INFORMATION, WHERE DID THEY LOOK AND WHY?

As noted above, once residents became aware of a fire in the area from visual clues or other sources, most sought official confirmation from RFS sources.

However, once the fire directly threatened the area, home or property, those who had planned to stay and defend got on with it (implemented their plan) and very few of them reported trying to find more information – they didn't have time to do that. This is consistent from findings from other recent post-fire studies, in particular that undertaken in Mundaring (WA) in early 2014.

However, for the people who planned to leave, or more specifically hadn't PLANNED to stay and defend, a very high proportion tried to find out more information – did they need to pack up and go? Or would the fire miss them? Others who sought information were those who were not at home or who were less likely to be impacted immediately. It was noted that the residents not immediately impacted were also more likely to attend the subsequent post-bushfire community meetings.

WERE THE BUSHFIRE ALERTS AND WARNINGS ADEQUATE?

The majority of interviewees and respondents to the online survey had no complaints about alerts and warnings. Fairly consistently, they reported that the messages were clear, sufficient and relevant. Very few thought 'alarmist' or 'too soon', although some residents who were very close to the point of origin did complain that the alert came after the fire hit.

Some respondents expressed a wish that the website material was more specific, that is, able to provide precise locations for fire threat. Comments varied by fire area: there appeared to be a common theme that there was a sense of less specific local information being provided for those areas outside the Blue Mountains during the overall period of threat.

When asked their preferred method of being warned of a fire threat, both interviewees and online respondents indicated their first preference was by way of SMS or message to a land-line; online respondents (who may be likely to be more 'tech savvy') indicated their second preference was for updates from Facebook (25%) or Twitter. Radio was the identified popular source of information for interviewees and online survey respondents (18%).

The most reliable source of official information was seen to be RFS website, followed by other RFS sources: Facebook, Twitter.

Formal briefings that were primarily viewed on television were mostly identified as being valuable and useful.

Community meetings received variable feedback from those interviewed. About one-third of those interviewed went to a community meeting but only about one in five found it useful. Generally, the respondents heard about these through Facebook or word of mouth but there was criticism that some didn't hear about the meetings until too late to attend. For those who did attend, many had difficulty seeing or hearing presenters.

Where the meetings were conducted when the fire was still active, the most common complaint was that what they wanted to hear was whether or not they were going to be at risk of another threat, yet a significant part of the meetings was about relief and assistance. In this context, however, it is understood that the meetings were conducted differently in different locations, and in Wingecarribee, respondents indicated concern with the alarmist approach. To the extent that they received bushfire safety information, they said the information was interesting or useful, but few reported actually making use of it.

In contrast, the online survey focused on the recovery meetings; here respondents reported more positive views of these and indicated that the meetings helped their decision-making.

WHAT WOULD HAVE HELPED THE RESIDENTS MANAGE BETTER?

Almost nobody could identify something specific that would have helped them manage the experiences of the fire better. The most common and most difficult experience was dealing with the uncertainty of when, where and if the bushfire would hit them.

OTHER OBSERVATIONS

There seemed to be a considerable difference between the perceptions of the fire and the agency response between those with a NSW RFS connection and those without. The number of interviewees with a direct RFS connection was small, but their appraisals were more negative. For the majority of those with no RFS connection, there was overwhelming praise for the efforts of the RFS: that despite the property losses, no one died and on a difficult day, the RFS had done their best.

There was some concern, however, from those in areas outside the Blue Mountains (and even from the smaller areas in the greater Blue Mountains like Dargo) that they were not being given the necessary information because of the threat of the fire in Mount Victoria and the Springwood area – specifically, the concern with the ongoing threat being presented by the State Mine fire over a protracted period – they felt left out.

A significant proportion (approximately 40%) of the online survey respondents were NSW RFS volunteers. In the 'General Feedback' section, some were critical of (to them evident) confusion in decision making and a lack of communications between Headquarters and Incident Management Teams and the volunteers, a feeling that during the fire they did not get the support they needed on the fire line. This was expanded upon in some informal and unstructured discussions with those at the RFS facilities where the interviews teams were based, with some indicating that 'from the inside'; there was some confusion and uncertainty. For some, the fact they had been associated with the worst loss of houses in many years was a bitter realisation.

CONCLUDING COMMENTS

Both research methods generated some bias in their samples. The interviewees have a bias towards those who are at typically home between 9 am and 5 pm weekdays: an under-representation of 18-30-year olds and over-representation of those over 60 years of age. Despite best efforts, with flyers being left at houses where no-one was home, households where all parties were in full-time employment are underrepresented, as are householders whose homes were destroyed.

The online survey has good age demographic representation but is an opt-in survey primarily advertised through the NSW RFS and Bushfire CRC, where people were most likely to already have an interest in bushfire safety and hence a desire to express their views. It is also likely to have a higher proportion of respondents who are comfortable with the internet and other technology.

Despite these limitations, the overall consistency between the findings of the two studies indicates that the identified trends are robust.

EXECUTIVE SUMMARY COMMUNITY INTERVIEWS

The following is a direct copy of the Executive Summary of Part 1 of this work formally titled:

Community understanding and awareness of bushfire safety: October 2013 bushfires, Part 1: Residents' experiences in three areas, Bushfire CRC, Australia prepared by Professor James (Jim) McLennan

1. During October 2013, many areas of NSW were impacted by bushfires that caused significant losses. In order to learn from these fire events, NSW Rural Fire Service (NSW RFS) senior management commissioned the Bushfire Cooperative Research Centre (CRC) to undertake research in three affected areas to document the experiences of samples of residents.

2. The areas selected by NSW RFS were: greater Blue Mountains, Port Stephens, and Wingecarribee Shire. The Bushfire CRC research program had two components: (a) interviews with residents in the selected areas; and (b) invitations to residents in the selected areas to complete an online survey questionnaire. This report summarises findings from interviews with residents.

3. Over three 3-day periods, joint Bushfire CRC–NSW RFS teams visited a geographical spread of properties in each of the three areas and interviewed residents about their experiences of the October bushfire events. A total of 466 properties were visited, 227 residents were contacted, and 177 interviews were conducted. A further 17 residents were interviewed by telephone. Of the total 194 interviews conducted, the sub-totals by area were: greater Blue Mountains, 79; Port Stephens, 52; Wingecarribee, 63.

4. Of the 194 residents interviewed, 50% were men and 50% were women; their mean age was 54 years; approximately one-third reported responsibility for dependents (children under 18, elderly, disabled) and a little more than two-thirds reported having pets or livestock to take into consideration. A little less than one-quarter reported previous experience in defending against bushfire threat. Half those interviewed lived on standard-sized residential blocks; a little less than half lived on larger 'lifestyle' blocks; the others (4%) lived on farming or other agribusiness properties.

5. Residents interviewed in the Blue Mountains and Wingecarribee areas described their communities as appreciably more closely connected compared with the Port Stephens area. Port Stephens residents described somewhat greater reliance on official advice about bushfire threats.

6. Blue Mountains residents were more likely to report higher perceived pre-October bushfire risk levels for their homes compared with Wingecarribee residents, who, in turn, described higher bushfire risk levels compared with Port Stephens residents.

7. Across the three study areas, 73% indicated they had some form of bushfire plan before the fire and however only seven percent indicated having a written bushfire plan. This low figure is consistent with that found in other comparable studies.

8. Eighty three per cent of Blue Mountains residents were able to describe their pre-October bushfire plan, compared with 67% of Wingecarribee residents and 48% of Port Stephens residents. Blue Mountains residents were twice as likely (33%) to report planning to stay and defend compared with Port Stephens residents (17%) and Wingecarribee residents (16%).

9. Of the residents interviewed a little more than one-third (68; 35%) reported obtaining a copy of the NSW RFS Bushfire Survival Plan document, and of these, a little less than half (31; 46%) reported making use of it in planning what they would do if threatened by a bushfire.

10. Residents who planned to stay and defend were motivated by a desire to protect valued assets and by confidence in their ability to do so, most did not view their intended action as a bushfire survival plan. Residents who intended to leave were motivated by concerns for their safety and that of their family. Residents who intended to wait and see what happened following a bushfire threat warning perceived their risk to be low and viewed both leaving unnecessarily and defending against a significant fire as equally unappealing.

11. Of those who planned to leave if threatened by a bushfire, 38% reported having planned a safe destination and evacuation route; few reported undertaking actions to reduce the vulnerability of their homes to ignition and loss. Of those who planned to stay and defend, 56% reported having a water supply independent of mains water and 22% reported having a pump with a power source independent of mains electricity.

12. Across all three areas, sight of smoke was the most frequently reported source of awareness that there was a bushfire threat (60%), followed by informal phone communications (37%) and SMS or landline Emergency Alert messages (25%).

13. While social media were hardly mentioned as sources of initial awareness of potential bushfire threat a number of respondents indicated they used this to obtain additional information once they became aware of the fire threat.

14. The NSW RFS website was mentioned most frequently as the source consulted for more information once it was known that a bushfire threatened (29%), followed by local radio (19%) and Facebook pages (17%).

15. A major driver of householders' decisions when the fire threatened was their pre-bushfire plan—the link was strongest for those who planned to stay and defend.

16. A little more than one-fifth (42, 22%) of those interviewed were not at home by chance when the fire first threatened. Most (36) returned home, half of those subsequently left, the other half stayed and defended. Only two of those interviewed (1%) had chosen to leave early in the morning on the basis of fire danger weather predictions. The finding that very few residents leave solely on the basis of fire danger weather predictions has been a feature of all previous post-bushfire interview-surveys of residents: most residents react to a bushfire event, very few take proactive action on the basis of a forecast.

17. Of those who were at home when the fire threatened, 54% left for presumed safer locations, while 46% stayed to defend their property.

18. For those who decided to leave, the most frequently reported trigger to do so was sight of smoke (23%), followed by an Emergency Alert message (15%) and sight of flames or advice from police or firefighters (13%).

19. Two-thirds of those interviewed reported knowing the location of a place nearby where they could take last-resort shelter. However, a little more than one-quarter (27%) knew the location of their Neighbourhood Safer Place. For Port Stephens residents, the figure was appreciably lower (15%).

20. One-third of those interviewed (65) reported having attended a community meeting in the immediate aftermath of the fire event. The majority reported that what they most wanted was information about any ongoing threats but what they were told instead was history—what had happened—and likely future arrangements for recovery. As a result, only 18% (12) said that they found the meeting useful or helpful.

EXECUTIVE SUMMARY ONLINE SURVEY

The following is a direct copy of the Executive Summary of Part 2 of this work formally titled:

Community understanding and awareness of bushfire safety: October 2013 bushfires, Part 2: Online survey of residents research for New South Wales Rural Fire Service, Bushfire CRC, Australia prepared by Ms Bronwyn Horsey and Dr Trent Penman. All work on the online survey was under the supervision and direction of Dr Penman with extensive consultation with the Professor McLennan, Bushfire CRC staff and NSW RFS sponsors.

In October 2013, a number of large destructive bushfire resulted in the loss of property in the greater Sydney area. Following such events, it is important to liaise with the community to understand their action on the day and what agency information was effective and what was not. Learning from these events means that

management responses can be improved for future bushfires, hopefully resulting in a reduced loss of property and ongoing protection of life.

The Centre for Environmental Risk management at the University of Wollongong ran and extensive online survey for residents in in fire affected areas. While the survey covered a broad range of issues the key findings were:

1. Understanding of preparedness' in communities affected is relatively high, however many residents still question the value of a written Bushfire Survival Plan;

2. The majority of those that have prepared a Bushfire Survival Plan have actively sought information from NSW RFS website or local volunteers;

3. Generally, NSW RFS terminology is well understood indicating a successful education campaign. However the term "Neighbourhood Safer Place" is the exception. More work may be needed at the local scale to make residents aware of the term and the locality of their nearest neighbourhood Safer Place;

4. A high number of residents returned to the houses when they heard of the fire rather than staying away. Without additional information about the specific circumstances, research suggest that this is a high risk strategy (Haynes e. al.,2010; Blanchi et al.,2012;);

5. It is a positive sign that most residents who left early would do so again even when their house wasn't directly threatened;

6. Many households had some or all residents stay to defend their property because it was considered safe to do so. Only a small proportion of respondents reported damage, so this decision was reinforced by the circumstances;

7. Prior to and during the fires , the NSW RFS website is generally seen as a reliable source of up to date and localised information;

8. Facebook pages of the NSW RFS and local brigades are considered a useful medium for transmitting up to date information;

9. Recorded telephone message or text message are the preferred medium for transmitting emergency warnings, with social media ranked poorly; and

10. The quality, timing, local nature and value of information provided throughout the emergency were ranked highly across all mediums.