

Preparing for Bushfire: Motivations and Information Sources

Introduction

Residents in bushfire-prone areas can take a variety of actions to prepare for future bushfires, ranging from writing a detailed bushfire survival plan through to managing vegetation on their properties and retrofitting their house.

Key challenges faced when building community resilience to bushfire include:

1. Motivating residents to take action; and
2. Enabling residents to take effective action.

This *Bushfire Research Brief* summarises research findings from the University of Wollongong study of community actions leading up to, during and following the impact of the Currowan Bushfire on Kangaroo Valley, NSW, on the 4th of January 2020. It focuses on how residents were motivated to retrofit their homes, and where they obtained information on how to do so.

What motivated residents to prepare for bushfire?

Residents in Kangaroo Valley reported that they had been motivated to take action by four primary factors.

1. The drought conditions were obviously very severe prior to the fire.

2. A number of meetings to alert residents to the risk of bushfire and actions they could take to mitigate that risk had been organised over the course of two years prior to the impact of the Currowan fire, for both neighbourhood groups and the Kangaroo Valley community as a whole. This culminated in the Emergency Community Meeting held in the Village Hall one week before the fire arrived.
3. Volunteers from the local RFS brigade and Kangaroo Valley Community Bushfire Committee visited many properties to explain and emphasise the high level of danger in person.
4. As the Currowan fire grew, it became increasingly obvious that Kangaroo Valley was in danger.

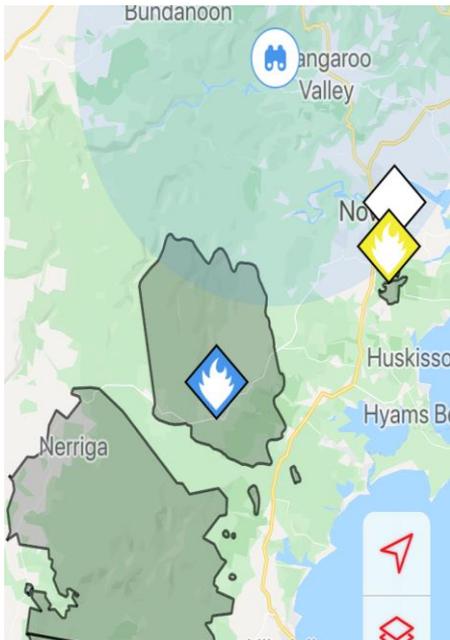
The combination of these early warnings motivated all of the interviewed residents to prepare more extensively than they might otherwise have done, but this action took a variety of different forms.

Most residents would clear leaf litter from their gutters and around the house in the lead up to every bushfire season, and responded to the elevated risk in 2019 by clearing leaf litter, vegetation and other fuels (e.g. outdoor furniture) much more extensively than usual.



Disquieting bushfire smoke clouds above Kangaroo Valley from the Currowan fire front which was then over 30km away on 21st December 2019 (photo – Paul Cooper).

Residents on almost half (47%) of the properties stopped at that point, and did not further modify or retrofit the buildings on their properties.



'Fires Near Me' smartphone app at 1.11pm 22nd December 2019.

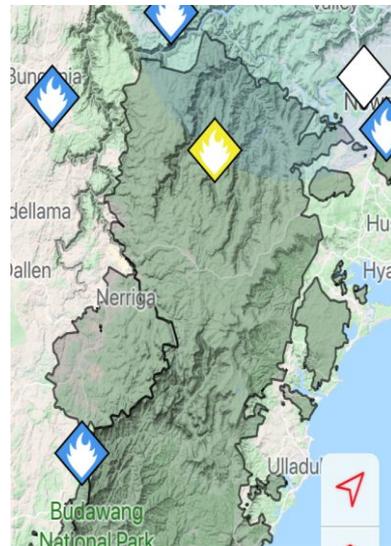
Amongst the 53% of households that did undertake home retrofits, those with technical/trades experience tended to undertake more extensive work. Residents in this subgroup were used to working on their own houses. When faced with the elevated bushfire risk in 2019, they turned those skills to address vulnerabilities of their buildings. Several residents in this group also had significant experience from previous bushfires. These individuals described bushfire retrofitting as an incremental process spanning many years, typically with bursts of activity at times when the risk seems particularly high.

Retrofitting was significantly more challenging for residents who did not have such experience. Motivated by the high level of risk in 2019, these residents did what they could to protect their houses, e.g. by enclosing their subfloor spaces, protecting windows using foil-faced sarking, etc. The extent of retrofits undertaken by these residents was not limited by a lack of motivation; rather, it was a lack of information on what else could be done.

How did residents obtain information on retrofitting?

The level of awareness of bushfire retrofit techniques varied widely amongst the Kangaroo Valley residents interviewed.

Those who undertook extensive retrofits (16%) had all been considering the specific bushfire vulnerabilities of their buildings and property for years. They used the internet to gather information from a range of sources, and planned their retrofits using their own judgement, or 'common sense' as several residents put it. Several residents in this group also mentioned the usefulness of Joan Webster's books on bushfire safety.



'Fires Near Me' smartphone app at 9.26pm 1st January 2020.

Residents who retrofitted to a lesser degree did so based on advice/information they remembered hearing in the past, or based on information given to them by volunteers who visited properties to discuss the high bushfire risk in late 2019.

The final group of residents, who did not retrofit at all, were generally not aware of the range of vulnerabilities that buildings can have to bushfire, or how buildings can be retrofitted to address them.

Challenges

A significant barrier preventing more widespread retrofitting of vulnerable buildings is the quality and availability of guidance on how to do so. Sources of guidance are needed that can assist non-

expert residents to plan and execute retrofits appropriate to their specific context. It is challenging to develop such 'one size fits all' guidance that goes into the necessary level of detail while remaining clear and unintimidating.

Gaps in the scientific understanding of bushfire interaction with buildings are also currently limiting the quality of guidance that can be given. Specific gaps include: (i) methods to quantify the risk reduction achieved by retrofitting, (ii) methods to accurately estimate the efficacy of different types of external sprinkler systems, and (iii) techniques to reliably protect windows using cheap materials.

Motivating action when there is no 'smoke on the horizon' remains another significant challenge. The great majority of preparations recorded in the Kangaroo Valley study were undertaken in response to the immediate threat of the 2019/2020 bushfire season. Severe bushfires can strike with little warning, as exemplified by the 2009 Black Saturday disaster. Given the large proportion of residents who choose to retrofit/prepare when faced with imminent danger, it would be a service to the community to somehow motivate that action at an earlier stage.

Opportunities

There are many opportunities to improve the quality and availability of guidance on how to prepare for bushfire, especially in relation to home retrofits.

Face-to-face conversations between experts and residents, especially those held on the property in question, were very effective in motivating action in Kangaroo Valley.

Volunteers reported a tangible increase in engagement during these encounters, and many residents explained that they would not have taken nearly as much action without these face-to-face conversations with bushfire experts.

The development of written or multimedia resources that contain much more detail on how to identify and carry out appropriate retrofits would also be of great benefit to

residents. Many Kangaroo Valley residents were not aware of existing resources, and found the resources they did encounter to lack the kind of specific details that were needed.

There is also an opportunity for local tradespeople to play a more active role in providing: i) guidance on how to retrofit for bushfires, and ii) assistance in undertaking the retrofit works. Residents without much 'hands-on' experience in building or modifying their own houses can face a significant challenge when preparing their properties for bushfire. Possible home retrofits are not necessarily obvious to them, and they may not have the skills or tools to do the work themselves. By upskilling local tradespeople to prescribe and undertake effective bushfire retrofits, many residents would be empowered to mitigate their bushfire risk more effectively.

Additional resources

The following resources and links provide more details on how buildings can be retrofitted to improve their resilience to bushfires and how householders can better prepare for bushfire emergencies.

- *Bushfire best practice guide*, CSIRO, <https://research.csiro.au/bushfire/>
- *Essential bushfire safety tips*, by Joan Webster [3rd edition](#) (Melliodora Publishing, 2021).
- *The complete bushfire safety book*, Joan Webster (Random House 2000).

"Going to the bushfire meeting a week or two weeks before the fire hit ... [The presenter] said: "If you don't have your bushfire plan written down, it's not a bushfire plan" ... that meeting saved countless lives, in our opinion".

- *Retrofit your home for better bushfire protection*, released by VBA and CFA, www.docplayer.net/176802-A-guide-to-retrofit-your-home-for-better-protection-from-a-bushfire.html.
- www.rfs.nsw.gov.au/plan-and-prepare/prepare-your-property.
- The RFS Household Assessment on-line tool <https://assessmyrisk.rfs.nsw.gov.au/>
- *Retrofitting for wildfire resilience: what is the cost?* By Penman et al. (Int. Journal of Disaster Risk Reduction 2017).
- Australian Standard AS 3959:2018, Construction of buildings in bushfire-prone Areas.



Hundreds of residents cram into the Kangaroo Village Hall (many others could not get in and stood outside) for the public meeting, seen here being addressed by the RFS incident controller 28th December 2019 (photo - Paul Cooper).

Building Community Resilience to Bushfires: A Case Study of Kangaroo Valley

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If this document has raised challenging issues for you, Lifeline Australia provides crisis support 24 hours a day: call 13 11 14 or see <https://www.lifeline.org.au>