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Australasian Fire and Emergency
Service Authorities Council

FIRE NOTE

TOPICS IN THIS EDITION

● COMMUNITY EDUCATION   ● RISK   ● NATURAL ENVIRONMENT

WE ALL VIEW OUR SURROUNDINGS DIFFERENTLY

▲ Participants mapping their local landscape at a place mapping workshop.

SUMMARY

Many rural/urban landscapes, while a fire risk, are beautiful. In many cases this beauty is the reason why people choose to live in these areas, despite the risk. This pilot research project applied the process of 'place mapping', a new approach for fire and land management agencies, to gain a better understanding of how communities in rural/urban areas perceive native vegetation in the context of their landscape. Examples include assisting agencies to understand why communities might oppose fuel reduction burning, and why they may not undertake fire mitigation measures that are encouraged by agencies.

Results showed the place mapping process can provide community members with a mechanism through which to communicate their perspectives on the landscape. It further showed place mapping is an additional tool fire and land management agencies can use to better work with communities to take action to reduce bushfire risk.

ABOUT THIS PROJECT

This *Fire Note* summarises the final research outcomes from the *Social constructs of fuels in the interface 2* project – within the Bushfire CRC *Understanding risk* theme.

AUTHORS

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CONTEXT

This pilot research project aimed to:

(1) Understand the underlying social and ecological values people associate with the landscape.

(2) Investigate how understanding the interface between scientific-ecological and local-intuitive knowledge can contribute to fire management.

BACKGROUND

After the 2009 Black Saturday fires in Victoria, Tom Griffiths, professor of history at the Australian National University, reflected on the tragedy in an essay entitled *We have still not lived long enough*. Griffiths posed the question: "Why, in spite of advances in scientific and environmental understanding of the history and fire ecology of forest ecosystems, were Australians still shocked by the ferocity of the 2009 fires?" Griffiths went on to urge a rethink of how bushfire is socially constructed and how it can be planned for and defended against, recommending the development of strategies that are also socially and ecologically appropriate to the places people live.

This project was a pilot to see if the concept of social-ecological place mapping (referred to as place mapping) was one of the tools that would help understand how people relate to the landscape. If so, could place mapping be used to inform the development of bushfire management strategies which are more socially and ecologically appropriate to the places people live?

Research shows that to develop bushfire management strategies which are more socially and ecologically appropriate to the places people live (as encouraged by Griffith and others) the culture of bushfire needs to encompass everyday understandings of local ecosystems by the people who live in them, as well as the established everyday practices of bushfire science that inform policy and management.

Bushfire is a biophysical process, and the way individuals and society respond to it is a social process. The landscapes people live in are where these ecological and social systems entwine. Individuals can understand and

focus on the landscape in which they live, its patterns in daily activities and the consequent practices that evolve in living in place. These landscapes mean different things to different people. These different meanings are known as the 'social constructions of the landscape', and strongly influence the assets that people value. Socially constructed community landscape values may not always correspond with the assets that fire management agencies prioritise for protection.
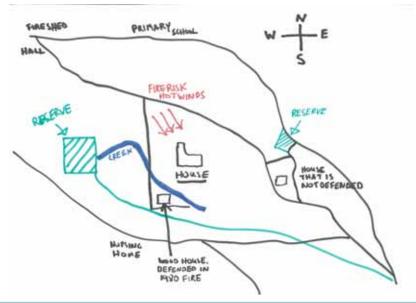
BUSHFIRE CRC RESEARCH

The research team developed an approach to interpret everyday landscapes – including their scenic beauty or their meaningfulness as homes. The process involves a multi-layered place mapping exercise. The exercise involves participants (members of the community) mapping their everyday experience of landscape at local and broader scales. This enables them to articulate the way they relate to the landscape or how it has been socially constructed and identifies the features (or assets) in that landscape with particular value to them. It is a tool to better understand the complex relationships between people and places, and the fire risk management practices. This was a new approach for the fire and land management industry.

Combined with the mapping exercise is an in depth unstructured interview about the landscape. This was specifically applied as a way of integrating social and biophysical data.

The research incorporated two broad domains of knowledge – rational and intuitive. From a research perspective, rational knowledge about an area is easier to find: it is found in data and academic publications, and it is often associated with scientific ways. Intuitive knowledge is derived from the stories people associate with place and is a little harder to access, as it is found in the memories of people who live in, visit or even just know about these places. Intuitive knowledge includes the social meanings, along with traditional or local practices attached to places.

The research sought to understand the intersection between an ecological and biophysical science-based rational knowledge of bushfire and a place-based local knowledge, in the context of fire risk and management practices.

The research team believes that this sort of visual method – place mapping that is combined with an interview process, which itself engages with the local person's construction of their landscape – presents a better way to engage with communities and their fire management practices and understandings of fire risk. Researchers worked directly with fire and land management agencies staff throughout the project to apply and test this belief using two case studies.

▲ **Figure 1:** A representation of a map drawn during a place mapping exercise.

AIMS OF THE PLACE MAPPING EXERCISE

- To experience how different ways of knowing (or imagining) the landscape can emerge through mapping 'place'.

- To reflect on how mapping could be used to create a better understanding between groups, for example, between land and fire managers and local residents.

- To reflect on the process behind the creation of the map:
  - What were the triggers that led to particular discussions or debates?
  - How were decisions made about what is in or out of the map?
  - How did places in the imagination take shape on paper?

Visit www.bushfirecrc.com/fuels-and-risk for more information on how your agency can run place mapping workshops.

CASE STUDIES

The case studies were conducted in two distinctive landscapes. The first was in the Adelaide Hills, a rural/urban, well-populated, tourist and aesthetically valued area in South Australia. Properties in this location are extremely difficult to defend in the event of fire because of dense vegetation and narrow, steep roads. These characteristics, which make it attractive to visitors, are also the ones that most challenge fire managers as they seek to introduce and encourage practices that will reduce the risk (i.e. improving defensible space around the home).

The second case study was the southern Grampians in western Victoria, an area that features grasslands and a national park. The landscape scale that defines place here carries with it diverse agencies and multiple objectives for the landscape.

Both case studies used workshops which engaged local participants, with the mapping process undertaken as a catalyst for discussion of values and practices that maintain certain ways of 'seeing' and acting within these places. In both locations, interviews and place mapping were conducted with landowners at the household level.

HOW IT WORKS

The place mapping process is coupled with an in-depth interview. Each participant creates their 'mud map' of their local and regional social and ecological networks on butcher's paper. The 'mud map' is a visualisation aid for memory. As the participant draws, the researcher asks questions such as, 'why did you put this on the map' and 'why is this thing important to you?'. As a consequence, the 'mud map' and the interview answers combine to provide an understanding of how the participant understands their fire environment.

The stories participants told about the places in response to the researcher's questions as they created the maps were recorded and transcribed for analysis. Analysis was focused on:

- Whether place attachments were associated with individual objects (assets) in the landscape, or whether objects were inextricably linked to the whole of landscape context.

▲ Figure 2: Lead end user Mike Wouters discusses a map at a workshop.

- Whether constructions of bushfire are driven by local or landscape scale place narratives.

By the end of the session, the butcher's paper is a complex mix of features, including the individual's home and property, adjoining roads, bush and parkland, buildings and other structures, rivers and hills – and past evidence of bushfire and the likelihood of future fire impacts. The mapping is a visual research tool; it is qualitative and gives a greater richness and depth than traditional surveys, acting as a catalyst for people to access their deeply held memories and the values that underpin their social understandings of where they live.

Persons A and B developed a map in one of the workshops, which has been represented here in Figure 1 on page 2. From what they drew, it is evident that one of the most vivid things is that the landscape memory and local knowledge are able to provide a non-technical representation of fire behaviour as it relates to the terrain and to weather. The map shows the greatest perceived risk of fire comes from the north, and there are severe implications of a wind change if a fire is in the area.

The objects and features Persons A and B included in their map are significant to them. The river and their means of crossing it were among the first things drawn. They represented the property they live on and showed how they graze strategically to create a zone of protection from fire, using their sheep to consume the fuel. Critical places for Persons A and B in the community are the hall and the fire shed, around which social networks revolve. The hall is where people meet to discuss local issues and it is also the place where they hold dances and social events.

END USER STATEMENT

I found the workshop really helpful in trying to understand how people use mapping to interact with their memory, the local ecology and the social surroundings of their community. The insights for me was that it really highlighted the perception that people hold within their landscape, and it gave me a greater understanding of these values and how people interact with the landscape. I learnt more about how to engage and communicate our key messages with a diverse community who each may have a different level of fire understanding. It was also valuable to learn what the community really valued, and how we can incorporate that into our planning. As a fire management officer, I will be using the mapping to understand how we can better address risk in terms of what the community sees, as well as what we see as fire managers.

– Damon Ezis, Fire Management Officer, Department of Environment, Water and Natural Resources, South Australia.

As they drew the map, Persons A and B defined their local region by the growth of red gums, saying:

> "We're just proud of the valley . . . love the big red gums . . . beautiful scenery and we've got the mountains all around . . . we've got all the bird life, both water birds and other types, parrots . . . blue wrens."

Researchers concluded while they refer to individual objects, it is what these objects contribute to the landscape as a whole (the valley) that defines place to Persons A and B.

A second example is provided by Person C (not shown here). This map showed some

of the ecological connections, such as the waterways and trees, and how these aspects of the landscape are linked. Person C's local world was larger than the one highlighted in Figure 1, and showed the links to schools at a distance from the family farm. Person C's map also included the local hall, further highlighting its social significance in the district.

In response to the questioning, it became clear Person C's understanding of the asset to be managed for fire is almost intangible:

> "I was trying to think the other day, what is more important – the stock or the farm? And for me it's an easy one, it's the farm, not so much from a real estate point of view, it's just the place . . . like that spirit of place, where if you've been there long enough . . . you become part of it."

By combining the mud map and the interview, a sense of place emerges from a whole of landscape understanding: ecological connectivity (expressed in the map) and social practice and connectivity (being in a place long enough to become part of it).

RESEARCH OUTCOMES

To understand how the place mapping process works and how it delivers strong research outcomes, it is necessary to understand three underpinning ideas:

1. How people use their memory to construct their landscape.

2. What it means to them to talk about 'place'.

3. How these concepts can be harnessed by fire and land managers to build a community that is more resilient to the need for reorganising and improving their fire mitigation practices.

Deeply held memories released by participants during the mapping narratives reveal an intuitive understanding of the risk in their landscape and home places that participants then physically make 'real' by drawing on the map, bringing together the rational and the intuitive. As the examples already provided show, participants showed a high level of awareness that they were living in a bushfire-prone environment. Even those who suggested their homes or even their townships are not particularly at risk of bushfire can recognise that bushfire is possible anywhere and that they need to plan accordingly. This is consistent with prior research that shows that even in a township that had never been directly impacted by bushfire, residents understood that under certain weather conditions and ignition locations, it could conceivably happen to them (Reid & Beilin, 2014).

Despite the high level of risk recognition, fire plans of some participants appear to be based upon a limited understanding of fire behaviour. Notwithstanding, many participants do recognise a range of different circumstances that need to be taken account of in the event of a fire (i.e. which members of the family are home, weather conditions, location of the fire relative to home). People's responses are complex and constructed based upon an analysis of local conditions, prior experience and newly organised or reorganised social memory. There is also an acceptance from some participants that time and place of ignition may mean that there is very limited warning time of an approaching fire.

The research kept returning to the way that participants constructed their particular fire landscapes through acts of memory. There were different uses of memory in the interview narratives. Sometimes this was collective memory, as in the community has always responded in a certain way to fire risk. Some instances were of personal actions taken during a previous fire. Interestingly, there was little evident self-evaluation of whether they did the right thing – a few said that they would not do the same thing again – but most reflected on their experience as an immediate story.

Management practice that relies upon being able to isolate individual assets from the landscape may overlook the significance that individual objects have in the creation of an overall sense of place. The asset of value is the landscape itself – the mountains or hills and the trees – as much as the house. Furthermore, these findings put the practice of prescribed burning into a new perspective. While on the one hand this practice may be viewed as managing public land, to residents it may appear as part of their home is being burned, whether this is by bushfire or fire treatments.

For the full report on this research project, see Beilin and Reid 2014, available on the Bushfire CRC website.

HOW COULD THE RESEARCH BE USED?

This research can assist in demonstrating that place mapping techniques can help fire planners and community engagement managers better understand how people view the landscape in different ways. Current community education programs focus on readiness of the house, and while this is clearly essential, it is possible that such programs fail to motivate action from the public, who see their area of belonging as something much bigger.

By applying the interview techniques of place mapping, fire planners and community engagement managers can use the understanding gathered to assist in ensuring the community are better prepared for fire. These techniques can help fire management agencies in building a more expanded understanding of fire risk in which the concept of home extends to the surrounding landscape.

FUTURE DIRECTIONS

The Bushfire CRC is developing a guide for agencies to run their own place mapping workshops in their communities. Information on this project can be found at www.bushfirecrc.com/fuels-and-risk. Also available on the website are short videos of the researchers explaining place mapping, and tips and insights from fire managers who have participated in the workshops.

NOW WHAT?

What three things stand out for you about the research covered in this *Fire Note*? What information can you actively use, and how? Tools are available at www.bushfirecrc.com/firenotes to help, along with activities you can run within your team.

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ACTIVITY SHEET 6
SIX HATS REFLECTION

PURPOSE
This activity sheet is designed for you to lead a discussion with your team to consider what issues raised by the *Fire Note* should be taken forward by your team.

OUTCOME
Leading this discussion will enable consideration and agreement on:
• 'What' i.e. the key issues raised by the *Fire Note*.
• 'So what' i.e. which of these are applicable to the team?
• 'Now what' i.e. what could be achieved by the team in the future.

SUITABILITY OF ACTIVITY
This activity can act as a prompt or lead in for a planning session that relates to the *Fire Note* topic. It could also be used as a knowledge or team development activity during a regular team meeting. You'll need to judge how long you'd like to spend on the activity. It can take anywhere from 30 minutes to 90 minutes depending on the depth you...

REFERENCES /FURTHER READING

Beilin R and Reid K, 2014, Putting 'it' together: mapping the narratives of bushfire and place in two Australian landscapes, Bushfire CRC and the School of Land & Environment, University of Melbourne, www.bushfirecrc.com/publications/citation/bf-4308

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Bushfire CRC *Social Constructs of Fuels in the Interface 2* project webpage www.bushfirecrc.com/fuels-and-risk