

## Your Sheltering Options



Chair: Malcolm Hackett OAM

Panel members: Dr. Chloe Begg, CFA

Dr. Raphaele Blanchi, CSIRO

Dr. Katharine Haynes, University of Wollongong

### The Q&A process

Members of the audience submit questions during the Q&A sessions. The Moderator passes a selected question to the Chair who asks for a response from the presenter.

### Transcript of Q&A session

#### 1 Active sheltering or patrolling

**This questioner wants to know: is sheltering a misleading word for using your house for protection, or would active patrolling be a more meaningful term? And what sort of equipment should they have ready to actively patrol?**

#### Raphaele Blanchi

I think it's a good idea to have the idea of active sheltering, patrolling, or active monitoring. So, I guess the term it could be fluid in this sense. The importance is effectively to look inside and outside at what's happening. And the protective clothing - mask and goggles to protect yourself. And if you have any device with water that you can use as well, if you see an ignition. And probably some of the recommendations we can find on the CFA website on that aspect.

#### Katharine Haynes

I think it always has to be active sheltering. I mean, the word sheltering is because you're sheltering yourself from the dangers of the radiant heat and the fire. I quite like that maybe, active protection or something, maybe there is a better word for it because it can always get shortened to sheltering, and then you forget the active elements, which is the most important aspect, in terms of equipment, everything that Raphi has suggested.

#### 2 Open paddock or inside

**I know that one of the favourites from my childhood was a bucket of water and a mop for getting at embers and all those sorts of things, and there's plenty of other things as well. Here's a question about if we become aware of a fire when we're actually outside, is it safer to be in an open paddock or a house when the fire approaches? What do we know from the research there? I mean, it appeared to me like open spaces could be pretty threatening, unless they're already burnt.**

#### Raphaele Blanchi

I would say the same. It really depend on the distance, how far the fire is from where you are. And obviously being outside and having no protection between yourself and the fire, that's the main

issue. And it'd be preferable to be in a house where the structure, the walls can protect you from those effects. But if the paddock's burned already, maybe that's okay.

### **Katharine Haynes**

I'd agree with Raphi. Much safer to be inside the house. But, of course, it depends from where you are, how you'd have to travel to get to that house or the paddock. And if the fire was between you and that meant that you were going to encounter more dangers, then perhaps the open ground or the paddock would be a safer place to be. But if everything else was equal, then you'd much rather be in the house.

### **3 Warnings: too reliant**

**We are reliant on the accuracy and the relevance and the timeliness of official warnings. Has the research shown, can people be too dependent on those things and not using their own senses enough? Do we have any information on that?**

### **Katharine Haynes**

I think the research has shown that, it's almost correlatable really, as we've been getting better and better at forecasting and providing information and warnings, and they're becoming more and more timely, I think people are relying on them more and more. And we saw in the recent fires over Black Summer, that people said the information, it's the best we've ever had, but we want it to be better. They want to know to the minute, when the embers are going to arrive, when the fire-front will arrive, just so that they can reduce all that uncertainty with their decision making, and they can take an action that just they can know exactly what's going to happen. Of course we want to improve the information and forecasting as much as we can, but I think there's a danger if we begin to rely on that too much. Because, of course, there are so many examples when the warnings fail and people don't get those warnings. So, we still have to be able to rely ourselves on interpreting those environmental cues and understanding what's happening with the fire in our landscape.

### **4 Wet or dry woollen blankets**

**Tthat issue of radiant heat you read about, having a wet woollen blanket or having a dry woollen blanket, what's the differences in those depending on the situation that you're in?**

### **Raphael Blanchi**

It's actually a complex response to this one. I did ask a bit around on that aspect, like thinking about some other question that could come up. There is no simple answer to that. First of all, a woolen blanket can provide a bit of radiant heat barrier. Why the woollen blanket? Because it's a good insulation. They also tend to ignite less than some other type of materials. They char and they don't melt, which could be an issue with other more synthetic type of material. So, I'm just going to give you like a few indications, but like I said there is no right and wrong answer. If you think about you're really hot during the day because there is a lot of heat and the temperature is really high, I think a wet blanket might cool you down and that might be okay. If you think you're having a wet blanket and then around yourself to protect yourself with a short exposure to radiant heat, doesn't matter if the blanket is wet or it's dry. But when you're having a long exposure to radiant heat, that could be an issue because the water in the blanket might heat up and burn, and also because it reduces the insulation property of the blanket. But in between both that's something to consider. How long you're going to be exposed to the radiant heat, in this case.

## 5 Bunkers and radiant heat

**Now, we've got some interesting bunkers here and Raphi you did mention that before Black Saturday there was no such thing as a certified bunker, and now we have some. These people are wanting to know what's the experience, and they're concerned about the dangers of radiant heat. At what point should they retreat to their fire bunker, which is 12 metres from their house? How would you think about doing that in relation to radiant heat?**

**Raphaelle Blanchi**

I think there is some guideline on the CFA website. What's important when you have a bunker, and it's a certified bunker, is to get in the bunker before the fire arrival, so you don't have any issue with radiant heat and things burning. But, also, you don't have any smoke coming with you in the bunker, that's just going to make it really difficult for you. So, that's one piece of advice to get into the bunker before the fire arrival. I understand it's a really timing scenario that people need to maybe practise and rehearse and understand how long it takes them to get to the bunker.

**Chair**

And certainly the coronial inquest on Black Saturday indicated people did die trying to get to their bunkers.

**Raphaelle Blanchi**

We have a few examples of people that died getting to their bunker, or people that were really lucky to get to their bunker as well. So, there is this issue and when you get there, either you need to have a pass that's protected, like a kind of a corridor or something with nothing burning around. But, you have to think about any elements that could burn in your path to the bunker.

## 6 Sheltering in culverts or similar

**I certainly know some of my neighbours who did this, but are there any particular issues or disadvantages that showed up in the research in sheltering in low places, like culverts or in underpasses?**

**Katharine Haynes**

People certainly did, and they survived. But, I don't think it would have been their first choice. From the interviews and the stories it sounds like it was the absolute last resort, and I doubt it was very comfortable at all. And I imagine it was very traumatic.

**Raphaelle Blanchi**

I think it's the last resort. Even some examples on Ash Wednesday where people on the side of the road as well, putting some blankets on them. So, it's really when there is nothing else to protect yourself from the effect of the fire.

## 7 Sheltering in cars

**Excluding those who were actually fleeing in a car on Black Saturday, do we know how many people actually died when they were sheltering in a car in open ground or previously burnt ground? In other words, does the data show whether that's a fairly safe option for people or not?**

**Raphaelle Blanchi**

I would have to go back to the data for that, Malcolm. I don't have at the top of my head. From what I presented, that was all the people that have sheltered stationary in a car, and I didn't specify if that was on burnt ground or not. So, I can try to go back and give you an answer on that.

## 8 Managing pets

**This one I just realized, partly to my experience, but I think this could be widespread. On Black Saturday, we know that people died as a result of looking for their pets. Do we know of steps that people took which reduced the risk of managing their pets? Are there things that people have done that actually worked for them that's in the research?**

**Katharine Haynes**

This is a space where the research has really come on since Black Saturday. Because we've seen the impact of people's pets have had on people's decision making. And so, there's been a lot of education and a lot of communication to people, and I think in a way it's been a sort of pathway to get people to better prepare in general, because it gets people to think about their pets, and what will you do for your pet, so then it sort of helps them with their general preparedness as well. So, I think now people are a lot more attuned to thinking about, you know, where will I take my pets? If I'm evacuating, then I need to do that a lot sooner and think about where I'm going to take my pets. And if I'm staying to defend, where will my pets be if, you know, Plan B and C. What will we do?

So, I think there's a lot of research that has gone on to really improve this.

## 9 Importance of preparation and planning

**What has the research told us about people who have undertaken a lot of preparation and planning and practise, as opposed to people who haven't? Does it work?**

**Katharine Haynes**

That's really obvious. When you talk to people, those who are sort of flying by the seat of their pants as opposed to those who really had a solid plan and had really thought things through and were prepared to shelter and have many contingencies. And there's an interview from Black Summer, from a couple who were absolutely always going to evacuate early and evacuated early on every sort of High Fire Danger Day, because they lived in a vulnerable property with one road, dangerous road out. But they had probably one of the most solid plans for if everything went wrong and they ended up, for whatever, having to shelter in their home, they had this planning, which I thought was incredible, because they absolutely hoped that they would never ever be there. And then they also had multiple steps and parts of that plan.

## 10 Sheltering in the basement

**There is an interesting question. I think these people have an underground basement with two little windows and a door to a garage. Do past experiences tell us that this is a good shelter?**

**Raphaela Bianchi**

I think what we need to consider in this one, it's again what we discussed a bit early, that first, is there good visibility on what's going on outside? Then, can you understand if the house might catch on fire and might be burning? And then, is there an exit, quick exit, when I can get out of these places. Even if it's through the garage, but would the garage door work? Things like that. What we find in the research is that some people have died in basements and workshops or cellar, because the house burned down on top of it and then people can't exit, and they have no option to understand that the house is burning down. So, I think it's something to consider very carefully. And looking at that, making sure that, we can exit safely and then we can understand when the house is on fire.

## 11 Bunker or house

**I think this really gets back to the last question. Not the last question but a previous question. I'm going to ask it anyway. This person has a bunker. They say where do I shelter first, bunker or the house?**

**Raphaela Bianchi**

From what we said before, if your plan is to go to the bunker then you need to go to the bunker before the fire arrives. So, that would be the bunker.

**Chair**

That would be counter to what lots of people have behaved in the past, wouldn't it? That they see it as a last resort, and so you do it as the last thing, as opposed to seeing it as a sure thing, a place to go and be safe.

**Raphaela Bianchi**

It's still the last resort well, not last, but it's still a backup plan, as well, in addition of all the measures you can have, but it has to be done in a safe way, which means going safely to the bunker so you can enter the bunker safely, and to maximize your chance of survival.

**Chair**

Is there any data on the fires post-Black-Saturday, in relation to bunkers? I mean, the success of them for people in other parts of the country.

**Katharine Haynes**

It hasn't been such a big thing in New South Wales. I think after Black Saturday, it was very big in Victoria and considered by a lot of people. It hasn't, to my knowledge, been the same case in New South Wales, and certainly none of the people I've interviewed or the data I've looked at anyone has spoken about bunkers.

**Raphaela Bianchi**

I'm not aware of recent studies on the performance, the efficacy of bunkers in recent fire, but that might exist. I can also try to chase that.

## 12 Being observant of weather

**You mentioned about observing the weather, and, well, looking at the forecast. But then looking at what's actually going on around you. Again, in terms of people's survival, is there evidence about people who are, knowledgeable about the weather, knowledgeable about their local conditions, being able to react quicker than people who are reliant, say, on official messages?**

**Katharine Haynes**

I think so. I think people who are able to interpret the environment themselves and understand when the fire danger is higher, and all of those things, without having to rely on official messages and warnings. You should be doing both. But I do think there is a benefit for people who can understand the fire conditions and understand what's happening in their landscape, and use all their senses as well to interpret what's happening. And to really know their local area.

**Raphaelle Blanche**

I agree with Kat. I think it's really important to understand your situations and your context and what's around you. What's the landscape? Where you are in the landscape as well. How far you have to go to travel if you want to leave early and shelter somewhere else. All of these things, but also understanding your context on your property, how prepared you are on your property.

## 12 Refuges and Neighbourhood Safer Places

**This one's probably following up that question in a way. Are there any dangers, or what are the dangers, of relying on using refuges and Neighbourhood Safer Places? I guess the travel to them would be one of them.**

**Katharine Haynes**

I would say the travel to them, and then, I guess, the conditions there as well. People who enter ovals and beaches and things like that, or even to some of the indoor places that they thought would be a good place to refuge, and they're very crowded or they just can't get there or they can't park there and things like that.

**Chloe Begg**

As I said before, in the summary to the panel discussion. These places have been assessed for their relative safety in terms of how far away they are from the source of radiant heat and vegetation, but they're not to be confused with refuges. There's no water or you can't expect there to be people protecting you actively there. So, it's really just a place that provides a safer option in terms of protecting you from radiant heat.

## 13 Protective clothing

**In every major fire, we see people fighting fires in shorts and t-shirts. At what point should protective equipment go on?**

**Raphaelle Blanche**

I always had this image when I arrived in Australia of someone on the roof of the house in shorts and a t-shirt and with a little hose watering. And, I think it's something to really think about. Because, when you talk about protecting yourself from the effect of the fire, it's long sleeve clothes, and some type of clothes as well. So, it's something that needs to be put on before the fire arrives.

**Katharine Haynes**

I would say as soon as you think you're having to enact your fire plan, probably one of the first things should be to put on your protective clothes.