



Chair: Malcolm Hackett OAM

Presenter: Dr Justin Leonard

Justin Leonard

The other important context to focus on is that of the people that lost their lives outside. So, not with the benefit of their house, either because the house burnt down and they were forced out to try and survive outside, or they were trying to get back to their house, or they were in the process of defending their house and weren't able to make it back inside.

The vast majority, well over 60% of the people that died outside anywhere in Australia, were no more than 100m from their own house. That's not, "any house," it's, "their own house." Which really helps us focus on this idea, that not only the house's survival but the landscape immediately around the house is critical in contributing to your prospects of surviving a fire.

Now, this isn't to negate the idea that we shouldn't be anywhere near a Bushfire Prone Area while one of these fires is active in your landscape, but in the event that those processes and plans didn't unfold the right way, you have the fallback plan of, potentially, a well-designed house and a well-prepared landscape that you could survive within if you were in the immediate surrounds of your house. This graph also highlights how approximately 80% of all fatalities outside were no further than 500m from your own home as well. So, quite startling statistics about how important the local landscape around you is in these severe fire events.

Justin Leonard

There's plenty of ground cover options, and I would encourage you to think beyond the traditional tanbark and mulch approach, particularly in the few metres up to and immediately against the structure. It's absolutely critical, so please consider stone, various gravels and compressed aggregate finishes, concrete, and also, surprisingly, a high-quality artificial turf is actually a reasonable performer in bushfires. We've only found some very low quality artificial grasses that have come in approximately a decade old, to be actually a poor performer. But, by and large, all the reputable brands currently on the market don't tend to perform badly in a bushfire event. And, of course think about creative garden design and plantings that simply don't provide that additional fuel load to your structure.

Chair

Can the upslope be protected by landscaping and planting trees and shrubs that provide a potential slowing effect on the fire?

Justin Leonard

Yes, most definitely. And not just a slowing effect, but actually a significant radiant heat barrier between you and the active fire that's coming up the slope. So, if you remove, following the 10/30 and the 10/50 rule, all the surface fire and have either, a green lawn under tree canopy or low flammability plantings, the trees and the tree trunks will offer you radiant heat protection from that fire that's further back. And that's actually, in virtually all cases, much better than having complete clearance between you and that unmanaged bush that's at the 30 or 50m mark. So strategic planning of low flammability plants and hand established canopy trees are a really good asset to have between you and the fire.

Chair

Someone who's moved into a new house with a garden that's close to the house. What should they start on to make it more safe?

Justin Leonard

I guess a garden up against the house isn't just surface mulch. It's also the near surface fuels and low shrubbery and whatever it's connected to. So it's a whole potential structure of fuels. So, I think considering each of those as a component, if they're lucky enough that the tall bushes and fuels are really low-flammability plants, then it's about working with what's under those plants so that it's limited. But, I guess, identify each element at a time and start changing it out. But I'd certainly think about it more of a bottom-up approach rather than a top-down. Like, look at what's in there and under it and don't necessarily just rip out the big tall obvious things, unless they're iconic bad-behaving plants that show up in things like the CFA Plant Key, and identified through local knowledge as being problematic in fires.

Chair

Does landscaping or a row of trees acting as a windbreak provide some level of protection against ember attack? Or is it more likely to contribute to the bushfire threat?

Justin Leonard

So, the question of contribution to a bushfire threat really comes down to the species and the nature of the bark on that particular type of tree. So, once again, think about the actual vegetation type and if you don't have a deep knowledge of that, things like the CFA Plant Key are quite valuable in that respect. The wind breaks question about screening embers, yes, it can screen some embers and it might halve or cut the ember attack on your house by three quarters or something like that, but it won't eliminate ember attack. So, as we mentioned at the onset, ember attack is a probabilistic process and you might improve your odds that you don't have an ember ignition, there's no magic approach to put in a windbreak that eliminates ember attack.

What wind breaks and things do do though, quite significantly, is they can limit your house's direct exposure to wind actions and debris impact, if things aren't flying off the wind break itself, and the wind break isn't too close to actually collapse and fall on your house. And the benefit of limiting the severity of the wind actions on your house is probably a far more significant benefit than those wind breaks offer to your house than the notion of screening embers. And I guess the other thing that trees and wind breaks like that offer is they help to shade and keep moisture in the landscape proximal to your house as well, which means that your gardens and things are the last to dry out in the landscape or dry it at a far later stage than if those wind breaks and protections and environmental protections weren't there.

Chair

In the landscaping and gardening area, does planting less-flammable bushes and trees really make a difference to the safety of the property? Is it a strategy that people can implement or are they just loading up the environment with further vegetation?

Justin Leonard

No. Using low-flammable plants and less-flammable plants, strategically, is quite important. It's fair to say that if your garden or immediate landscape is under extreme water stress and drought and, for instance, we're inside a Level Five water-restriction and aren't even allowed to water our gardens, and everything dies and desiccates, even the best plants will burn. But if they're in a reasonable state and they are carefully considered and selected, those plants present no additional risk in the landscape, and in many cases can help to manage and mitigate certain

things, for instance radiant heat blockers, wind attenuators, moisture retaining shade, all of those aspects that the trees offer, careful planting can also provide. And of course, aesthetics, and shade management on the soils to help mitigate surface fuel growth.