

A pilot program near Wyong could lead to changes in how communities address bushfire risks, writes Peter Hannam.

Up at the top end of a cul-de-sac, amid towering eucalypts at Durren Durren, north of Sydney, Mike White has been getting expert advice on how to prepare the family home for the coming fire season.

White's bungalow has sprinklers on the roof but not along its apex, so embers can still hop over and ignite fuel on the leese. Plastic water tanks, though ample, would melt before an advancing fire without metal shielding, and his beloved bottlebrushes are too close to the house and will be for the chop.

As for Buggy and Autumn, two caged guinea pigs surrounded by sacks of wood shavings and food pellets on the front porch, it will be off to a nearby shed along with other flammable material on high fire danger days.

If the threat becomes catastrophic, the pet rodents will likely be evacuated with White's wife, two kids and dogs to nearby Morisset, a short drive mostly along a dirt road, where the 50-year-old runs an equipment-hire business, or to Sydney, more than an hour away down the Pacific Highway.

White, though, would likely stay to defend his home if he's not away protecting others in his role as a Rural Fire Service volunteer. "I'll have my pager, so I'd have an early warning," he said.

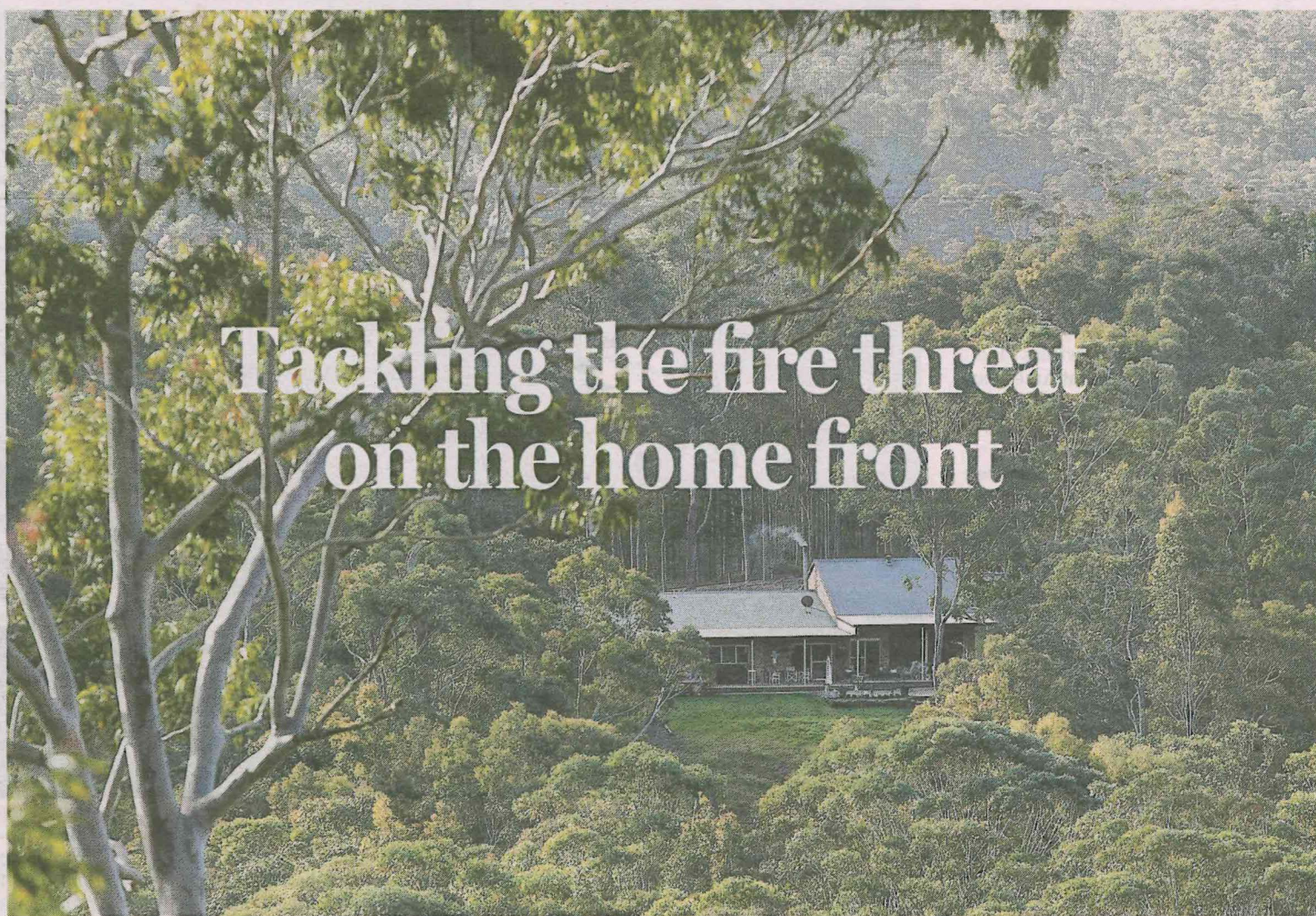
The house had better be in a fire-ready state. "This house could be under ember attack for six to eight hours before the fire front got here," David Lemcke, a senior planner at the Wyong Shire Council, tells White during a visit this week as the two gaze out towards the Watagans National Park stretching to the horizon.

If White needs tips on fire safety, it's a strong bet thousands of other residents living in or near the bush would do well to take stock, as another early and possible lengthy fire season looms for NSW and much of eastern Australia.

White's home is part of a small pilot program with Wyong's council run by the University of Wollongong, leaders in bushfire research. The work could lead to changes in how communities across the country living near or in the bush address the risks from fire - a threat scientists say is likely to intensify for south-eastern Australia with climate change.

While much study has focused on improving building standards for new homes, the pilot program looks at how existing homes can be retrofitted, and how councils and possibly insurers could share the cost burden. Shifting behaviour is also a feature, with separate work by the University of Wollongong showing just 5 per cent of NSW respondents surveyed report to having a fire plan that they have bothered to write down, discuss and practise with family members.

Even if the coming week is likely to be a wet one for most of NSW, it's high time to start thinking about fire, said Trent Penman, a lecturer in bushfire behaviour and management who has recently left Wollongong to teach at



Tackling the fire threat on the home front

the University of Melbourne. "A cold, windy wet day is often the best time to be preparing for bushfires," Penman says. "You don't want to be doing it on a hot, windy one."

Whether NSW faces another dangerous fire season is hard to say in late winter, but the portents aren't good.

The Rural Fire Service battled 1503 fires since July 1, and the region from Coffs Harbour north to Bundaberg in Queensland has had its driest 12 months since the Federation drought ended in 1901-02. Areas inland from Sydney are also very dry, as is Wyong.

The latest readings from the Bureau of Meteorology rate the chances of an El Nino this year at about 50:50, with a recent weakening in trade winds suggesting momentum for such an event may be picking up.

El Nino typically means drier and hotter than average weather for eastern and southern Australia, and suggest fire conditions may rival or exceed those that led to about 200 homes being destroyed in the Blue Mountains on Sydney's western flank last October.

Indeed, Wyong's eagerness to join the University of Wollongong pilot is prompted by last year's experience.

Last October, while a fire emergency was engulfing Springwood, a blaze got going near Wyong. Urgent calls from the Rural Fire Service for crews to be dispatched to the Blue Mountains had to be declined.

"They rang, asking for a strike unit, and we said, 'actually, we're quite busy right now' and put the phone down," Lemcke, also an RFS volunteer, said.

"We could have lost hundreds of homes," Doug Eaton, Wyong's mayor, said. "It was very close."

Hundreds were evacuated and the Pacific Highway closed for half a day. Six homes were lost or damaged, along with the service station hosting the Big Prawn, a kitschy tourist attraction. The giant crustacean was spared.

"It's been something of an icon for years," said Adam Troy, a Wyong councillor and an RFS volunteer for a quarter-century. "The Big Prawn didn't get barbecued."

From this month on, NSW residents in fire-prone regions are allowed to cut trees within 10 metres of their homes and clear lower-level vegetation out to

50 metres without a permit, to help mitigate fire threats.

Experts debate the benefits of clearing, particularly if that is all people do, while Pittwater Council told residents on August 4 as much as 55 per cent of the peninsula's canopy is at risk from the permit change.

A CSIRO study this year found the Springwood blaze, surprisingly, had a similar rate of house destruction as the 2009 Black Saturday bushfires in Victoria, despite relatively benign fire conditions. "There was little evidence of direct flame contact or radiation damage on homes," the report in May said. "As such, losses were predominantly due to ember attack."

One reason for the high house loss was the fires came on a weekday and many people were away from home. Had the blazes arrived two hours later, the death toll at Springwood might have been far higher than the single loss if roads had become jammed.

Clues to the dynamics at play come from research by Christine Eriksen from the University of Wollongong, a member of the pilot study. The work shows women are more likely than men to leave rather than defend their homes, especially if they are with children.

"Many people plan to leave in a fire anyway, so the fact that more people were home would mean there was also a greater number attempting to evacuate, potentially creating traffic issues," Penman said.

But if people aren't at home, houses can be made much more resilient, as the Wyong pilot shows.

Simple steps include installing metal gutter guards to limit the fuel build-up on the roof, the blocking of roof cavities that might collect embers, and adding metal mesh to windows and glass doors that might be open or break under radiant heat.

Metal mesh to block all areas under the house and decks is also crucial. "I've seen many houses on fire because embers get underneath homes where, by definition, it's dry," Lemcke said.

Wyong is exploring the costs of such retrofits, starting with six cabins at a council-owned holiday park at Norah Head, which backs on to the Wyrabalong National Park.

"What we're saying is, this could be

Mike White's home in the bush, below, Mr White, Cr Lloyd Taylor, and Cr Adam Troy. Photos: Max Mason-Hubers



"We love living out here. It has its inherent risk but we accept it." Mike White

done on houses," Eaton, the shire mayor, said.

At \$10,000 or less per house, it's also a sum that could ultimately be reduced if councils use their clout to buy materials cheaper in bulk.

It may also be cheaper for councils to subsidise the most exposed residents to retrofit homes rather than fork out ever more for fire breaks and fire tracks. Fire trails, for instance, cost the council \$125,000 a kilometre to build and then \$35,000 a year to maintain.

"It's not that we have to spend more," Eaton said. "It might cost us less but we get a better solution."

Lemcke, the council planner, agrees: "You can't just bulldoze the bush all the time. It will cost a fortune."

Justin Leonard, a CSIRO expert on bushfire housing design, said homes in the Springwood fire were more likely to be lost if owners had trees overhanging their homes and they had failed to remove resulting litter.

Leonard advocates a hierarchy approach where residents tackle primary risks first but address all threats if they can.

For instance, there is little point felling nearby trees if homes remain vulnerable to a rainstorm of embers often emanating from hundreds of metres - if not kilometres - away.

If ember attacks aren't addressed, "it's a bit ridiculous to focus on vegetation clearing", Leonard said.

One notable finding for Leonard, who helped compile a CSIRO review of the Springwood fire, was the value of metal fascias on homes, helping to keep fire from spreading even if a house's gutters had become alight.

"It was amazing how common it was to see a burnt gutter and the house was still standing," Leonard said. "It was uncanny."

Metal fascias are now required in NSW but not elsewhere in Australia, one of many areas national standards still have a long way to improve, Leonard said. Steel frames are also much better than wooden ones.

For Mike White, the plan is to make the required improvement to his home in the next month or so, and any council support would be welcome.

"We love living out here," he said. "It has its inherent risk but we accept it."