

Hazard-reduction burning has limited benefits in curbing bushfires: researchers

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Bushfire season: be prepared

As the bushfire season gets underway in NSW it is paramount that you and your family reduce fire hazards around the home, have a survival plan and pay attention to alert levels, advises the Rural Fire Service.

Two years ago this past weekend, a ferocious bushfire erupted near the edge of the Blue Mountains town of Winmalee, destroying almost 200 houses before many firefighters arrived or absent residents could return to protect their homes.

As another long fire season unfolds, many communities will again be casting an eye at surrounding bushland and asking whether authorities have done enough to reduce the fire risk, including by prescribed or hazard-reduction burning to reduce fuel loads.

In the wake of the 2009 Black Saturday bushfires, Victoria introduced a goal of burning of 5 per cent of public lands each year, a goal that Tasmania also aims for. NSW doesn't have such a goal but authorities are routinely under community pressure to conduct more extensive hazard-reduction fires.



Hazard reduction burning in the Ku-ring-gai National Park north of Sydney in August. *Photo: NSWRFSS*

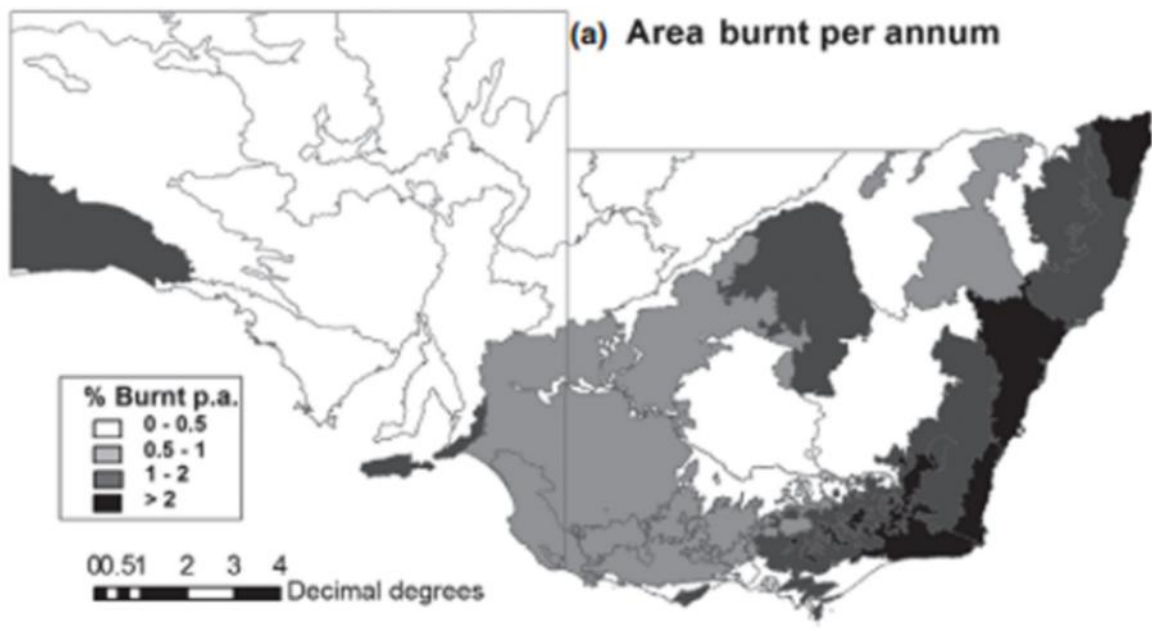
New research, however, indicates such controlled burning is likely to have "leverage" in reducing the area burnt by later fires in only four of 30 regions examined across the ACT, NSW, Victoria and South Australia.

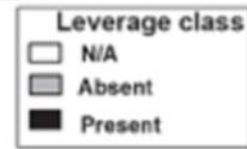
"In most bioregions, prescribed burning is likely to have very little effect on the subsequent extent of unplanned fire, and even in regions where leverage occurs, large areas of treatment are required to substantially reduce the area burned by unplanned fire," according to the study, published in the *Journal of Biogeography*.

The following chart shows the four regions where prescribed burning made a difference to later fires. Each was notable for its forested areas, relatively high rainfall, high fire activity and mild climate:



Hazard reduction burning is costly in terms of resources needed to ensure blazes don't get out of control. Photo: Matt Lindner





The Sydney Basin, which includes the Blue Mountains, was one of the four areas where controlled burns had an impact over the 1975-2009 period studied. But even there, to limit wildfire area burnt required conducting hazard-reduction burns of three or four hectares.

In some parts of the basin, the ratio was even as high as six to one, according to one of the researchers, Trent Penman, a bushfire behaviour expert at the University of Melbourne.



Prescribed burning near Canberra - just one tool available to reduce bushfire risk. Photo: Jeffrey Chan

"In the case of Winmalee, the fire started in the interface [of the town with the bush] so landscape burning would have had no effect," Dr Penman said.

Interestingly, in all regions studied, extreme weather was a stronger predictor of risk – up to ten times – than the extent of past fires.

"Because the weather is so important, we'll never be able to eliminate fire," Dr Penman said.

While much of south-eastern Australia had a moderately warmer than average winter, temperatures have shot up in October, which many centres likely to challenge heat records for the month. The El Nino influence is also beginning to be felt, with the shifting wind patterns triggering a reduced rainfall outlook for much of eastern Australia, adding to the fire threat this season.

'No panacea'

Shane Fitzsimmons, Commissioner of the NSW Rural Fire Service, said controlled burning was just one tool available to reduce bushfire risk.

Prescribed burning "is no panacea when it comes to fire safety", Mr Fitzsimmons said. "It's no good chasing hectares", with broadscale burn-offs in remote areas.

Since about 90 per cent of homes lost to fires are the result of ember attacks, the onus rests largely with people preparing a defensible space around their residences, and doing all they can to remove combustible material in gutters and next to their houses, he said.

"In NSW, we have at least 1.2-1.3 million properties directly on the bushfire interface."

Ross Bradstock, director of the University of Wollongong's Centre for Environmental Risk Management of Bushfires and another of the study's authors, said the condition of forest fuels within about one kilometre from homes appears to be a crucial factor in determining risks.

"It's about constructing a shield" near homes, Professor Bradstock said. "Otherwise, it's likely you won't have much impact on risk."

Hazard-reduction fires near homes, though, is costly in terms of resources needed to ensure blazes don't get out of control. Negative impacts, such as smoke and other disruption on communities, were among the trade-offs residents in bushfire-prone areas had to take, he said.

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