

Black Friday provides bushfire answers

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Clearing vegetation close to houses is the best way to reduce impacts of severe bushfires, according to a team of scientists from Australia and the USA who examined house loss after as a result of Black Saturday, when a series of fires raged across the Australian state of Victoria, killing 173 and injuring 414.

The research involving 12,000 measurements at 500 houses affected by the Black Saturday fires was only made possible by the sheer size of the devastation of February 7, 2009.

"More than any other major wildfire in Australia, Black Saturday provided an unprecedented opportunity to learn about the effects of [land management](#) on house loss," said senior author Dr Philip [Gibbons](#) from The Australian National University.

The research team found that fuel reduction close to houses afforded the greatest protection.

"Clearing trees and shrubs within 40 meters of houses was the most effective form of fuel reduction on Black Saturday," said Dr Gibbons.

"However, there was less risk to houses from vegetation in planted gardens compared with vegetation in remnant native bushland."

Houses close to public forest were at greater risk, but concerns raised after Black Saturday about national parks were not reflected in the results.

"On Black Saturday, houses were at similar risk whether they were adjacent to National Park or State Forest," said Professor David Lindenmayer from ANU, a co-author of the research.

Logging native forests did not reduce the chance of house loss.

"We found no significant relationship between house loss and the amount of logging in the landscape," said Professor Ross Bradstock from The University of Wollongong who was an expert witness in the Bushfires Royal Commission.

A key issue after Black Saturday was [prescribed burning](#). However, the researchers found that protection afforded to houses by prescribed burning on Black Saturday was only modest, despite the team examining landscapes that had been burnt considerably before Black Saturday.

"Clearing vegetation within 40 meters of houses was twice as effective as prescribed burning," said Dr Geoff Cary from ANU.

All forms of fuel reduction examined in the study, including prescribed burning, were most effective if undertaken closer to houses, .

Bbut the research team cautions that reducing fuel close to houses is not always an appropriate strategy.

"Intensive fuel reduction close to houses can be expensive, can have significant environmental and aesthetic impacts and can be risky in some circumstances," said Dr Gibbons.

"Many of these issues can be avoided if new housing is not permitted adjacent to forests."

The researchers conclude that fuel reduction close to houses is only a

partial solution to bushfires.

"No amount of fuel reduction will guarantee that a house is safe on extreme weather days like Black Saturday, so it is critical that other measures, such as early evacuation, safer places and architectural solutions are considered by every resident in fire-prone areas in addition to, or instead of, [fuel reduction](#)," said Dr Gibbons.

"These are findings that are probably important internationally," said Dr Max Moritz from the University of California at Berkeley who was a co-author of the research.

"Housing density in many bushfire-prone regions is increasing, so the next major bushfire will be even more devastating unless we continue to learn from Black Saturday," added Dr Gibbons.

Provided by Public Library of Science

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