

**To the Legislative Council Select Committee on the Tasmanian Forests Agreement Bill
2012:**

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This submission addresses the issue of fire management, as it relates to the Tasmanian Forests Agreement Bill 2012, currently before the Legislative Council.

I am a Professor of Ecology at The Fenner School of Environment and Society at ANU College of Medicine, Biology and Environment. I am an expert in Forest Fire and Forest Ecology and Management. I am the author of 33 books and of over 805 scientific articles on key topics in conservation biology and environmental management. I am a member of the Australian Academy of Science and have been awarded many prestigious prizes for my 30+ years of research in Australia's wet forests.

With catastrophic fires burning in Tasmania, NSW and Victoria in the lead-up to these committee hearings, rigorous analysis of fire management issues will undoubtedly be a key focus of the Legislative Council's review of the Tasmanian Forests Agreement Bill 2012. After major wildfires, the public often questions whether logging reduces the fire proneness of forests. In the US, for example, logging of old growth forest has sometimes been justified on grounds that it reduced the potential for catastrophic fire (Aber et al., 2000).

However, any general conclusion that logged landscapes are less susceptible to wildfire than unmanaged or unlogged forest is **not** supported by the available scientific evidence. In fact, research shows that the opposite may be the case for some forests. That is, logging can make

forests more fire prone and more likely to burn and burn at higher severity (Lindenmayer et al., 2009) (see examples in (Thompson et al., 2007) (Cochrane and Laurance, 2008; Cochrane and Barber, 2009) (Krawchuk and Cumming, 2009) (Uhl and Kauffman, 1990; Weatherspoon and Skinner, 1995; van Nieuwstadt et al., 2001)).

The relationship between industrial forest management and fire regimes are contingent on the kind of forest under consideration and the natural fire regime characteristic of that forest. The review of research summarised in (Lindenmayer et al., 2009) demonstrates that in moist forests, past logging operations have made forests more prone to subsequent wildfires. The relationship between logging and fire proneness has been found in wet forests, rainforests, boreal forests around the world. Indeed, we have presently unpublished data that confirms this for the wet forests of Victoria, particularly those dominated by Mountain Ash and Alpine Ash trees (see also (Lindenmayer et al., 2011)).

Research shows that in moist forests and rainforest, past forest management, particularly logging operations, may significantly increase fire risk (Lindenmayer et al., 2009). This is due to the impact of industrial logging practices in native forests and alterations to natural fire regimes. These include:

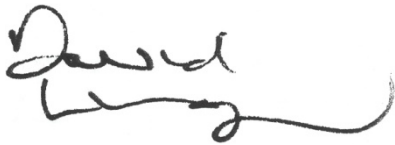
- Changed microclimatic conditions;
- Altered structure and compositions of forest stands;
- Modified fuel characteristics;
- Increased ignition points; and
- Altered patterns of forest cover.

While perfunctory responses to natural resource management are commonplace after major natural disasters which cause suffering to people and damage to property and infrastructure, the latest scientific research shows that fire management is more complex than previously recognised, particularly in landscapes dominated by moist forests where past logging influences the risk of fire. New management strategies are needed. There is also a strong case

for excluding logging from areas where human disturbances have been limited (Lindenmayer et al., 2009) (Lindenmayer et al., 2011), such as Tasmania's old growth wet forests.

Accompanying this submission are a number of journal articles detailing the research summarised above.

Yours Sincerely,

A handwritten signature in black ink, appearing to read 'David Lindenmayer', with a long, sweeping underline.

Professor David Lindenmayer

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References

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