

Unnecessarily alarmist headlines about forestry poorly reflect the science

(ON LINE Opinion article by IFA member Mark Poynter posted Tuesday 18 May 2010)

In early March 2010, the Australian National University's website featured a large advert-style banner emblazoned across its home page which screamed "Forest logging creates fire traps: academic".

This was linked to a media release promoting an *Australasian Science* article by ANU Professor David Lindenmayer articulating the broad findings of a paper he and three other scientists had written and published in October 2009 in *Conservation Letters*, an online journal of the Society for Conservation Biology.

Their paper, entitled "Effects of logging on fire regimes in moist forests", was a brief four-and-a-half page literature review citing around 50 references to past research from the wet temperate forests of North America and Australia, and the tropical rainforests of the Asia-Pacific and South America.

Despite its brevity and rather benign title, the paper nevertheless provided a platform for leveraging the powerful message that "Decades of industrial logging in Australia's wet forests have made them more fire prone, raising urgent fire management issues ..." This message was subsequently promoted through a series of media reports:

- December 8, 2009: ABC *News* report "Scientist links forest logging to bushfires";
- February 11, 2010: ABC *Science* report "Logging makes forests more flammable: study";
- March 1, 2010: ANU Media release and article in *Australasian Science*;
- March 2, 2010: report in Tasmania's *The Mercury* daily newspaper: "Logging legacy labelled greater fire risk"; and
- March 5, 2010: five-minute interview of Professor Lindenmayer: "Industrial logging linked to frequency and severity of fire".

The reach of this message is evident from a recent Google search which showed that references to logging increasing the threat of fire are now contained on websites around the world. In many cases, these websites refer to the original *Conservation Letters* paper as "an international study" thereby affording it far greater significance than is arguably warranted for a very brief literature review which contained no new information.

In the Australian context, the media promotion of the paper's findings has had an alarmist edge that is both surprising and unwarranted given that only four of the paper's more than 50 cited references relate specifically to Australian forests and fire management.

The paper certainly makes some points that are relevant to Australia. However, there is little evidence from the references that it cites, or from other Australian experience, to warrant the media headlines that have been generated with regards to our wet forests, notwithstanding that its claims may be true in some other countries and circumstances. Despite this, the "logging creates fire traps" message is now well on the way to becoming the conventional wisdom and is being eagerly adopted as an argument by those campaigning against Australian forestry.

While the paper reports primarily on the overseas situation, its introduction alludes to its preparation as being driven by a determination to respond to criticisms of Australia's conservation ideology made in the wake of the 2009 Victorian "Black Saturday" bushfires. The paper claims that this has included "calls for forests to be logged to prevent major wildfires (which) have been made by senior public officials ... and a key lobby group (National Association of Forest Industries, 2009 a, b, c)."

This somewhat misrepresents the three cited National Association of Forest Industries references. They are media releases issued both before and after the "Black Saturday" fires. They certainly laud the fire protection benefit of actively managing forests by maintaining the road network and conducting fuel reduction burning, and argue that the risk of catastrophic bushfire had increased as the expansion of national parks and other conservation reserves had altered the forest management paradigm. However, they have not claimed that logging can *prevent* bushfires.

A determination to counter what have been viewed as unseemly attacks against conservation ideology has been a consistent theme among those lacking enthusiasm for active forest management, and particularly fuel reduction burning, since the “Black Saturday” fires. Many are fearful of prescribed cool burning returning back to the higher levels of the past as government agencies respond to the Victorian Bushfires Royal Commission.

However, the use of such a powerful assertion as “logging creates fire traps” carries with it a responsibility to provide hard evidence of its veracity. As the following general observations show, neither the original *Conservation Letters* paper nor the subsequent media pronouncements attributed to its lead author provides this evidence with respect to Australia’s wet forests:

The veracity of such a strong assertion as that logging “creates fire traps” is reliant on the scale and proportional extent of logging both in the landscape and in relation to human settlements

Neither the *Conservation Letters* paper nor its subsequent media promotion has mentioned the proportional scale of “industrial logging” across the landscape. In its absence, the unknowing community can be excused for believing that logging is a far greater factor in forest management than it actually is. This is particularly relevant to the southern Australian mainland where timber production is now restricted to minor portions of the total forest estate. For example, timber production is only permitted within a 9 per cent portion of Victoria’s native forests.

Selective logging is not the norm in Australia’s wet forests

Most of the paper’s observations about the effect of logging in changing forest structure and composition to a more flammable state are associated with selective harvesting. However, this is now uncommon in Australia’s wet eucalypt forests. For the past 50 years they have mostly been harvested under the clearfell-burn-sow regime which best matches the silvicultural requirements for full sunlight and burnt ash seedbeds needed to stimulate regeneration.

This contrasts with the earlier years of European settlement in which it was common for Australia’s wet eucalypt forests to be harvested by a “sawmill selection” process in which only the best trees were taken. As this did not easily facilitate eucalypt regeneration, harvested gaps often regenerated to more flammable scrub species. This was undoubtedly a factor in the massive bushfires of the past such as in 1898 and 1939.

Despite being much maligned by environmentalists, the introduction and use of the clearfell-burn-and-sow regime since the early 1960s has largely redressed this problem. In recent times, modifications have been introduced to soften its visual impact by retaining clumps of trees and understorey in ways that do not significantly compromise the ability to facilitate regeneration.

Nowadays, regenerating coupes in Australia’s wet eucalypt forests typically carry little fuel. As was shown in Victoria’s 2009 bushfires, it is not uncommon for dense stands of young post-logging regrowth to remain relatively unscathed while adjacent unlogged forests are razed by high intensity wildfires.

There are differences between overseas forests and Australian eucalypt forests

The *Conservation Letters’* paper, and particularly its associated local publicity, has created an impression that overseas findings are relevant to an Australian context. However, conservation biologists, such as the paper’s authors, frequently caution against making such generalisations, and often point to the need for research that is relevant to Australian ecosystems and conditions.

Tropical rainforests, from which some of the studies derive, do not normally burn without significant human intervention, such as large-scale clearing or unsustainable and poorly regulated harvesting. Similarly, the ecology and management history of North American conifer forests bear little resemblance to those of Australian eucalypt forests.

In short, at other than the highest level of generalisation, the relevance of factors extrapolated from very different ecosystems and management contexts to Australian eucalypt forests should be questioned, as they normally are by ecologists.

Economic forest uses are a critical component of Australian forest fire management

Neither the *Conservation Letters* paper nor its subsequent media promotion has acknowledged that timber production involves government and industry workforces which are a critical component of effective fire prevention and suppression.

Although the paper defines moist forests as those which are too wet to be fuel reduced by fire, the presence of workforces capable of conducting effective fuel reduction burning in adjacent drier forests plays a considerable role in reducing the threat of fire entering wet forests during hot dry Australian summers.

With regards to bushfire suppression, the timber industry workforce has always played a major role because it has suitable machinery (often close by), and operators who, unlike most other earth-moving contractors, are very experienced in working in the forest environment. For example, during Victoria's two-month long 2003 alpine fires, 80 of the 100 bulldozers involved in fire line construction were from the timber industry.

The paper also claimed that "road networks required for logging operations create an increased number of ignition points". While there is some truth to this, it is arguably outweighed by the value of forest roads in providing ready access and a network of potential control lines for fire prevention and suppression operations. This is exceedingly important given that lightning is responsible for about half of the area of forest burnt each year in Victoria, usually because of the difficulty and time lost in accessing remote areas. The influence of lightning would be expected to increase if we had fewer roads.

The comparative effects of logging and fire in creating regrowth need to be acknowledged

In view of the *Conservation Letters* paper's hypothesis that regrowth is more flammable than older undisturbed forest, it should be acknowledged that bushfire creates far more regrowth than logging because it affects far more of the landscape each year.

For example in Victoria, the area of forest burnt in the 2009 "Black Saturday" bushfires was equivalent to about 80 years of logging at the current statewide rate; with the area burnt severely enough to have stimulated a regrowth event being equivalent to about 20 years of logging at the current rate. Even greater areas of regrowth were created by the much larger 2003 and 2006-07 bushfires. This would continue even if logging were to cease.

The proffered solutions are largely already in place

While the *Conservation Letters* paper mentions some general fire policy implications, it makes no specific references to Australia. However, the subsequent media pronouncements leveraged from the paper have claimed that several "new management strategies are needed" to reduce the threat of fire in Australian wet forests.

They include excluding logging from the old growth forests of Tasmania and eastern Victoria, as well as creating "extensive buffer areas that exclude logging near human settlements".

However, these suggested "solutions" are already largely in place when the extent of old growth forest reservation is considered - about 85 per cent in eastern Victoria, and 80 per cent in Tasmania. Also, particularly on mainland Australia, the proportion of forest now available for timber production is now so small that there are already extensive areas of reserves where logging is permanently excluded. For example, in Victoria, just a 9 per cent portion of the total forest area is used for sustainable timber harvesting, so it is unusual for extensive logging to occur in close proximity to a township.

Given the points made above, it is disturbing that the publicity generated to support the Lindenmayer et al *Conservation Letters* paper has given the community such a skewed view of the link between timber production and fire in Australia's wet forests.

While the paper acknowledges that its preparation was "informed through discussions" with 13 colleagues, its wording suggests that none was especially familiar with timber production and silviculture in Australia's wet eucalypt forests.

Several questions surround the rationale for promulgating such an alarmist assertion about logging and fire:

- Was it merely coincidental that a media campaign promoting a causal link between logging and fire was conducted at the same time that the Victorian Bushfires Royal Commission was considering the effect of land management policies and practices on the magnitude of the “Black Saturday” bushfires?
- Was it just coincidental that this was also just a few weeks before the Tasmanian state election in which opposition to forestry and logging was a significant issue?

While these questions are unlikely to ever be answered, it is pertinent to ponder whether this episode signifies a new era in how conservation scientists engage in environmental policy formulation.

This is certainly an interpretation which could be drawn from the concluding remarks in Lindenmayer et al's *Conservation Letters* paper which asserts that “... conservation scientists must strongly engage with these issues in public fora. They need to argue that environmental context is critically important to guide considered actions.”

Unfortunately, this episode demonstrates how such engagement should not be done. The manner in which the findings of a scientific paper have been promoted in the media and hence to the public, does not reflect the rigour which its authors would normally apply to their own work or expect of others. In particular, the promotion of the finding of an international literature review as demonstrating that “forest logging creates fire traps” in the Australian context, is both misleading and irresponsible.

While we have come to expect such behavior in campaigns run by mainstream environment groups, pushing unsubstantiated sensationalism is unbecoming for credible scientists. It simply dumbs-down complex issues to create headlines that will be every bit as divisive, and ultimately, unhelpful in informing sensible environmental policy. Of considerable concern is that it also diminishes the respect which the community currently affords to scientists and their academic institutions.

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