

Logging burns conceal industrial pollution in the name of 'community safety'

17 May 2018, by Chris Taylor And David Lindenmayer



High intensity logging burns and the resulting smoke plume near Mount Baw Baw, April 2018. Credit: Chris Taylor, Author provided

Earlier this year, Melbourne and large areas of Central Victoria, experienced days of smoke haze and [poor air quality warnings](#) as a result of planned burns. It's a regular event occurring every autumn.

This smoke has been reported by both government and media outlets as largely the result of [planned burns](#) to reduce bushfire risk, along with agricultural burn-offs and increased use of [wood heaters](#).

But this is only part of the story. A good proportion of the smoke this autumn has actually come from the intensive burning of debris left behind after clearfell logging. This is essentially industrial pollution.

Industrial clearfell logging vs fuel reduction

To understand why clearfell logging burns are different compared with planned burns to reduce bushfire risk, we need to understand clearfell logging, which involves cutting most or all of the

commercially valued trees in one single operation across a designated area (called a "coupe").

In the process of clearfell logging, understorey vegetation is usually pushed over. Along with tree heads and branches left behind after logging, large volumes of debris – known as "slash" – are created. This is partially removed by applying a high intensity burn across the coupe, which in turn establishes an [ash seed bed](#) for the next crop of trees to be established. Generally, around 90-100% of the coupe is burnt.



Smoke Haze over Mooroolbark and Melbourne's eastern suburbs on Tuesday 1 May 2018, shortly after the time when the Poor Air Quality Index reached 901. Credit: Chris Taylor, Author provided

In contrast, planned burns to reduce bushfire risk (otherwise referred to as [fuel](#) reduction burns) are [less intense](#). They mostly target "[fine fuels](#)" (vegetation less than 6mm in diameter) on the forest floor and in the understorey, which may average around [15 tonnes per hectare](#) (t/ha). Burn coverage is usually [50-70% of the site](#).

Clearfell logging burns consume much larger

volumes of vegetation biomass in the form of tree heads, branches, bark and downed understory vegetation. According to a [report](#) completed for the National Carbon Accounting System, clearfell logging burns consume, on average, 130 t/ha of slash in mixed-species forest and 140 t/ha of slash in Mountain Ash forests. This means that, while clearfell logging burns cover much less ground than fuel reduction burns, they burn far more biomass per hectare – generating far more smoke.

The list of planned burns on [Forest Fire Management Victoria's website](#) showed that, at the beginning of May, 77 of the 119 burns either lit or planned to be lit across the Central Highlands of Victoria and surrounding areas were on logging coupes.

These burns were individually lit over a period of weeks, with some days predominantly logging burns, others fuel reduction burns. An example when logging burns were prominent occurred on April 20 this year, where 10 out of 12 planned burns were observed as occurring on logging coupes. Using a simple calculation based on average biomass consumption, fuel loads and [burn coverage](#) for logging and fuel reduction burns, we estimate that up to 99% of biomass burnt most likely occurred on logging coupes. The following day, the Environmental Protection Authority observed "poor" air quality at [multiple air monitoring stations](#) across Melbourne due to smoke.



Large volumes of forest biomass are left on the ground following clearfell logging in the Mount Disappointment

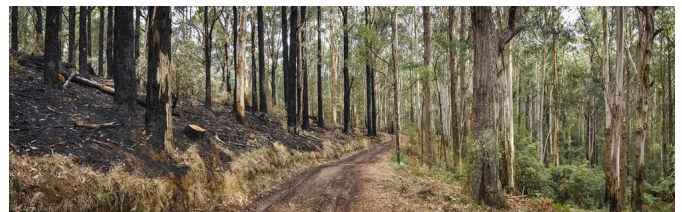
State Forest with the Melbourne City Skyline in the background, August 2010. Credit: Chris Taylor., Author provided

Even on days when the majority of burns lit were for fuel reduction, planned logging burns still contributed a proportion of biomass burned. For example, on April 30, only three out of 12 planned burns were observed as occurring on logging coupes, but they may have contributed to around one-third of the total biomass burned.

Likewise, on the following day, the Environmental Protection Authority observed "very poor" air quality across [multiple air monitoring stations](#). While multiple planned burns contributed to this pollution event, we contend that logging burns increased the levels of pollution in addition to the smoke originating from fuel reduction burns.

The key issue here is that not all "planned burns" are equivalent. Fuel reduction burns are intended to reduce the bushfire risk to lives and property. Indeed, work led by The Australian National University shows that regular fuel reduction burns can [reduce risk to properties](#) if carried out within close proximity.

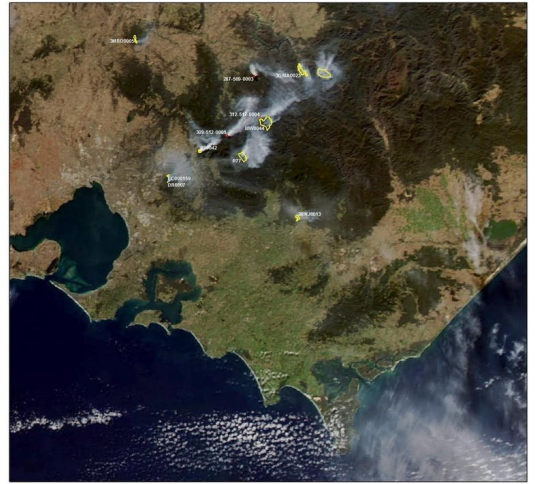
In contrast, clearfell logging burns are part of an industrial process that extracts pulp logs and sawlogs for commercial sale to private enterprise. They play no part in reducing bushfire risk to life and property. Actually, the [reverse is true](#): logging makes forests more prone to subsequent [high-severity crown-consuming fires](#) with associated risks to [communities](#).



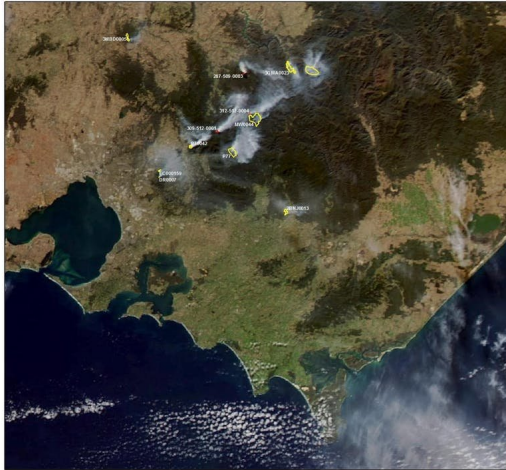
Surface and understory 'fine fuels' targeted in a recent low intensity burn near Mt Dandenong in April 2018. Credit: Chris Taylor, Author provided

Given that a substantial proportion of the recent smoke over Melbourne and surrounding regional Victoria likely originated from logging burns, could that smoke be deemed industrial pollution? This is a valid question, given the serious health impacts associated with [smoke pollution](#).

Logging burns would not be needed (and a substantial amount of associated smoke not generated) if the forest had not been logged in the first place. It is imperative that government departments inform the public about the smoke pollution coming from [logging](#) operations, whose purpose is for private commercial gain.



MODIS Rapid Response Terra Satellite image taken 30 April 2018 showing the smoke intensity of the planned burns. Credit: NASA 2018



MODIS Rapid Response Terra Satellite image taken 20 April 2018 showing the smoke intensity of the logging burns. Credit: NASA 2018

This article was originally published on [The](#)

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Provided by The Conversation

APA citation: Logging burns conceal industrial pollution in the name of 'community safety' (2018, May 17) retrieved 16 October 2019 from <https://phys.org/news/2018-05-conceal-industrial-pollution-safety.html>

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