

28 April 2020

Submission to the Royal Commission Into Natural Disaster Arrangements

Executive Summary

The Australian Forest Products Association (AFPA) welcomes the opportunity to make a submission to the Royal Commission into Natural Disaster Arrangements.

The Black Summer fires wrought unprecedented damage to Australia's forest industries in terms of their breadth and severity, affecting both the native forest and plantation (softwood and hardwood) estate across the country.

AFPA's submission focuses only on the 2019-20 catastrophic bushfires in NSW, Victoria and South Australia, which have had a profound impact on the forest products industries in those states that depend on a reliable supply of timber from timber plantations and multi-use public forests. However, it is worth noting that other States, most notably Queensland and Western Australia, also experienced significant but not profound impacts from the bushfires.

Australia's forest industry has a highly integrated supply chain. The Black Summer fires will cause significant impacts not only on forest growers/managers but also timber processors, harvest and haul contractors and short and long-term supply to downstream processing facilities that rely on this resource.

AFPA's submission focuses on improved land management regimes to mitigate against future catastrophic fires, the need for a greater focus from governments to protect forestry assets, and a greater appreciation for the enormous fire mitigation, suppression and recovery role that the forest industry workforce provides. AFPA's recommendations in this submission are summarised below.

Recommendations:

- AFPA recommends that timber plantations and timber processing facilities should be considered critical infrastructure, and commensurate firefighting resources committed to reducing the loss of plantation area and processing capabilities to avoid an economic disaster for the region.
- AFPA urges state and Federal Governments to consider plantations as critical infrastructure asset, and urgent replanting of the burnt plantations be supported

under the federal Government's \$2 billion bushfire recovery fund or other mechanisms.

- AFPA believes there is an urgent need for consistent, more active land management across all land tenures to match the standards required on State managed public land tenures under a National Bushfire Mitigation Strategy.

This Royal Commission should examine how Australia can move to a whole-of-landscape approach to land management and bushfire mitigation to mitigate wildfire risk to an acceptable level, and to harmonise existing land management regimes.

This should include national benchmarks for fuel reduction in strategic locations (broadacre and buffer strips), and a close examination of how mechanical fuel reduction can complement hazard reduction burns in a national bushfire strategy.

- Federal, state and local governments should work more closely with rural communities to create strategic broadacre and strip buffers in the vicinity of at-risk towns and strategic assets. This will reduce fuel loads and improve access for firefighters, which in turn will reduce the risk of bushfires developing and engulfing towns and important rural assets.
- The Federal Government should commit \$20 million for a Mechanical Fuel Reduction Program in the 2020-21 Budget, with a requirement that it be matched by the states. Immediate action will enable urgent works to occur before the next bushfire season, including the removal of significant volumes of burnt and dangerous timber in the bush that pose a major fuel load risk around towns, major roads, and other community assets.
- The Commonwealth and State governments must recognise the importance of retaining timber industries for maintaining an efficient and cost-effective ground-based fire-fighting capability, and to respect the fire management expertise that resides within land management agencies and forestry companies.

AFPA would also like to note that there are numerous other technologies and innovations that should be investigated to improve fire protection outcomes, such as modelling of fire behaviour and modelling the consequences of not undertaking fuel reduction. These could be considered through the establishment of a National Committee or Working Group for explore and promulgate best practice.

AFPA would welcome the opportunity to present in person to the Royal Commission or to provide more detailed written information. I would be pleased to respond to any questions this submission may raise.

Yours sincerely,



Ross Hampton
Chief Executive Officer
Australian Forest Products Association

About AFPA

AFPA is the peak national body for Australia's forest, wood and paper products industry. We represent the industry's interests to governments, the public and other stakeholders on the sustainable development and use of Australia's forest, wood and paper products.

The forest products industry is one of Australia's largest manufacturing industries with an annual turnover around \$24 billion. It contributes around 0.5% to Australia's gross domestic product and 6.6% of manufacturing output. Around 80,000 people are directly employed along the industry value chain with a further 100,000 jobs supported through flow-on economic activity.

As the peak national advocacy body representing Australia's forest industries, AFPA has played a vital role in briefing the Federal and State Governments on the impact of the bushfires on the industry in a concise and consolidated way, which is particularly challenging as those affected continue to battle the bushfires and manage the recovery efforts.

AFPA works closely with its members on the industry's response to the fires and what sort of assistance we need from decision makers to minimise the impact on the industry in the short, medium and long term. We have developed a number of background briefs to inform governments and other stakeholders.

Impact of the 2019-20 bushfires on our renewable forest industries

The impact of the fires has been significant, with damage to native forests and forest plantations (particularly in NSW, Victoria and South Australia), workers, businesses, and regional communities. The full impact of the fires is unlikely to be known for some months. In the affected areas there has been a vast effort expended in immediate recovery and salvage of fire affected timber to underpin the ongoing operation of the associated processing facilities.

There is a window of opportunity over the next year to undertake the necessary assessments and mapping of what can be harvested or 'salvaged', and coordinate the massive salvage operation required, so it is vital that industry and government work together to ensure these operations occur in a timely manner. Replanting and re-establishing the forests as quickly as possible is critical to ensure future timber supplies and the return of forest ecosystems.

The salvage timeframe is limited due to burnt timber deteriorating, along with pest and diseases being an ongoing risk. The volume of burnt timber to be salvaged will be in the millions of tonnes, with significant loss of timber value. This will create significant timber resource pressures in the medium and long term for parts of our hardwood and softwood timber industries.

The Government and our renewable forest industries have rightly identified that both the replanting of existing burnt plantations and planting of new areas are essential to underpin timber supply, sustain livelihoods and communities, and store carbon in the longer term.

New South Wales

Fires across NSW in November, December and January burnt significant areas of timber production native forests on the North Coast and South Coast, as well as significant areas of softwood plantations in the Snowy Mountains region and a smaller area on the North Coast, the effects of which will resonate for decades for the timber industry in these regions. Hardwood plantations on the North Coast were also burnt.

Much of the fire-affected native forests and plantations are managed by the Forestry Corporation of NSW, which is a state government-owned statutory agency, although privately-owned plantations also sustained significant losses.

Forestry Corporation is one of four firefighting authorities in NSW and is responsible for managing fire in about 2 million hectares of native forest and 230,000 hectares of plantation forest across the state.

The Eden woodchip mill owned by Allied Natural Wood Exports, was one of several wood processing facilities that suffered direct fire damage. At the chip mill, about 75,000 tonnes of woodchips were lost in the blaze, along with 4,000 tonnes of hardwood logs, conveyors and a workshop filled with spare parts and tools, The mill will resume full operations in due course, however, the biggest challenge is the significant loss of timber resource as a result of the fires in the NSW South Coast and North-East Victoria regions.

Meanwhile, the Tarmac Sawmilling Company in Rappville on the North Coast suffered extensive damage from the Busbys Flat fire on 8 October, and two other, small hardwood mills in Rappville also suffered significant fire damage. Another sawmill, Porters in Forbes River, was completely destroyed by fire.

Multi-use public native forests

Around 60 per cent of the areas zoned for timber production in the NSW native forest estate were affected by fires this year. Some of this timber will be selectively harvested from a small proportion of these fire-affected forests and processed by local mills into renewable timber products that will support rebuilding efforts. This is contingent on recovery harvesting to get underway as soon as possible.

Selective harvesting in fire-affected forests is different from the salvage harvesting that is carried out in pine plantations. Plantations are planted specifically for timber production so, after a fire, all affected trees are harvested and the entire area replanted.

In the small number of locations where site-specific conditions are established for selective harvesting following fires, a proportion of the trees will be removed while all unburned habitat within these fire-affected sites will be protected.

In addition to the native forest estate, Forestry Corporation also manages around 37,000 hectares of hardwood plantations in the north of NSW. Around 15 per cent of these plantations were impacted by fires this season.

Softwood plantations

The softwood plantations of the South West Slopes of NSW (taking in the Snowy Mountains region) suffered unprecedented damage as a result of the Dunns Road fire which commenced at the end of December.

The softwood plantation-based industry of the SW Slopes currently supports nearly \$2 billion of economic activity in the region, together with nearly 5,000 jobs, making it the biggest industry and employer in the region. Any reduction in this level of activity, as a result of a shortage of fibre to the processors, will have a major impact on overall levels of economic activity in the region. Two of these regions that were most affected, Tumut and Bombala, are considered in more detail below.

Most of FCNSW's plantations softwood plantations are radiata pine, but some areas, particularly on the north coast, are southern pine. Statewide, around 25 per cent of FCNSW's softwood plantations were impacted by the recent fires. FCNSW also manages 27,000 hectares of southern pine and radiata pine plantations in the Walcha and Grafton region in the state's north. Around 35 per cent of these plantations were impacted by fires this season.

Some areas where the fire burnt through relatively mildly may survive, however, unlike many native species, radiata pine is not fire tolerant and so fire-damaged trees will be – where usable – salvaged for processing and the areas replanted.

The areas impacted range from newly-established plantations that were planted within the past 12 months to mature 40-year-old trees ready for harvest. Much of the timber from the established trees will still be able to be recovered and used for structural housing timber. Following these salvage operations, all these plantation areas will be replanted with new seedlings.

It is estimated that 35-40% of the softwood plantations in the South West Slopes and Bombala regions of NSW has been fire-affected. This will directly impact the region's biggest employer, Visy, major softwood sawmills that produce structural timber for housing (AKD, Hyne and Dongwha), smaller sawmills and plymills, private plantation companies, and harvest and haulage contractors.

In addition to the 35,000 ha of public plantation lost in the SW Slopes (and 10,000 ha of private plantation), it is estimated that a further 7,300 ha of public and private plantations were burned in the Bombala region, and 6000 ha of private plantation in North East Victoria (owned by HVP).

This equates to around 40% of the total resource on which the SW Slopes and Bombala processing industries are based. The industry annually processes around 3 million tonnes of fibre in total, of which 2 million comes from the SW Slopes plantations (public and private).

It is estimated that the total cost of re-establishing all the plantations lost within the supply zone for the SW Slopes processing industry would be around \$230 million.

Tumut

Close to half of Forestry Corporation's softwood plantations are centred around Tumut, with more than 100,000 hectares of radiata pine planted throughout Tumut and surrounds. Around a third of the plantations in the area surrounding Tumut have been impacted by fires. Operations are underway to salvage burnt timber and the Blowering nursery in Tumut is regrowing seedlings to replant these plantations. In addition, Hume Forests, a private softwood plantation company and subsidiary of Global Forest Partners, had approximately 8000ha of plantation impacted by fire.

Bombala

There are 33,000 hectares of predominately radiata pine plantations in the Bombala management area. Around 31 per cent of these plantations were impacted by fires this season. Operations are underway to salvage burnt timber and these plantations will be replanted.

The major processing mills of the region are all undamaged and back in production. Employment can therefore be sustained to a certain extent, especially over the short (1-2 years) term.

A large volume of the burnt timber can be salvaged for use. Careful and co-ordinated planning by both FCNSW and the private growers is underway and will ensure that the salvage operation is carried out to maximise the volume of merchantable timber recovered from the burnt plantations.

It is therefore imperative that all possible efforts are made to ensure that the industry can continue to operate, albeit at a reduced level for at least the next 15 years, when fibre from new plantings will start to become available.

Victoria

Fires in the east and north east of the state burned a footprint of 1.6 million hectares, including a substantial area of timber production native forest in East Gippsland. The fire in the east of the state burned north into the NSW South Coast major town of Eden, and merged with the Snowy Mountains fire to create an enormous fire front.

The East Gippsland fires damaged about half of the region's native timber production forest. Although much of this forest area will recover, it has significantly impacted on the timber production capacity of the region, with the Victorian Government ceasing all timber harvesting in unburnt areas of East Gippsland.

Timber recovery operations have commenced in the ash forests impacted by the fires in the north east forests, while planning is progressing for resumption of operations in the burnt mixed species forests.

Nine harvesting and haulage contractors have been displaced from normal operations since the escalation of the fires in December. These contractors have, in part, been engaged on timber recovery operations from roadside clearing, such as along the Princes Highway. Timber recovered has assisted local mills in maintaining log stock though not to the level of normal woodflows. Recovery operations are planned to continue along additional roadsides and utility easements.

Operations in other harvest areas have largely continued as usual. There is some threat to these operations due to litigation commenced by an environmental group seeking to halt all native timber harvesting in Victoria in areas containing flora or fauna impacted by the fires. As this effectively means all timber harvesting areas this action would affect all timber harvesting if their claims are upheld by the Court.

As previously mentioned, the loss of over 6,000 ha in HVP's softwood plantation in north east Victoria will have an impact on resource availability in the SW Slopes wood basket. Conversely the impact of the loss of NSW resource on the viability of the wood processing industry will also have flow-on effects for the plantation industry in NE Victoria. Salvage harvesting has already commenced in these plantations.

Kangaroo Island, South Australia

Kangaroo Island's timber plantations were devastated by the fires that engulfed the island. Kangaroo Island Plantation Timbers is a publicly listed forestry company which owns and operates 14,369 hectares of timber plantations on Kangaroo Island, on a land base of approximately 25,000 ha (including 7,000 ha of native vegetation). Kangaroo Island also has an additional 3,256 ha of plantations, owned by 12 independent grower/investors.

The total area of KIPT and privately-owned plantations represent about 8% of the 211,000 ha affected by fire on Kangaroo Island. The remaining area comprises family farms, dwellings and tourism infrastructure, and an extensive area native vegetation on private land, crown land and national park.

Before the 2019-20 fires, plans to start harvesting the plantations were well advanced, pending South Australian Government approval for KIPT to build a Seaport at Smith Bay on the north coast of Kangaroo Island. As a result of the fires, 95% of the KIPT plantations, and all the plantations owned by private growers, have been adversely affected.

Treating forest industry assets as critical infrastructure

A wood or paper product processing facility requires a critical mass of resource within a transportable distance of its location. The regional economic and social benefits from well-integrated plantation and native timber resources and associated wood and paper product industries are substantial.

Wood and paper product processing facilities are typically located in regional areas in close proximity to the resource, due to the high cost of transporting a bulky product such as logs or chip. This adds considerably to the regional economic and social benefits of plantations, as in addition to the direct employment in plantation establishment and management, and harvesting and haulage, the resource also supports processing and manufacturing jobs in sawmills and other wood processing facilities.

What this means is that having concentrated timber plantations, while necessary to have a critical mass, creates a risk of significant areas burning in a catastrophic bushfire situation, as we saw this summer. With mills often located in close proximity to the resource (either plantation or multi-use public forests), mills can be at greater risk of fire. This is practical reality of how the industry operates, and not something to be avoided, rather, something that must be planned for, for example by having critical infrastructure-specific fire response plans in place, that are collaboratively pre-planned, regularly rehearsed and practiced in multi-agency/community fire drills.

While bushfires are unavoidable in Australia, more can be done to protect significant forest industry assets, in recognition that they are a major economic driver in their region, and that their loss can mean a significant reduction in jobs and economic activity, or even the demise of an entire industry if there is sufficient resource lost.

Recommendation: AFPA recommends that timber plantations and timber processing facilities should be considered critical infrastructure, and commensurate firefighting resources committed to reducing the loss of plantation area and processing capabilities to avoid an economic disaster for the region.

Urgent recovery of wood from burnt areas and plantation replanting should be supported by bushfire recovery programs

There is a narrow window of opportunity over the next few months to undertake the necessary assessments and mapping of what can be harvested or 'salvaged', and coordinating the massive harvest and haulage operation required. It is vital that all levels of Government work together to ensure these operations occur in a timely manner and prepare the land for regeneration (in the case of native forests) and replanting (in the case of plantations).

Fire damaged plantations require salvage operations to commence quickly as the timber properties degrade as the trees die. The sheer size of the salvage operations and the volume of salvaged timber available will overwhelm contractor and processing availability. It is inevitable that some logs will have to be harvested and stored under sprinkler systems (to reduce degradation) and some will be wasted.

As a result of the large volumes of recovered plantation timber that will become available in the coming months, these timber shortages will not be evident for months or even years, but planning and efforts to mitigate against these shortages needs to commence immediately.

Recommendation: AFPA urges state and Federal Governments to consider plantations as critical infrastructure asset, and urgent replanting of the burnt plantations be supported under the federal Government's \$2 billion bushfire recovery fund or other mechanisms.

AFPA notes the NSW Government's commitment of \$46 million equity injection into Forestry Corporation of NSW to support the replanting efforts, road and bridge repairs, as well as log freight subsidies, as a welcome first step to support the recovery efforts across the state, but more is needed over several years from all levels of Government to navigate the enormous long-term challenges facing the industry.

For example, the cost of re-establishing the public softwood plantations in the SW Slopes area alone is in the order of \$140 million, while total replacement of all areas burnt within the supply zone of the SW Slopes processing industry would be around \$235 million.

A whole-of-landscape approach to active land management

Australia has 132 million hectares of native forest. Forest ownership and management is divided across multiple tenures.¹ Such an approach has led to multiple approaches to forest management and bushfire mitigation. See figure 1.

Despite several catastrophic bushfire seasons around the country in the past 20 years, multiple state Royal Commissions and national inquiries, this bushfire season has shown that business-as-usual is not an option.

Recommendation: AFPA believes there is an urgent need for consistent, more active land management across all land tenures to match the standards required on State managed public land tenures under a National Bushfire Mitigation Strategy.

This Royal Commission should examine how Australia can move to a whole-of-landscape approach to land management and bushfire mitigation to mitigate wildfire risk to an acceptable level, and to harmonise existing land management regimes.

This should include national benchmarks for fuel reduction in strategic locations (broadacre and buffer strips), and a close examination of how mechanical fuel reduction can complement hazard reduction burns in a national bushfire strategy.

Agencies and land managers operate with good will and cooperation, however few deny their jobs would be made easier if the boundaries of land use were not so different. Farmers too often decry the imposition of rules and codes which greatly inhibit their ability to deal quickly and effectively with bushfires, such as being able to establish and clear a fire-break before a fire becomes an emergency.

This lack of coordination and consistency across land tenures is most evident in how fuel reduction and fire mitigation is managed, and will no doubt be a focus of this Commission as the Terms of Reference specifically include “land management, including hazard reduction measures”.

An increasing concern for Australian forest scientists and industry is that the continued expansion of National Parks and other conservation reserves, as well as reduce the breath of forest management tools, often at the expense of well-managed, multi-use public forests, has not been met with commensurate resourcing for the ongoing management of these reserves for fire mitigation, pest eradication, and road access.

For example, in SE Australia (i.e. NSW, Victoria and Tasmania) from 2003 to 2018, the area of native forest contained in national parks and other conservation reserves increased by 1.85 million hectares, while the area of multiple-use State forest was reduced by 1.35 million hectares.² The magnitude of this change is much greater if the time-frame extends further back to include the Regional Forest Agreement process of the mid to late-1990s.

Nationally, as a direct result of the Regional Forest Agreements and public land use decisions since the early 1990s, over 13.6 million hectares have been added to Australia's

¹ABARES (2019), Australia's State of the Forests Report 2018 https://www.agriculture.gov.au/sites/default/files/abare_forestsaustralia/documents/sofr_2018/web%20accessible%20pdfs/SOFR_2018_web.pdf

² *Australia's State of the Forests Report 2003 and Australia's State of the Forests Report 2018*, Australian Government.

forest conservation reserve system. The area of native forests in conservation reserves has almost trebled since 1990, from 6 per cent to 16 per cent of all native forests.

The effect of re-badging so much State forest as National park (or other form of conservation reserve) has been to substantially reduce the influence of the forestry profession in Australian forest management. For example, from being responsible for managing almost all of Victoria’s public forests up until the late 1970’s, foresters were responsible for managing less than half of the state’s public forests (~48%) by 2008. As the diagram below shows, National Parks and other types of conservation reserves make up 17 per cent of Australia’s 132 million native forest estate.

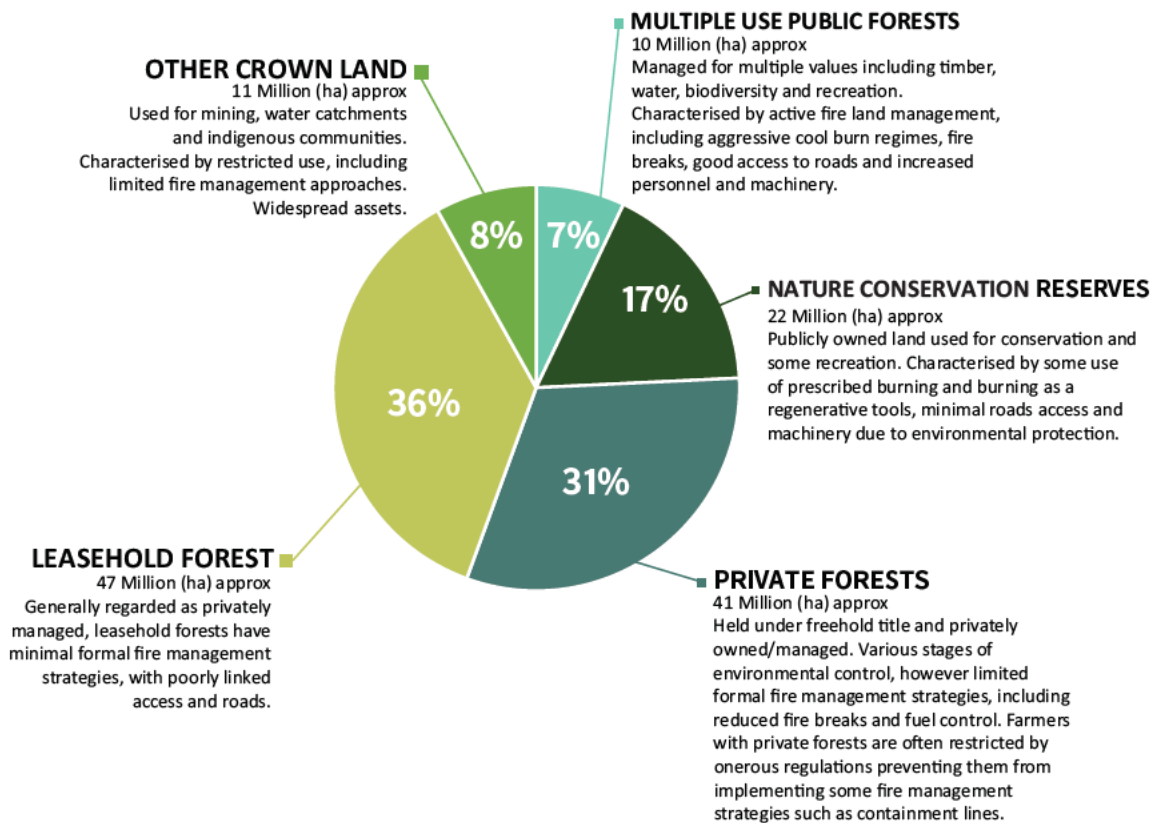


Figure 1. A breakdown of land tenures of Australia’s 132 million ha of native forest.

Fire behaviour in native vegetation reflects accumulated fuel load and can be mitigated through prescribed burning for hazard reduction and ecological purposes, or through mechanical fuel removal, which is examined more closely later in this submission. Unmanaged native vegetation allows fuels to accumulate and presents a high risk for fire occurrence, and increased difficulty of suppression. Lack of access roads also makes it impossible for emergency vehicles to access fires, which means suppression from the ground is not possible – by the time fires are accessible, they might be too big to suppress.

As the Black Summer fires showed, if fires are not contained in the vast National Parks, by the time they approach communities and other critical assets (including plantations) it can be impossible to contain these blazes. With the estimated loss of 1 billion animals nationwide as a result of these fires the poor management of these forests also undermines the conservation value of these protected areas.

On Kangaroo Island, for example, since 2001, only 3,470 hectares of land has been prescribed burnt. Working out to just 193 hectares per year, this area will have negligible impact on lowering the fuel hazard. This was evident with the fires on the island, some of which were sparked by lightning strikes in National Park, with high fuel loads contributing to fire behaviour. The suppression response was hampered by environmental regulations and lack of access to National Park, which led to arguably avoidable losses of timber plantations and large areas of National Park.

The socio-economic value of returning to a more appropriate balance between forest management and emergency response in SE Australia is exemplified by a recent socio-economic analysis of the higher annual fuel reduction burning program that has been maintained in the south-western forests of WA. This analysis found that the region's fuel reduction burning program delivers a \$31 million per annum saving in expenditure on emergency wildfire suppression, and a \$169 million annual saving in averted property loss/damage. Long term modelling of various annual fuel reduction burning options, suggests that every dollar invested in planned fuel reduction burning generates between \$10 and \$47 of benefit compared to a 'no-planned burning' scenario.³

In Victoria, the need to significantly increase hazard reduction burns was acknowledged in a parliamentary inquiry which reported in June 2008⁴ and again in the 2009 Victorian Bushfires Royal Commission into the 'Black Saturday' fires which reported in 2010.⁵ Both of these major inquiries recommended a tripling of the then level of fuel reduction burning, but ultimately this recommendation was never fully enacted, and was formally abandoned by the Victorian Government in 2015.

The reason state governments predominantly fail to achieve hazard reduction targets is due to a combination of factors, including the cost and resourcing, the short timeframe in which to conduct controlled burns (which is likely narrowing due to climate change), smoke complaints from residents, and the risk of fires getting out of control.

³ Florec, V., Pannell, D., Burton, M., Kelso, J., and Milne, G. 2016, *Think long term: The costs and benefits of prescribed burning in the south west of Western Australia*, Non-peer reviewed research proceedings from the Bushfire and Natural Hazards CRC & AFAC conference, Brisbane, 30 August – 1 September 2016.

⁴ *Impact of Public Land Management Practices on Bushfires in Victoria*, report of inquiry by the Environment and Natural Resources Committee, Parliament of Victoria (June 2008). The Government responded to its recommendations on 4th December 2008. Can be viewed at www.parliament.vic.gov.au/enrc/inquiries

⁵ Teague B, McLeod R, Pascoe S. 2010. The 2009 Victorian Bushfires Royal Commission Final Report (Summary). Melbourne, Australia: Parliament of Victoria.

Mechanical Fuel Reduction should be used to complement hazard reduction burns

The Black Summer fires have shown that Australia cannot rely on prescribed burns alone to reduce the fuel loads in our forests, particularly around towns where they can cause smoke pollution or worse, get out of control.

Since 1939, there have been more than 50 systematic examinations of fire management in Australia, including royal commissions, parliamentary, government, public and coronial inquiries and independent reviews.⁶ Most have identified fuel load as a significant contributing factor and recommended that more be done to address this fuel build-up in our forests. However, our national response has been to do less burning off and barely any mechanical fuel removal even though it can be done year-round.

The strategic use of specialised machinery to reduce understory and dense forest regrowth (and removing the biomass from the forest floor), in conjunction with fuel reduction burns, can reduce the intensity of forest fires around communities and assets.

AFPA recently published a report, *Using Fire and Machines to Better Fire-Proof Our Country Towns*,⁷ to inform national policy deliberations about how we can better mitigate against catastrophic bushfires, as forest industries are on the frontline of firefighting and mitigation efforts. The report makes the case for mechanical fuel reduction, showing its effectiveness overseas, and providing examples where it could have reduced bushfire risk in Australia if it was being used as part of the fuel reduction, whole of landscape approach.

In the United States, where the Federal Government has recently extended and doubled investment in an initial 10-year program that incorporated mechanical fuel removal, a mid-term review found: “Re-establishing desired vegetation conditions through mechanical thinning or prescribed burning makes landscapes more resilient to fire and reduces the risk of catastrophic wildfire.”⁸

Using the latest data from the Commonwealth Department of Environment and Energy, AFPA’s report overlays almost 30 years of records for prescribed burns and bushfires to show a clear trend of reduced burns and increasing bushfires. See figure 2, below.

⁶ G. W. Morgan, K. G. Tolhurst, M. W. Poynter, N. Cooper, T. McGuffog, R. Ryan, M. A. Wouters, N. Stephens, P. Black, D. Sheehan, P. Leeson, S. Whight & S. M. Davey (2020): Prescribed burning in south-eastern Australia: history and future directions, Australian Forestry, <https://doi.org/10.1080/00049158.2020.1739883>

⁷ <https://ausfpa.com.au/publications/using-fire-and-machines-to-better-fire/>

⁸ United States Department of Agriculture (2015), Collaborative Forest Landscape Restoration Program 5-Year Report, FY 2010–2014, https://www.fs.fed.us/restoration/documents/cflrp/CFLRP_5-YearReport.pdf

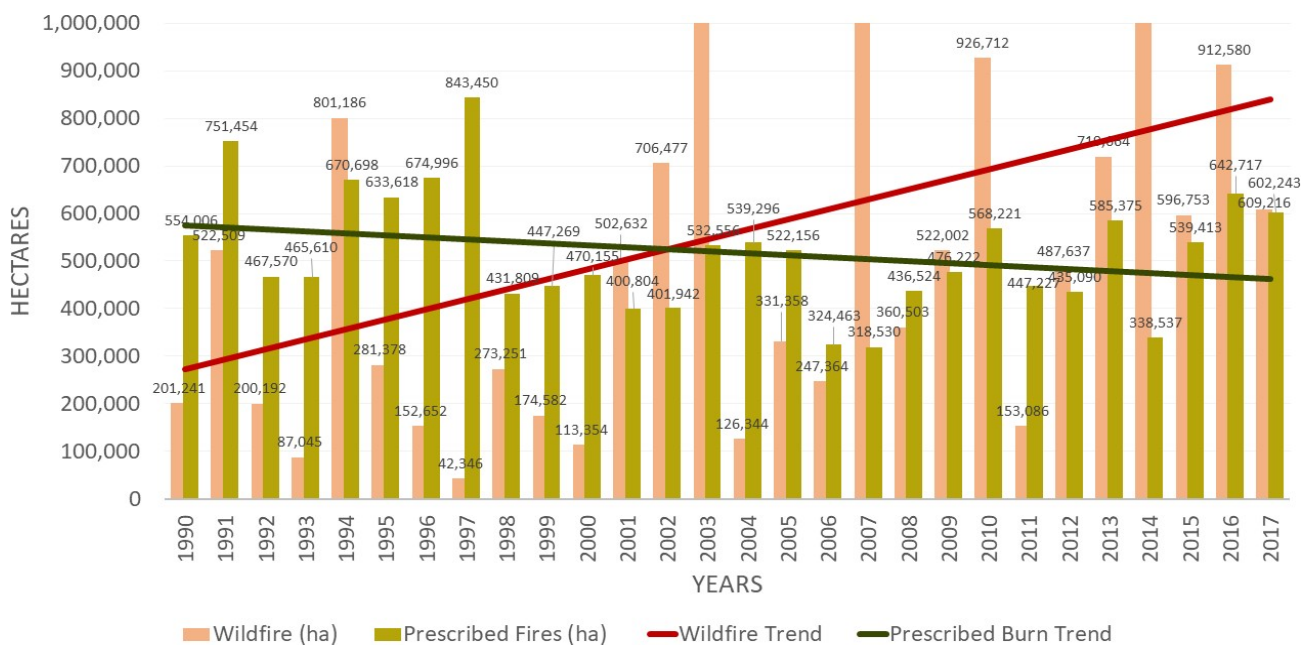


Figure 2: The area of native forest in Australia burnt through bushfires has increased significantly over the past 30 years as the rate of prescribed burns has declined. 15 State governments are failing to meet their own annual hazard reduction burn targets, pointing to the need for additional means of removing fuel loads from our forests.⁹

Research has found that in the eucalypt forests of south-eastern Australia, an annual fuel reduction program of 5% of the landscape could reduce the extent of bushfires by as much as 50%.¹⁰

However, the recent fires have shown that we cannot rely on prescribed burns alone to reduce the fuel loads in our forests, particularly around towns where they can cause smoke pollution or worse, get out of control.

The strategic use of specialised machinery to reduce understory and dense forest regrowth (and removing the biomass from the forest floor), in conjunction with fuel reduction burns, can reduce the intensity of forest fires around communities and assets.

The evidence indicates bushfire risk in Australia can be significantly reduced through a far more aggressive approach of targeted reduction of understory and dense forest regrowth around strategically important asset such as power sub-stations, telecommunications towers, water catchments and timber plantations.

Research has shown that as fuel load in the forest is doubled, the rate of fire spread is doubled and fire intensity is quadrupled.¹¹ Similarly, a CSIRO study found that in some

⁹ Australian Greenhouse Emissions Information System data, Land Use, Land Use Change and Forestry 1990-2017, Commonwealth Department of Environment and Energy, June 2019

¹⁰ Lachlan Mccaw (2013), Managing forest fuels using prescribed fire – A perspective from southern Australia, Forest Ecology and Management, vol 294
<https://www.sciencedirect.com/science/article/abs/pii/S0378112712005452>

¹¹ Bill McCormick (2002), Science, Technology, Environment and Resources Group, briefing note: Bushfires: Is Fuel

forest types, one hectare of forest can accumulate up to 20 tonnes of fuel after just 5 years, highlighting the need for fuel reduction programs to be ongoing and frequent.

Mechanical fuel reduction is a widely accepted bushfire mitigation tool in other fire-prone nations, however, it is underutilised in Australia despite its proven efficacy. A Deloitte Access Economic analysis commissioned by AFPA found the economic benefits of removing fuel from the bush, in combination with fuel reduction burning, could dramatically reduce the damage caused by bushfires and massively outweigh the costs.

Similarly, mechanical “thinning” of native vegetation also decreases fire severity. While mechanical fuel removal takes away the smaller ground fuel, mechanical thinning involves felling about half the trees in even-aged, uniformly structured forests. As Professor Rod Keenan from the University of Melbourne wrote for *The Conversation* in January, “the recent fires have created conditions for forest regeneration on a large scale. These regenerating forests will thin naturally over time, creating more fuel and increased risk of more large-scale fires. Mechanical thinning can remove this potential flammable vegetation.”¹²

Thinning to reduce fire risk is intended to slow the rate fire spreads, lower flame heights and improve recovery after wildfire hits. This was shown in a 2016 extensive review of US research, which found thinning and prescribed burning helped reduce fire severity, tree mortality and crown scorch. A 2018 study on Spanish pine forests had similar results.

Keenan writes:

Our own research on Australian forests also supported these findings. We found mechanical thinning plus burning in silver top ash reduces fire fuel hazard, with major reductions in dead trees, stumps and understory.

We compared thinned and unthinned alpine ash forests using computer modelling, simulating severe to extreme weather conditions. And we found modelled fire intensity decreased by 30% and the rate of fire spread and spot fires moving ahead of the main fire decreased by 20% with thinning.

Reducing tree density and fuel through thinning can also make it easier and safer for fire-suppression activities, like direct attack with fire hoses, litter raking or back burns, increasing our chances to control the size of wildfires.

Recommendation: Federal, state and local governments should work more closely with rural communities to create buffers within a 5km radius of at-risk towns and strategic assets. This will reduce fuel loads and improve access for firefighters, which in turn will reduce the risk of bushfires developing and engulfing towns and important rural assets.

The Forest Industry Advisory Council – a statutory advisory body to the Federal Government – recommended in its 2016 report, *Transforming Australia’s Forest Products Industry*, that the Australian Government commits to a \$300 million, 10-year program of

Reduction the Answer?, APH Library
https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/Publications_Archive/CIB/cib0203/03Cib08

¹² <https://theconversation.com/forest-thinning-is-controversial-but-it-shouldnt-be-ruled-out-for-managing-bushfires-130124>

mechanical fuel reduction as a bushfire mitigation measure.

AFPA strongly believes the upcoming 2020-21 Budget must include initiatives to support more active management of the land to mitigate against bushfires, and that a national Mechanical Fuel Reduction Program – co-funded by the states – must be funded in the upcoming Budget.

Recommendation: The Federal Government should commit \$20 million for a Mechanical Fuel Reduction Program in the 2020-21 Budget, with a requirement that it be matched by the states. Immediate action will enable urgent works to occur before the next bushfire season, including the removal of significant volumes of burnt and dangerous timber in the bush that pose a major fuel load risk around towns, major roads, and other community assets.

Forest Industries provide an essential fire mitigation and suppression resource

The vital role of the timber industry in managing bushfire risk and fighting fires is not well known or recognised.

Staff in state forest agencies and private plantations undertake a broad range of fire roles including operational firefighting, incident management and support roles such as logistics and information, and plant and aircraft support.

Furthermore, forest contracting businesses also play a critical role in fire suppression by providing plant equipment such as bulldozers, excavators, skidders and harvesters at blazes to create fire breaks and remove dangerous trees. Contractors also create many of the roads used to access areas and have reported that they are often the first to observe fire activity, report it and act to extinguish it before it becomes a greater threat.

Experience has also shown that National Parks and reserves are not well managed to mitigate against bushfire risk, particularly with respect to fuel loads and access roads.

The progressive shift away from multiple-use forest management since the 1980s has resulted in the gradual decline of native forest timber production, and with it a significant loss for fire management. Timber industry contractors had highly developed bush skills, including many with considerable experience of operating earth-moving machinery in difficult forest terrain, and were readily available to fight wildfires.

Forestry Corporation of NSW

The Rural Fires Service (RFS) is the lead agency for fire suppression in rural NSW. Forestry Corporation staff work with the RFS, NPWS and NSW Fire and Rescue through the incident management teams right down to the fireground to attack the fire and manage its spread.

Forestry Corporation is responsible for managing fire in about 2 million hectares of native forest and 230,000 hectares of plantation forest across the state.

FCNSW puts considerable effort and resources into preparatory and preventative measures to protect communities, neighbouring properties and State forests from bushfires. Fire is also used to maintain the health of forest ecosystems and to create a rich seed bed for regeneration or replanting after timber harvesting.

FCNSW participates in a number District Bush Fire Management Committees throughout NSW, helping prepare risk management plans which aim to protect the community from fire.

FCNSW also undertakes hazard reduction through controlled burning to reduce forest fuels such as sticks, leaf litter, grass and dead wood on the ground that increases the intensity of fires. Fuel levels can also be reduced by grazing and mechanical works such as slashing. By reducing the overall fuel levels, any future bushfire will usually be less intense, cause less damage and will be more easily controlled.

During the fire season FCNSW staffs a network of fire towers across the state to detect fires early. FCNSW uses lighting detection software and aircraft to detect bushfires as soon as possible.¹³

During the recent fire season, all staff within FCNSW were involved in fire management in one-way or another with roles ranging from frontline firefighting, to incident management and control, to logistics such as meals, transport and accommodation for firefighters. Over 500 staff were directly involved in firefighting including almost 200 seasonal staff brought on for the fire season. To supplement local resources FCNSW also brought in crews from around the state and contracted firefighting crews rotating from New Zealand and interstate to help.

FCNSW firefighters are specialists in large forest fires and forest contractors played a significant role using their heavy machinery such as bulldozers from site preparation operations to help build containment lines and keep fires in check. Over 100 pieces of heavy plant from the forestry industry were used in NSW. This year FCNSW also contracted four helicopters over the fire season to be ready to help fight fires in our plantations.

As well as actively fighting fires, FCNSW have staff patrolling forests and manning fire towers to watch for new ignitions from lightning strikes and ensuring areas are safe.

VicForests

In addition to its primary role of harvesting and regenerating native forest, VicForests also plays a supporting role in fire management across the State as part of Forest Fire Management Victoria (FFMVic) which also includes the Department of Environment, Land, Water and Planning (DELWP), Parks Victoria, and Melbourne Water. It also works alongside the CFA, other emergency services and local communities year-round to protect people, property and landscapes.

Out of VicForests' 130 staff, 72 are trained in firefighting and firefighting support. VicForests' staff undertake a broad range of fire roles including operational firefighting, incident management and support roles such as logistics and information, and plant and aircraft support.

In addition, forest contracting businesses engaged by VicForests play a critical role in fire suppression by providing plant equipment such as bulldozers, excavators, skidders and harvesters at blazes to create fire breaks and remove dangerous trees.

VicForests' contractors use a fleet of over 200 specialised machines, as well as operate transport that relocate this machinery around the forest. Without a timber industry this vital resource will be lost.

Over the course of the season a total of approximately 90 VicForests staff and contractors

¹³ <https://www.forestrycorporation.com.au/operations/about-our-harvesting-operations/fire-affected-native-forests>

were deployed. This comprised approximately 30 VicForests employees, who led the response and 15 harvesting crews working in East Gippsland (all the crews operating in the region) and the North East – approximately 60 staff and 45 pieces of specialised equipment. These crews undertook bushfire support, including:

- Direct (close to the fire edge) and indirect attack (away from the fire edge) of active fires through the preparation of mineral earth (free of vegetation) tracks;
- Preparation of fallback or contingency lines by constructing fire breaks in the forest or around communities that can be burnt from to protect key assets;
- Clearing of road lines along highways and forest roads to remove hazardous trees to ensure the safety of firefighters and the community; and
- Leadership of highly developed safety management systems and standards in bushfire-affected areas.

As well as contributing to wildfire suppression, VicForests also supports DELWP with fuel reduction burns throughout the year, with the aim of reducing the risk of wildfire spreading out of containable areas.

Forest Industry Brigades

The timber and forest industry also play an active role in fire response across private land through the CFA Forest Industry Brigades, which are fire brigades run by forest plantation companies.

In Victoria, for example, state legislation requires that plantation owners fund and run a fire brigade where they have over 500 hectares of plantation within 25 km, to provide their own asset protection. In 2019 there were 22 FIBs registered across Victoria.

Similar requirements exist in other states, however, in NSW private forestry companies have no legal standing as a fire fighting agency, which can result in the social and economic value of plantations being missed in the firefighting strategy. Having a standing as an agency member could improve this.

The industry-based brigades are set up by plantation companies who provide much of the equipment and pay staff members to attend. However, the FIBs are structured as normal CFA brigades and come under the operational control of the CFA, which sets standards and provides training. FIB members must meet the same accreditation requirements as all other CFA brigades. Plantation companies maintain fire access tracks and fire water supply points.

For example, HVP manages seven CFA Forest Industry Brigades in Victoria and have over 280 registered firefighters and support staff. HVP has 20 fire tankers and over 50 small slip-on firefighting units. This year it had firefighters actively deployed to major fires in Victoria continuously for 54 out of 55 days – the only day where it pulled everyone offline being Christmas Day, although it still had firefighters on standby that day.

HVP's biggest day was 9th January where it had 117 firefighters and support staff, 25 items of heavy plant and an additional 39 plant operators and off-siders. HVP estimates that its

people worked over 29,000 hours firefighting, that equivalent to about 16.5 years of normal time. Outside of fire response, HVP is actively involved in prescribed burning with both FFMVic and the CFA.

Industry brigades are only legally required to service the companies' plantation assets for bushfire response and fire management planning. However, FIBs regularly attend callouts to fires outside their designated area (HVP reports 55% of the fires they attend are outside their managed land) and many have adopted a position of shared responsibility for fire response.

The active role played by forest businesses and workers on both public and private land highlight the great need for a viable timber industry that is able to supply firefighters and plants with experienced operators who have local knowledge and experience working in remote forested locations. It also highlights one of the many disastrous consequences of the Victorian Government's decision to phase out native forest harvesting in the state by 2030, and with it a significant firefighting resource.

Recommendation: AFPA recommends that the Commonwealth and State governments recognise the importance of retaining timber industries for maintaining an efficient and cost-effective ground-based fire-fighting capability, and to respect the fire management expertise that resides within land management agencies and forestry companies.

Timber harvesting does not increase bushfire severity

There is a misconception perpetuated by anti-forestry advocates that have sought to politicise the bushfires that timber harvesting increases the severity of bushfires.

This claim also overstates the scale of native forestry harvesting that occurs annually – Fewer than 100,000 hectares of native forest is harvested for timber annually – less than 0.06 per cent of Australia’s total native forests. All native forest harvested is sustainably regenerated.

Put simply, the scientific consensus is that there is no link between timber harvesting in Australia and increased bushfire severity. Suggestions to the contrary are based on flawed science. Perhaps the best dissection of the inaccuracies underpinning this claim is by the University of Melbourne’s Professor Peter Attiwill in 2014, who wrote for a scientific journal:

“...there is no evidence from recent megafires in Victoria that younger regrowth (<10 years) burnt with greater severity than older forest (>70 years); furthermore, forests in reserves (with no logging) did not burn with less severity than multiple-use forests (with some logging).

“The evidence we have presented here gives little support for the argument that logging in the wet eucalypt forests across southern Australia results in forests that are drier and more fire-prone.”¹⁴

Similarly, Professor Jerry Vanclay from Southern Cross University and Associate Professor Kevin Tolhurst from the University of Melbourne penned a piece for the Hobart Mercury published on 25 March 2020:

Scientists suggesting that timber harvesting leads to more severe fires are basing their conclusions on selective, local-scale observations where the only variable considered is the time since harvesting. This is poor science because it is well established that several factors lead to fire severity.

A landscape scale study of fire severity published in 2014 based on an analysis of more than 2 million ha burnt in Victoria in 2003 and 2007, shows there is no significant difference between a fire severity in parks compared with forests (including timber harvesting areas).

Fire severity does change with time after timber harvesting (both up and down), but if the whole harvested landscape is considered rather than isolated local areas, the conclusion that harvesting increases bushfire risk and severity cannot be supported.¹⁵

Another fallacy that anti-forestry campaigners are arguing is that “salvage” harvesting, or post-fire recovery harvesting, of burnt logs from bushfire-affected native forests that are

¹⁴ Attiwill et al, ‘Timber harvesting does not increase fire risk and severity in wet eucalypt forests of southern Australia’, Society for Conservation Biology journal, Conservation Letters, July/August 2014, 7(4), 341–35 <https://conbio.onlinelibrary.wiley.com/doi/epdf/10.1111/conl.12062>

¹⁵ <https://www.themercury.com.au/news/opinion/talking-point-stopping-native-forest-logging-to-fight-fire-doesnt-stack-up/news-story/d15897c6a2d1e244d5458d180099be17>

designated for timber production also increases fire severity.

Beyond generating revenue, post-fire harvesting of burnt trees (sometimes referred to as 'salvaging') can also help manage fuels and future fire behaviour. Removal of hazardous standing dead fuel also contributes to firefighter safety. Post-fire salvage can help reduce excess fuels and decrease the risk of subsequent high-severity bushfires.

Converting dead or dying trees into carbon-storing forest products rather than allowing them to decompose in the forest or burn in future bushfires (thereby releasing carbon emissions) also provide carbon sequestration benefits.¹⁶ It is also important to remove and replant so that forest managers have the flexibility as soon as possible in the future to restore the forest age profile.

Many of the burnt trees to be harvested in native forests are near roads and trails and pose a significant safety hazard to the public. If not removed now, they will continue to be a safety risk for motorists, forest workers and recreational users. In the case of plantations, unrecoverable burnt areas must be cleared to prepare the land for replanting.

Recovery harvesting operations in native forests are subject to strict state environmental prescriptions, as is the case with the modest recovery operations underway in Victoria and NSW's native forests that are designated for timber production and burnt.

In Victoria, for example, VicForests will harvest up to 3,500 hectares over several years in areas already allocated to it for harvesting in the fire-affected 1.6 million hectares in Eastern Victoria. The decision to implement recovery followed an assessment of threatened species conducted by the Department of Environment, Land, Water and Planning (DELWP), and the Office of the Conservation Regulator was consulted in the development of the timber recovery program and monitors the standards and protections used in harvesting.¹⁷

Professor Keenan said in The Sydney Morning Herald, 26 January 2020, that under current regulations, with harvesting restricted to state forests, salvage logging could be managed to minimise the environmental impacts. "There are ways to do salvage logging that doesn't impact more broadly on the environment," Professor Keenan said. "You wouldn't expect to see logging across large areas, that's not what is happening now anyway. The timber industry is only focused on a relatively small part of the landscape."¹⁸

¹⁶ https://www.fs.fed.us/psw/topics/fire_science/ecosystems/harvest.shtml

¹⁷ <https://www.vicforests.com.au/fire-management-1/vicforests-starts-post-fire-timber-recovery>

¹⁸ <https://www.smh.com.au/politics/federal/critics-put-axe-to-forestry-industry-push-to-increase-logging-20200126-p53utg.html>