



Victorian
Forest
Products
Association

NATIVE FORESTRY

Anti-Native Forestry Claims or
Misrepresentations Fact Check

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About VFPA

VFPA is the peak industry body representing the forestry products value chain in Victoria from those growing, managing and harvesting our sustainable plantations and multiple use natural forests to the primary and secondary processing of timber, the manufacture of pulp, paper and bioproducts, and the value-added timber and pulp and paper products supply chains.

Victoria's Forest Products Industry

The Victorian forest products industry utilises a mix of hardwood (eucalypt) and softwood (pine) resources supplied from multiple use public forests and private plantations. Victorian forest products are manufactured into a wide range of timber products including sawn timber products, engineered wood products, pulp and paper manufacture, and high-quality wood chips.

Wood is beautiful and functional, renewable, biodegradable, and recyclable. Wood is used for new homes, buildings, furniture, architectural joinery, paper, toiletry and sanitary products, and fuel for green energy. With over 5,000 known uses for wood, wood is simply an essential part of life and the ultimate renewable. All parts of the harvested tree are used to its highest value use – there is simply no waste.

The Victorian forest products industry is highly regulated, it implements sustainable forest management practices across private and public land tenures and participates in ecological restoration for the benefit of Victorians. 0.034 per cent of Victoria's native forests are harvested annually and all harvested areas are re-established. Each year, approximately five per cent plantation trees are subject to final harvest with these areas replanted.

Forestry in Victoria has a significant role to play in the move to a net-zero carbon future. Research¹ demonstrates that plantation trees capture three times more carbon than environmental plantings over one hundred years. Carbon is sequestered in trees and the subsequent harvested timber products for the life of that product.



¹ Ximenes, George, Cowie, Williams, & Kelly, 2012

1 Introduction

Numerous international, national and state environmental non-government organisations (e-NGOs), individuals and forestry interest groups actively advocate for the end of native forestry in Victoria. These groups undertake activities that include:

- protests on active harvest sites that endanger forestry workers and the activists
- seeking donations or support to undertake the activities
- political advocacy directly to key decision makers
- highlighting their concerns on websites and social media, and
- litigation against VicForests aimed at curtailing existing and preventing any future harvesting activities in Victoria.

To achieve these ends, anti-native forestry individuals and groups make numerous claims about native forestry often using inflammatory pictures to support these claims². When investigated, such claims often misinterpret or misrepresent research (or rely on only that part or research that supports their narrative), and/or rely on research reports that are either dated, have been poorly designed or lack the ability to interrogate the data and purported outcomes. This results in claims that misrepresent, deliberately or intentionally, Victoria's native forestry industry.

This document seeks to provide credible and current information to assist interested stakeholders access a wide range of evidentiary material. It can be used by the broader community, forestry industry, politicians, government officials or others seeking a reference point.

Victoria's native forestry industry encourages anyone interested in native forestry to undertake their own research, read widely and critique without fear or favour – and question information provided to them as fact.

1.1 Why do activists use misinformation and/or disinformation

Social media has been revolutionary as a tool to facilitate communications with a wider audience – one click can reach a global audience to mobilise social and political change. While it is a powerful tool, it can also be misused – short, explosive and emotive language all in a Facebook or Instagram post, or a Tweet with a hashtag to assist those interested to search a particular topic.

Misconceptions and misinformation can be detrimental and is challenging for the target audience to correct. Where industry posts information, the venting and abusive comments from those opposed to native forestry can be so offensive as to require blocking or deleting.

Misinformation is defined as false information that is spread regardless of the intent to mislead, while disinformation is intentionally spreading misinformation. Disinformation is destructive and divisive, and used to make someone, or something, look bad (or sometimes good). Such tools can blur the lines between facts, opinions, and lies. It can be unreliable, does not need to be fact checked before being posted, and can be detrimental to the lives of individual people. Both can also be used to promote (or frustrate) support for some agenda.

Our industry has been subjected to both misinformation and disinformation. Misinformation is spread around and accepted as fact by often time poor readers. Activists have admitted to using disinformation to support fundraising, which is then used to generate more

² For example, see [Issues - Environment East Gippsland](#)

misinformation (e.g. Sanger, 2022) to promote to the media (e.g. Perkins, 2022) all aimed at generating more donations.

1.2 Misinformation obscures reality

Since the 1850s, Victoria's forests have been managed as multiple use forests supporting a range of provisioning, regulating and cultural ecosystem services – including timber production (Table 1). These forests are primarily regrowth forests rich in biodiversity and cultural values and supporting social and economic benefits for generations of Victorians. Traditional Owners have Victoria's forests for tens of thousands of year. As such, are not wilderness (Fletcher, Hamilton, Dressler, & Palmer, 2021) as claimed by those subscribing to Eurocentric worldviews of Victoria's forest ecosystems.

Table 1 Ecosystem services from Victoria's forests³

Provisioning	Regulating	Cultural
Water provision	Water flow regulation	Recreation and tourism
Biomass for timber	Soil retention	Social and community connection
Biomass for firewood	Carbon sequestration and storage	Cultural heritage connection
Honey	Pollination	Amenity
Fodder	Habitat for species	Education and research
	Air filtration	
	Pest and disease control	

These same biodiversity rich regrowth forests are evidence that managed forests work to support and enhance the biodiversity outcome that activists seek to protect from native forestry. Instead of supporting the very management that delivers rich biodiversity, activists use half-truths, omit critical data or use imperfect and oversimplistic models as purported evidence to generate the perverse story suited to their objective to cease native forestry. Examples include ignoring that over 98% of Victoria's forests are protected from native forestry or focusing on ugliness of the first years after harvest that supports the narrative that native forestry is bad, and that is the new long-term reality for that forest. Harvested forests should not be judged just by the immediate post-harvest observations but by the medium to long term environmental performance as can be seen in Figure 1.

This is further supported by research undertaken by the University of Melbourne that shows the ceasing native forestry will be detrimental for Leadbeater's Possum given that the acacia understorey found in harvest coupes just a couple of years after harvest are a critical food source, and is likely to result in decline of the possum as soon as four years after native harvesting stops (Jiang, 2021).

³ Source: [Fact sheet - Ecosystem services from forests in Victoria \(environment.vic.gov.au\)](https://environment.vic.gov.au)

Figure 1 Toolangi regrowth forests



The fact that these regrowth forests are thriving with biodiversity despite being 100% regrowth shows that managed, multi-use forests are performing well. The harvest cycle has been refined so well over time that activists claim forests and their values need to be protected from future harvesting.

A specific example we can use as reference is a paper on carbon sequestration in timber products from these harvested forests. Almost all other papers on carbon benefits in forest products globally find the use of timber and timber by-products as being better than carbon neutral. In fact, the IPCC themselves state *“A sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit.”* Despite this international peer reviewed scientific consensus, activists commission their own papers. As an example, one paper based on a small area in the Central Highlands of Victoria used incorrect data points (Table 2) to calculate misguided findings, with each of data point compounding to deliver in a perverse result.

Table 2 Data point comparison Central Highlands research paper and reality

Item	Paper in Question	Reality
Area harvested	70%	30%
Rotation	50-year	50-100 years (Ash)
Above ground stock harvested	40%	Depending on variable retention harvesting for a site 60% (and sometimes up to 85%)
Pulp and sawlog removed	29% pulp; 11% sawlog (was based on post-fire salvage logging operation and not typical harvest operations)	50% pulp: 50% sawlog (VEAC report)
Paper emissions from pulp	100% after 1-3 years	50% of paper is recycled and even in landfill can sequester carbon for decades
Annual area harvested	20,600 ha	3,000 ha (on average)
Old growth	Is better for storing carbon	<2% of forests become old growth due to historical bushfire activity. Younger trees generally sequester carbon at faster rates while older trees may cease to sequester carbon, eventually releasing carbon during decomposition.

Unfortunately, the paper is cited in various other research papers, is used to inform government policy, and is used in various activists' campaigns. Such papers are spoon fed to journalists who cite the data as fact in published newspaper stories. By the time a critique of the paper can be undertaken, it is no longer newsworthy, and the public have been fed another un-challenged "fact" that goes on to impact the perceived value of native forestry. This is but one example of how activism in forestry creates a perverse outcome.

This paper aims to provide reference material to correct claims of the anti-Victorian native forestry collective.

2 Claims in relation to court decisions that VicForests was found to be harvesting illegally

Several claims have been made that VicForests has been found by the Supreme Court to be illegally harvesting timber, most notably because of the Justice Richards decision handed down in November 2022. It is notable that the judgement (Environment East Gippsland Inc v VicForests (No 4), 2022) was about survey methods and additional protections. There is no mention in the judgement that VicForests was illegally harvesting.

This comes on top of misrepresentation on the outcome of the Friends of Leadbeater's Possum Inc (FoLP) case in 2020. The primary judge in the Federal Court found in favour of FoLP, however, the Federal Court of Appeal overturned the case (VicForests v Friends of Leadbeater's Possum Inc, 2021).

The key misrepresentation being that VicForests only won its appeal on one matter, and that the remaining primary judge's findings stand. This view confounds the application and nature of the appeal decision. Full Court dismissed the FOLP case, ruling that all findings made by Justice Mortimer were to be set aside. VicForests only need to be successful on one grounds for its case to be successful. The remaining 22 grounds were to be argued as alternative in the event that VicForests was not successful on the primary ground in relation to the application of the EPBC Act. As VicForests was successful on its primary ground of appeal, the alternative 22 ground were not relevant to the appeal.

A number of cases have been presented to the Courts against VicForests. Where judgements have been handed down, only the Brown Mountain case (2009) was successful in part, while a number of judgements in the primary court are awaiting appeal or are in abeyance (e.g. waiting on the outcome of other cases).

3 Claims in relation to area harvested, deforestation, substitution and end use

3.1 Claim: Every year thousands of hectares (ha) are logged

Since 1995-96, the net harvestable area in Victoria was 2.5 million ha. Since then, the area available has declined to be just 4.5%⁴ of Victoria's public forests – a small area that is harvested on a 50-120⁵-year rotation, meaning just 0.04% of Victoria's public forests are harvested each year.

The harvest areas are located in multiple use State Parks. This means that over 98% of Victorian native forests are in areas that are protected and cannot be harvested or are unsuitable to harvest (Figure 3). All harvest areas are regenerated as required by Victorian legislation and generally are not re-harvested for another 50-120 years.

⁴ While 367,000 ha is potentially suitable for commercial harvesting, which excludes 90,000 ha due to protections applied by VicForests (<https://www.vicforests.com.au/vicforest-forest-management/forest-management-landing-page>), the [Threatened Species and Communities Risk Assessment](#) released in 2022, refined the potential suitable area for forestry operations to ~160,000 ha (p.3) less a further 20,000 ha of additional protections.

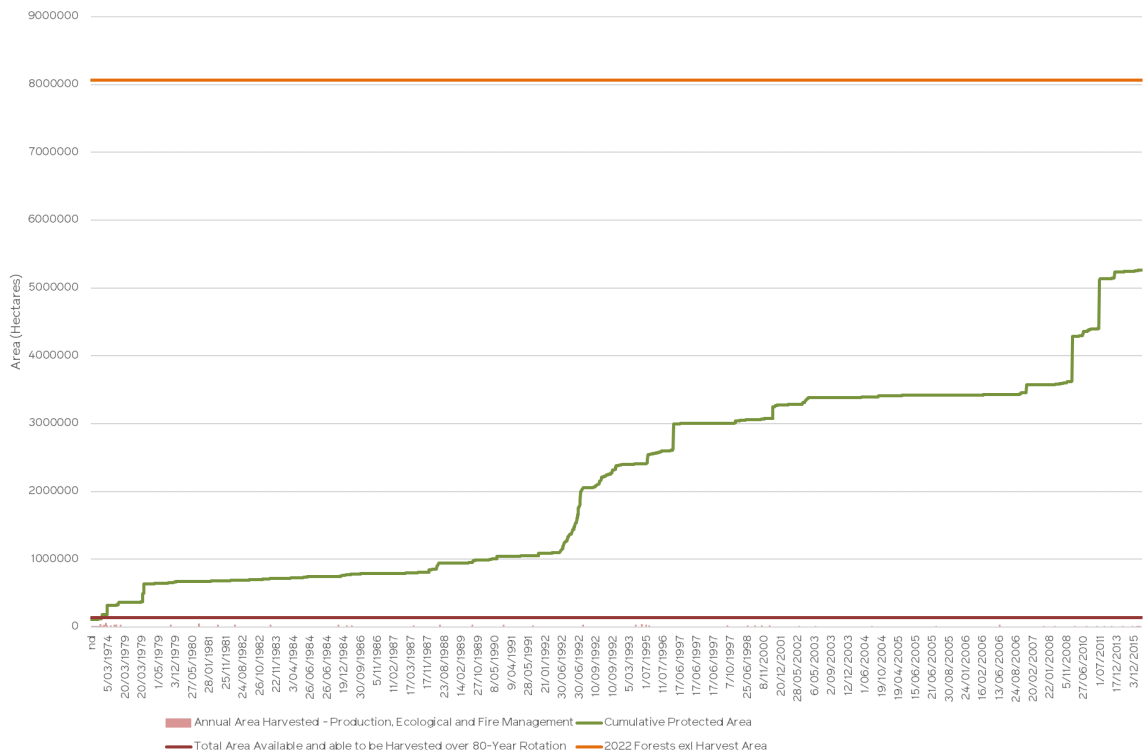
⁵ Rotations will vary and consider a range of factors such as the species. Rotations will generally range between 50-120 years. As an example, the rotation for ash is 60-80 years.

Figure 2 Categories of Victoria's public forests⁶



Another way of showing this information is in the graph below, which shows Victoria's total forest area – the orange line (which excludes the 140,000-ha harvested over a 50-120-year rotation), Victoria's cumulative protected areas (the dark green line) and annual harvesting and/or forest management activities – which can barely be seen at the bottom of the graph in Figure 4.

Figure 3 Victoria's Protected Terrestrial Estate and Total Forest (2022) and Total Forest Disturbance 1880-2020 (ha)⁷



⁶ Forest management (vicforests.com.au) with updated harvestable area as advised in Department of Environment, Land, Water and Planning, 2021

⁷ Protected area data sourced from Department of Climate Change, Energy, the Environment and Water, 2021

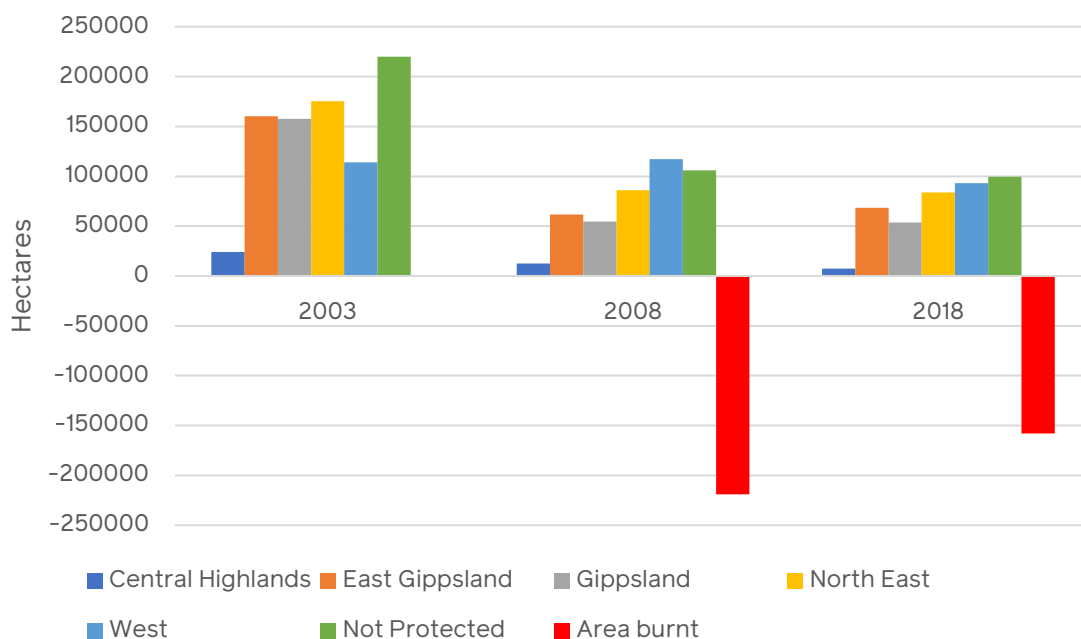
The *Australian State of Forests Report 2018* notes that the volume of sawlogs harvested from multiple use public native forests between 1992-93 and 2015-16 was within the sustainable yield in Victoria (Montreal Process Implementation Group for Australia, 2018). The sustainable yield is calculated as the volume of wood (specifically higher-grade sawlogs) that can be removed each year from an area of forest while ensuring maintenance of the functioning of the native forest system as a whole and the supply of wood products in perpetuity (Montreal Process Implementation Group for Australia, 2018).

3.2 Claim: VicForests logs old growth forests and national parks

In 2018, Victoria had protected around 405,899 ha of old growth forests (or 75% of total old growth forests) as part of the Comprehensive Adequate and Representative (CAR) reserve system (Figure 5). During this period, the most significant impacts to Victoria's old growth forests was fire – with 390,150 ha or 99% of the impacted old growth forests burnt (Australian Government and the State of Victoria, 2019), with the biggest fire events occurring in 2007 and 2013. The impact from logging was very minor in comparison (7 ha).

Further protections were announced in 2019, when the Victorian Government announced an immediate end to harvesting old growth forests. This followed VicForests implementing harvesting regimes that would exclude and protect old growth and other high conservation values from timber production – in effect providing informal protection in state forests (Australian Government and the State of Victoria, 2019).

Figure 4 Area of protected old growth forests and area burnt 2003-2018⁸



Some confusion may arise from the definition of old growth forest and modelled old growth forest, with the former relating the actual age of trees (usually senescent) and with little disturbance. This definition is found in the Code of Practice for Timber Production 2014 (as

⁸ Source: Adapted from Table 5 and 6, p. 28 and 30 [Further Assessment of Matters Report \(agriculture.gov.au\)](https://www.agriculture.gov.au). Area burnt covers data from 2006-2015.

amended 2022)⁹. Modelled old growth forests is a mapped area showing where old growth forest may occur but is not an indication that the forest is in fact old growth forest.

More recently, claims have been made that VicForests undertakes harvesting in national parks, particularly in relation to Wombat State Forest and the Dandenong's. The works undertaken are not harvesting but have been commissioned to remove debris and hazardous trees that arose from the 2021 storm events. Activities in Wombat have been commissioned by the Dja Dja Wurrung Traditional Owners to restore country. It should also be noted that Wombat State Forest has been flagged to become a national park but at the time of works, was not gazetted as a national park.

3.3 Claim: Native forestry is deforestation

Deforestation is defined in FAO's Global Forest Resources Assessment as:

"the conversion of forest to other land use independently of whether human-induced or not.² That is, deforestation is essentially referring to a change in land use, not in tree cover."(Food and Agriculture Organisation, 2020)

Therefore, whether it is native or plantation forestry, deforestation is the purposeful clearing of forested land with the intention of converting that land into non-forest uses like farms, mining or urban development. In fact, harvested coupes remain forests as these are regenerated.

Claim: Once logged, forests enter a logging cycle of as little as 20 years

Blue gum plantations are harvested on 15–20-year cycles. Pine plantations are harvested on 30–35-year cycles. Victorian native forests are harvested on 50–120-year rotations – it is notable that native wood is not of a merchantable quality until trees are at least 40 years in age.

The claim of 20 years appears to be derived from a report on the optimal rotation (Hartley, 1995), i.e. it does not address actual rotation lengths of harvested areas. At that time, the NSW Forestry Corp had an established native forestry rotation policy of 40 years in the Eden Management area. The research investigated what rotation was optimal. The report suggests that for the Eden region, the theoretical optimal rotation varied between 16 and 25 years depending on the species. This rotation arises from selective harvest regimes whereby only part of a coupe is harvested.

3.4 Claim: Native wood can be substituted with plantation wood or hemp

This is a simplistic view of wood products and ignores the properties of the various wood species, along with supply chain and consumers requirements. In Victoria:

- Pine is mostly used for various house construction uses, landscaping, posts etc
- Blue gum (produced mostly in SW Victoria) is generally chipped and used in paper production as well as exported. The Green Triangle Hub has a project underway to see if this can be used onshore in some type of glue laminated product combining both blue gum and pine (normally these laminated products use just the one species).
- Native (ash and mixed species) is used in various sawn wood applications (where appearance and durability are important traits, e.g. decks, architecture, house fit-outs, bridges, piers and other public infrastructure). Lower grades from the tree are used for

⁹ [Microsoft Word - Code of Practice for Timber Production 2014 \(as amended 2022\).docx \(forestsandreserves.vic.gov.au\)](#)

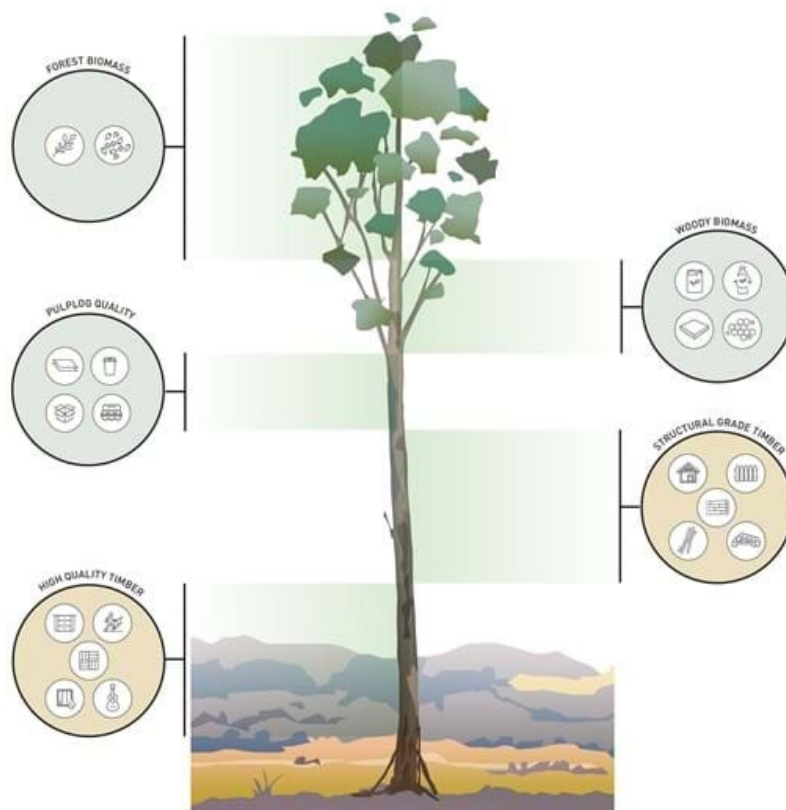
paper/cardboard products, and residue logs are used for pallets (lower quality but durable timbers).

Paper is a product that is more readily substituted with other species (e.g. pine or hemp). New research also shows that paper can be recycled more times than previously thought; however, virgin wood fibre will continue to be required with the recycled paper and cardboard. Virgin wood fibre is also required when hemp is used as the main input.

3.5 Claim: Most native wood ends up as pulp or wood chips and exported

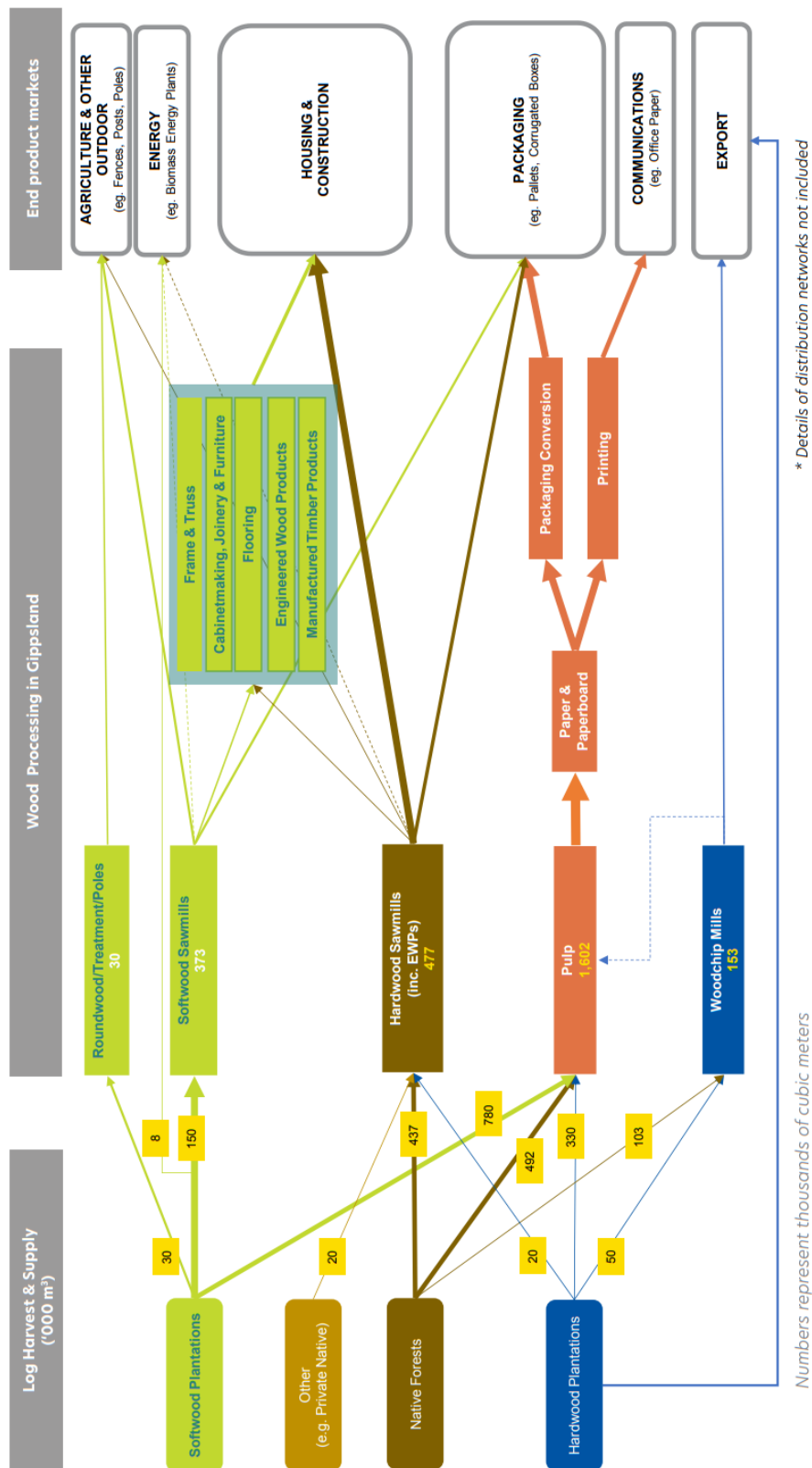
Victorian native forestry is a saw log industry, with residue and pulp logs a residue or by-product of the saw log industry. Each tree harvested contains different log qualities of saw logs, residue and pulp logs, i.e. individual trees are not pulp log trees only. Figure 6 depicts the parts of a tree and the main uses of these wood products. Saw logs are milled to produce structural timber for homes, floors, stairs, windows, high grade wood for furniture, and musical instruments. Residue logs are turned into pallets, critical to Australia's logistics industry and the ability to move goods through to the consumer. Pulp logs are made into a range of products for everyday use, including toilet paper and sanitary products used every day by every single Australian.

Figure 5 Wood products harvested from trees



The wood flow diagram (Figure 7) suggests that 42% of native forests is delivered to native sawmills. While there are several sawmills outside of Gippsland, it would be expected that a similar percentage would apply. The diagram includes wood chips and suggests around 10% of the native wood volume ends up as wood chips for export or for paper production.

Figure 6 Victoria's wood flows¹⁰



10 PF Olsen, 2022

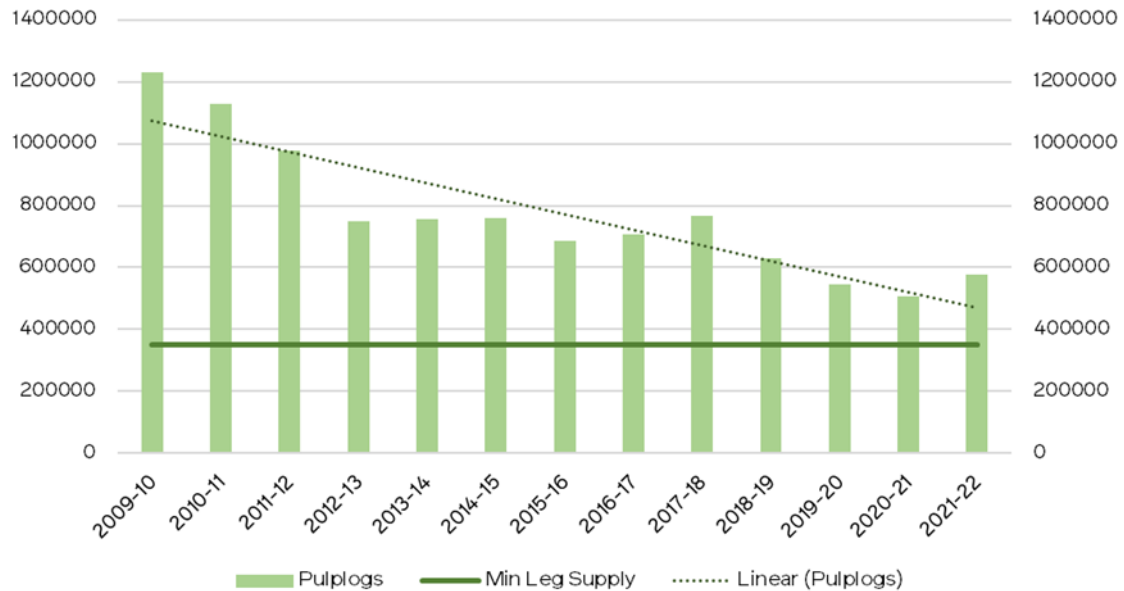
This is supported by VicForests' annual report data for 2021-22 (VicForests, 2022) which confirms that 36% of timber volumes in that year were directed to sawmills, 60% directed to paper and cardboard production and the remaining 4% directed to firewood, fencing timbers, poles, and woodchop logs (i.e. for competitions) (VicForests, 2022).

In terms of log value, sales figures for 2021-22 show that \$33.95M or 42% was received from sawmills, \$45.266M or 56% was received from residue customers and \$1.628M or 2% from firewood sales (VicForests, 2022). In terms of value per cubic metre, sawlogs are more profitable than residues logs given these are higher quality logs - with every \$1 in revenue paid to VicForests generating \$6.9 in value added through the supply chain (Deloitte Access Economics, 2017).

Following milling, wood by-product that does not end up as sawn timber, is prioritised to its highest value use, which may include racking sticks, kindling and other uses. Wood chips from mills is mostly derived from edging materials that cannot be recovered for higher value uses and is used either for onsite thermal energy production or on-sold for a range of other uses from chicken bedding to firewood, paper and cardboard streams (VicForests, 2020).

In 2018, Opal sourced 68% of its wood from plantations, 26% or 430,726 tonnes from VicForests and 6% or 99,249 tonnes from sawmills (Australian Paper, 2018). As shown in Figure 8, in recent years these volumes have been substantially reduced due to court injunctions that have impacted supply – with Opal making the decision in February 2023 to cease production of white copy paper at the Maryvale mill (Opal Australian Paper, 2023), reportedly due to court injunctions that saw native wood supply cease for all end uses.

Figure 7 Pulp log supply volumes 2009-10 to 2021-22 (m3)¹¹



Importantly, the use of wood fibre for paper and cardboard production is a high value use for these products. In Victoria, these products comprise 49% of the sector's total sales of over \$7 billion. Eighty-one percent of Opal's paper and cardboard production is used either in Australia or NZ, with 19% exported to more than seventy countries (Australian Paper, 2018).

¹¹ Data sourced from VicForests annual reports

While a small volume of native wood is directed to exports, wood chips exported from Victoria are largely derived from harvesting of plantation blue gums along with some pine.

The 2015-16 State of Forests Reports notes that 78% of Australia's commercial hardwood plantation estate is primarily managed for pulpwood production, with the remainder managed for sawlog production (Montreal Process Implementation Group for Australia, 2018). In 2021, Victoria exported just over two million tonnes of wood chips, comprising 24.5% of pine and 75.5% of hardwood, primarily plantation blue gum.

3.6 Claim: There is sufficient plantation timber to meet our woodchip, timber and paper needs – there is no need to import timber

These statements ignore that plantation grown pulp wood is not suitable for timber production (i.e. strength or other characteristics critical to timber applications) and/or the cost effectiveness and efficiency of timber supply chains, as well as the most appropriate use of the different tree species and parts of each tree. The key to the efficiency of the wood supply chains is that the harvested logs are grown within a maximum of 250 km of a processing site.

Every pine log is scanned to ensure it is cut to maximise the highest value use. Each log is cut to prioritise larger sections for construction, while smaller logs may be suitable for posts and poles, pallets, or other manufactured wood products. In Victoria, the processing facilities are mostly located at Mt Gambier, Colac, and NE Victoria. There is currently insufficient pine to meet Victoria's (and Australia's) housing needs.

Blue gums are grown primarily in the Green Triangle. The trees are chipped in the field and then transported to the Port of Geelong or the Port of Portland for export. Victoria's pulp and paper facilities are in Gippsland – some 500-700 km from plantation regions – thus making transport unviable for the use of blue gum wood chips.

Native hardwood is used where appearance and durability are important traits. Native hardwood timber is processed mostly in eastern Victoria close to the timber coupes in the region. At harvest, each native tree is scanned and then cut into sections for either sawlog processing or pulp/residue. If there is no pulp manufacturer, an alternative purpose for the pulp log portions of the tree is required, such as pallets (native hardwood pallets are important components of Australia's supply chains).

Innovations show an increasing use of the whole tree. As an example, researchers in the USA have combined by-product (sawdust, chips and offcuts) from milling operations with bio-resins to use in a 3D printed house, called BioHome3D (Berg, 2023). The future use of wood fibre will continue to evolve and innovate – and the industry along with it.

Residue left following harvest in both plantations and native coupes has been shown to provide the best fertiliser for the new crops of trees.

4 Claims in relation to carbon and climate change

4.1 Claim: Most paper has a short life, ends up at rubbish tips, or the carbon stored in paper products has an average life of three years

Research published in September 2022 shows that cardboard can be recycled twenty-five times with high quality – more than three times more than previous estimates (Eckhart, 2021). However, it is important to note that virgin forest biomass plays an important part, particularly for certain food packaging, and remains an important input for recycled paper and cardboard.

Paper products that can no longer be recycled can be used one last time as biofuels, or when stored in tips, the carbon continues to be sequestered (Eckhart, 2021).

4.2 Claim: Protecting forests mitigates the worst effects of climate change

This claim is not supported by the UN's IPCC, FAO or internationally accepted science.

A comparison of the broad categories of forests to area of land globally, Australia and Victoria are shown in Table 3 below (as a percentage of land area). As can be seen, Victoria's area of forests protected from harvesting is both significantly more than Australia and the world. It would seem unrealistic that removing the final tiny area of Victoria's forests available and able to be harvested would mitigate the worst effects of climate change, albeit Victoria's Central Highlands are substantial carbon sinks.

Table 3 Forest Uses (%)¹²

Category	Global (ice-free land)	Australia	Victoria
Plantation forests	2%	0.3%	2%
Forests managed for timber and other uses (including private forests)	20%	3.7%	0.6%
Intact or production excluded	9%	13.5%	35%

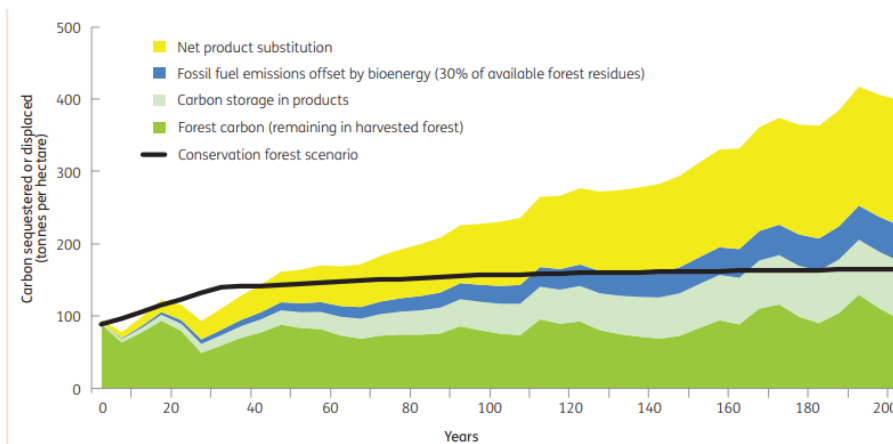
Reviews of studies that claim protecting forests mitigates the worst of climate change impacts generally have numerous issues such as inconclusive or vague description of factors used, unrealistically high forest carbon values, very high decay rates for wood in landfills, omissions or incomplete use of substitution impacts, and limited simulation periods (Ximenes, Carbon dynamics in native forests - a brief review, 2021).

Managing native forests in Australia for multiple uses including wood production leads to better climate outcomes than managing native forests for conservation alone. This has been demonstrated at a landscape level in life cycle studies (Ximenes, George, Cowie, Williams, & Kelly, 2012) of important native forest areas in New South Wales and Victoria, where both carbon sequestration in forests and the carbon dynamics in harvested wood products were considered. Source: (Ximenes, 2006).

Figure 9 clearly shows the modelled carbon sequestration differences between conservation forests (North Coast NSW) and managed forests where wood is sustainably harvested, with the latter delivering superior carbon outcomes. For Victoria, a comparison of harvest or conservation scenarios reveals that the greatest greenhouse gas (GHG) benefits were for the mountain ash harvest scenario, with a slight benefit for silvertop ash harvest option (Ximenes, Carbon dynamics in native forests - a brief review, 2021).

¹² Data sourced from IPCC, 2019, Montreal Process Implementation Group for Australia, 2018, and VicForests.

Figure 8 Greenhouse Gas Implications of Conservation and Harvest Scenarios for Native Forests on the North Coast Of NSW (t/ha)¹³



Ximenes concluded that the relative differences in the GHG balance of production and conservation scenarios do not warrant policies that aim to halt native forest management for wood production. Moreover, the research identified considerable room for improvement in the GHG outcomes from managing forests for production (Ximenes, Carbon dynamics in native forests - a brief review, 2021).

The United Nations Independent Panel on Climate Change (IPCC 4th Assessment) Special Report on Climate Change and Land reinforces the positive role of sustainable forestry and agroforestry in climate change mitigation:

A sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit.

Sustainable forest management aimed at providing timber, fibre, biomass, non-timber resources and other ecosystem functions and services, can lower GHG emissions and can contribute to adaptation (high confidence). B5.3.

Sustainable forest management can maintain or enhance forest carbon stocks, and can maintain forest carbon sinks, including by transferring carbon to wood products, thus addressing the issue of sink saturation... Where wood carbon is transferred to harvested wood products, these can store carbon over the long-term and can substitute for emissions-intensive materials reducing emissions in other sectors. B5.4.

Most mitigation pathways include substantial deployment of bioenergy technologies. B7.4.

The use of residues and organic waste as bioenergy feedstock can mitigate land use change pressures associated with bioenergy deployment. B3.3. (IPCC, 2019)

Likewise the Food and Agriculture Organisation (FAO) and the United Nations Economic Commission for Europe have consistently released statements which supporting sustainable management of forests for production is an important climate mitigation tool (Ximenes, Carbon dynamics in native forests - a brief review, 2021).

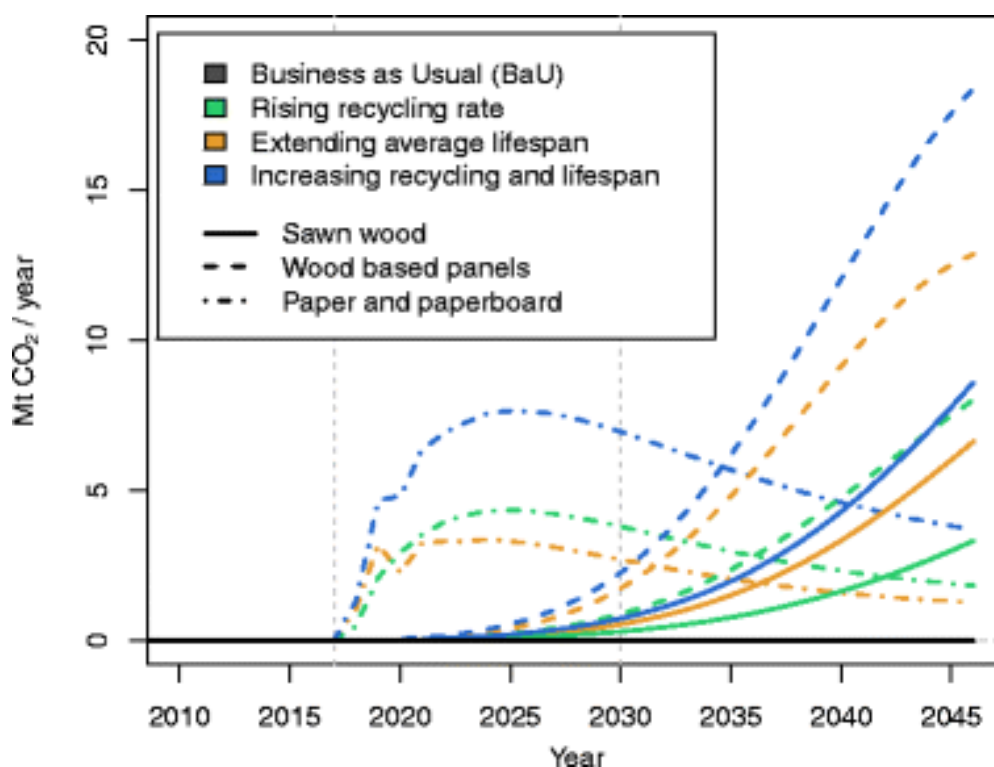
¹³ Ximenes, et al., 2012 in the Australia's State of Forests, 2013

4.3 Claim: Carbon stored in products is negligible, carbon is stored in a small percentage of timber and building products with a life span of 90 years

The lifespan of wood products depends on the tree species, the product, its environment, whether it has been preserved and care of the product. Untreated wood exposed to the elements will only last a few years, whereas resin treated wood can last for hundreds of years. A house for example, will last for on average around one hundred years.

A 2016 EU study shows that increasing the recycling rate of paper and paperboard is the best short-term strategy (i.e. to 2030) to reduce emissions, while elongating average lifespan of wood-based products and recycling wood products (Figure 10) is a better strategy for longer term periods (to 2046) (Brunet-Navarro, Jochheim, & Muys, 2017).

Figure 9 Modelled Increment of atmospheric CO₂ absorbed in Europe (EU-28) due to improvement of average lifespan, recycling rate or both (Mt CO₂-e/year)

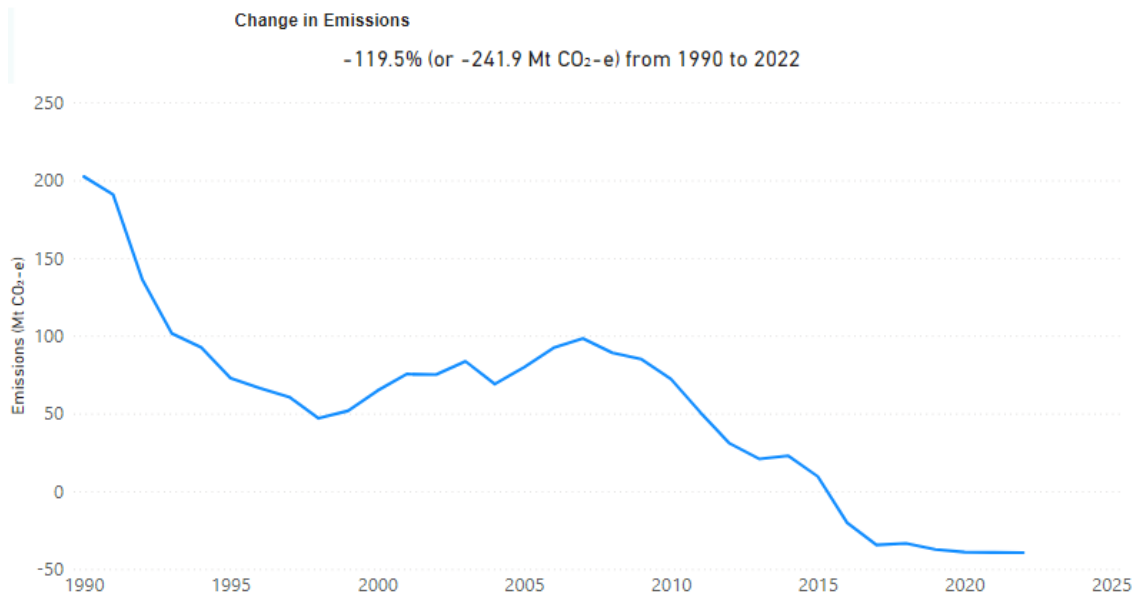


A recent report released during COP27 states that for every 1 kg carbon in wood products used in construction to substitute for non-wood products, there is an average emission reduction of approx. 0.9 kg of carbon (Makeka, 2022).

4.4 Claim: Logging is responsible for about 15–20% (or various iterations) of carbon emissions, protecting forests will reduce emissions by tens of millions of tonnes of carbon – equal to Australia's transport system

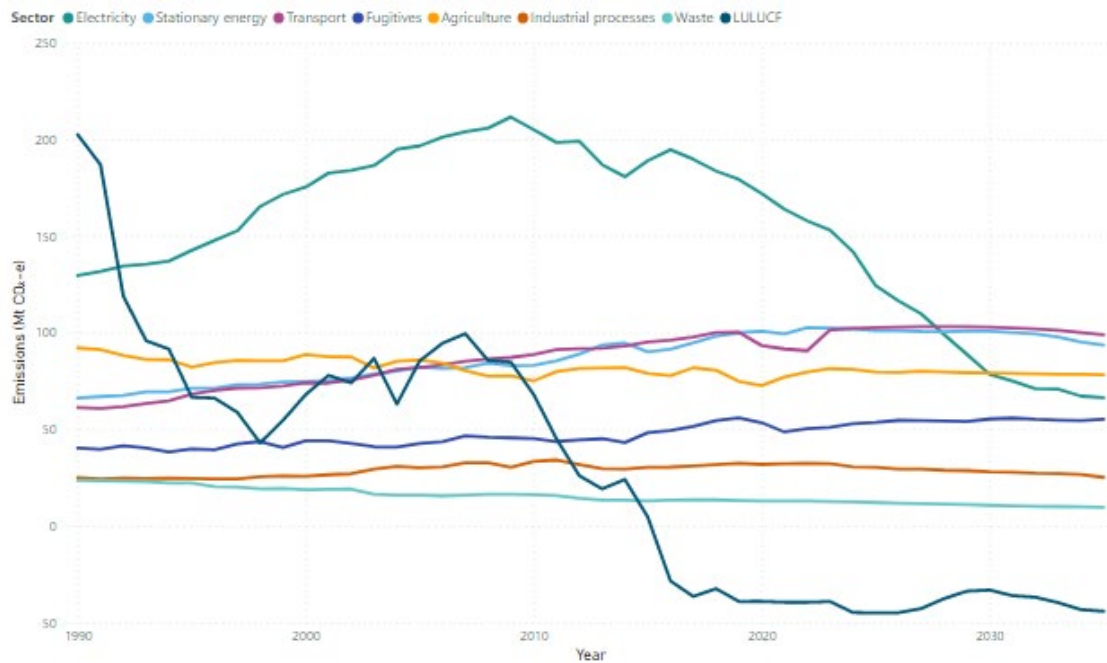
Logging is classified in Australia's carbon accounts under land use, land use change and forestry (LULUCF). The March 2022 (latest available) [National Greenhouse Gas Inventory](#) update states that LULUCF is the only sector that is net carbon sink. Since 1990, the sector has reduced its emissions profile by 241.9Mt or 119.5% from being a net emitter to a net sequesterer (carbon sink) of 39.46 Mt CO₂-e in 2022 (Figure 11).

Figure 10 Change in LULUCF Greenhouse Gas Emissions 1990-2022 (Mt CO₂-e)¹⁴



In December 2022, the Australian Government released projections to 2035. Figure 12 and Figure 13 show that LULUCF will remain a net carbon sink – the only sector to continue to do so.

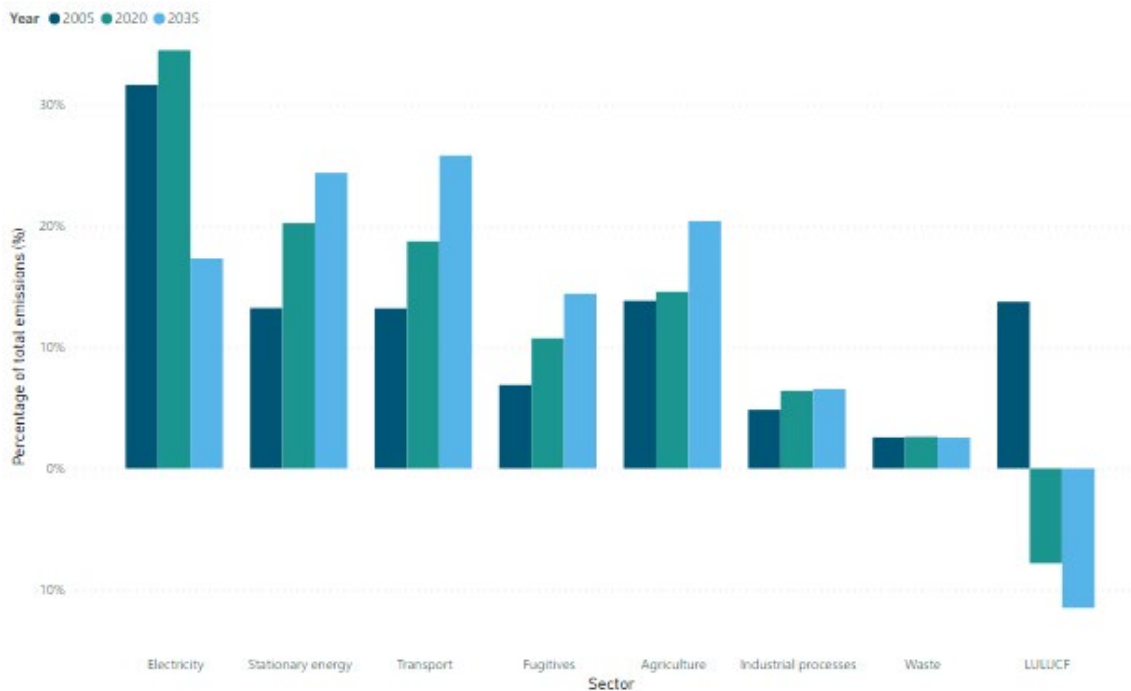
Figure 11 Australia's 2022 Emissions Projections in Baseline Scenario to 2035 (Mt CO₂-e)¹⁵



¹⁴ Department of Climate Change, Energy, the Environment and Water, 2022

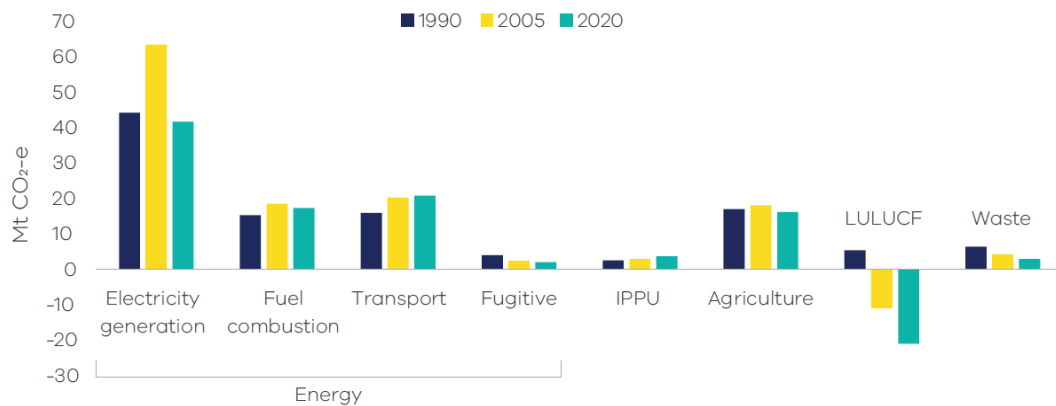
¹⁵ Australia's emissions projections 2022 - DCCEEW

Figure 12 Sector Shares in Australia's Emissions Projections to 2035 (Mt CO₂-e)¹⁶



In Victoria, LULUCF emissions show a similar story of being the only sector that is a net carbon sink in 2020 (Figure 14) and having reduced emissions by 26.5 Mt CO₂-e from 1990 to 2020. While being a net sink of -26% for CO₂ emissions, the sector contributes 0.6% to CH₄ and 0.1% to N₂O of Victoria's emissions but does not contribute to HFCs, PFCs or SF₆ emissions.

Figure 13 Victoria's Greenhouse Gas Emissions 1995-2020(Mt CO₂-e)¹⁷



Temporary loss of vegetation is reported under the forest land remaining forest land classification (includes historic plantations, harvested native forests and other native forests) (Department of Industry, Science, Energy and Resources, 2020). Figure 15 shows net emissions in 2020 were -39,946.8 CO₂-e (i.e., the negative figure means it is a carbon sink). When harvested wood products are included (Figure 16), the net sink increases to -44,186.4 CO₂-e. The trend in increasing sequestration of emissions is driven by a few factors, including the decline in harvesting of native forests in Australia (Figure 17), down to less than 40% of the area

¹⁶ [Australia's emissions projections 2022 - DCCEEW](#)

¹⁷ Department of Energy, Environment and Climate Action, 2022

harvested in 1990. Thus if the sector is a net sequester of carbon (even at the sub category level), the statement that the sector is responsible for 15–20% (or other iterations) of Australia's emissions is clearly incorrect.

Figure 14 Forests Remaining Forests within LULUCF Greenhouse Gas Emissions 1990–2020 (Mt CO₂-e)

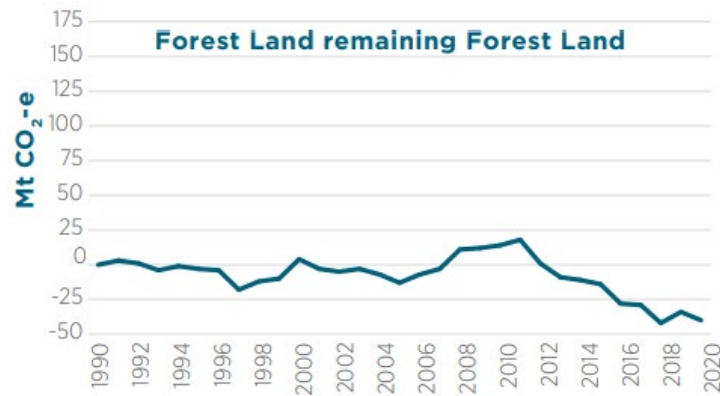
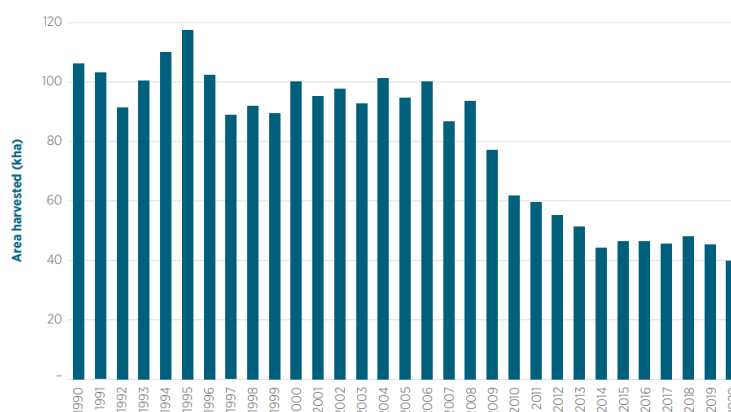


Figure 15 Harvested Wood Products within LULUCF Greenhouse Gas Emissions 1990–2020 (Mt CO₂-e)



Figure 16 Australia's Harvested Forests 1990–2020 (ha)¹⁸

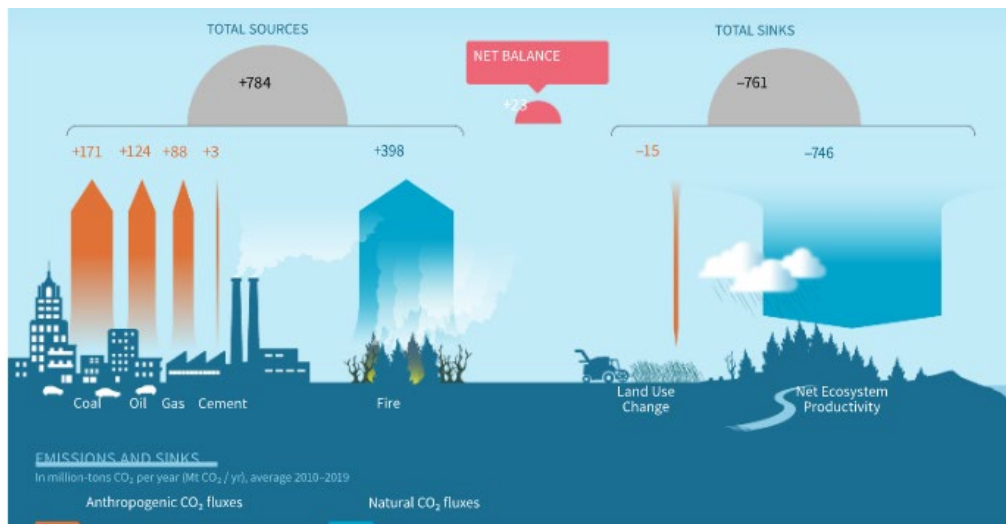


The State of the Environment Report 2022 shows that the single biggest emitter of carbon during 2010–2019 was bushfires, releasing 398 Mt CO₂ per year, a slightly larger volume than

¹⁸ Department of Industry, Science, Energy and Resources, 2020

coal, oil, gas and cement combined (Figure 18). As a subset of the LULUCF sector, native forestry is a net carbon sink.

Figure 17 Australia's Average Carbon Budget 2010–19 (Mt CO₂/year)¹⁹



4.5 Carbon is released from vegetation, soil disturbance, burns, fossil fuels used in equipment when forests are logged, along with manufacturing, and transport

CO₂ emissions are currently included only when there is land use change, e.g. deforestation, as this results in a loss of soil carbon (Bispo, et al., 2017). Calling for a cessation of native forestry is not the sole mitigation option available to forest managers. As an example, the use of soil char may improve soil carbon stocks.

Carbon is not released from harvested wood products, but the products continue to store carbon as shown by Ximenes above. The graph by Ximenes above includes carbon emissions from decomposition slash, harvesting etc.

4.6 Claim: We need to protect native forests immediately as a key climate change mitigation strategy

These comments appear to arise from The Critical Decade Report (Hughes & McMichael, 2011) and relate to eliminating harvesting of old growth forests and protecting primary²⁰ forests, which were included in the original 2011 version of the report. However, this was removed in the updated 2013 version of the report (Steffen & Hughes, 2013). It should be noted that harvesting of old growth forests has been prohibited in Victoria since 2019.

The original 2011 version also states that “*Natural ecosystems tend to maximise carbon storage, that is, they store more carbon than the ecosystems that replace them after they are converted or actively managed for production*” (Hughes & McMichael, 2011). This is also often quoted by environmental groups. This has also been removed in the updated 2013 version of the report.

Ross Garnaut updated his 2008 Garnaut Review in 2011 (Garnaut, 2011), with references relating to native forests being:

¹⁹ Canadell, 2021 in State of Environment Report Committee, 2022

²⁰ Primary forests are defined as a forest that has never been logged and which has developed following natural disturbances and under natural processes. Source: [Primary forest | Knowledge for policy \(europa.eu\)](https://ec.europa.eu/eip/primary-forest/).

- Limited information on carbon sequestration in native forests (p. 144), and if native forest harvesting is to cease, there is technical potential for abatement of 47 MT CO₂-e annually between 2010 to 2050 (p. 144)
- The sequestration benefits of **reducing** harvesting of native forests are considerable (p.144)
- Emissions reductions and bio sequestration in harvested native forests could be achieved by reducing the area harvested, or potentially through changes in harvesting practice. (p. 145), and
- Forests that are subject to minimal human influence are likely to be either mature or regrowing following fire or other natural disturbance, and therefore provide limited opportunity for active management to increase carbon storage (p. 145)

In summary, Garnaut noted that there is technical potential to improve carbon sequestration in native forests, and that there are several ways this can be achieved, including by not eliminating native harvesting, and actively managing conservation forests to increase carbon storage. The native hardwood industry has long advocated the need to actively manage all forests for ecological and fire management – and to salvage this timber for production.

4.7 Claim: Protecting the eucalypt forests in south-east Australia is equivalent to reducing the greenhouse gas emissions released in 2005 by 24%

The claim appears to arise from a 2008 Green Carbon report (Mackey, Keith, Berry, & Lindenmayer, 2008) that states that ceasing logging will avoid 136 Mt CO₂-e of emissions on average for the next 100 years and that this equates to 24% of the 2005 net emissions across all sectors.

According to the [Australian Greenhouse Gas Inventory](#), the net 2005 Australian emissions were 626.2 Mt CO₂-e and thus the study's presumed avoided emissions of 136 Mt CO₂-e would equate to 21.7% of total 2005 emissions.

Land Use, Land Use Change and Forestry (i.e. this category includes activities other than logging) in 2005 accounted for 90 Mt CO₂-e emissions. In March 2022, LULUCF was the only sector across the economy that is a net sequesterer of 39.46 Mt CO₂-e – having reduced emissions by 119.5% or the equivalent of 241.9 Mt CO₂-e. since 1990.

Native harvesting is a subset of LULUCF. Temporary loss of vegetation is reported under the forest land remaining forest land classification (includes historic plantations, harvested native forests and other native forests) (Department of Industry, Science, Energy and Resources, 2020). As per the graphs under the previous response, this subset was a net sequesterer of carbon in 2005.

The source of this claim is incorrectly interpreting Australia's carbon accounting framework, significantly overestimating the sequestration potential of the cessation of native forestry and arises due to flawed modelling:

- Unreliable estimation methods, including the weighting of mature trees of varying sizes, and property consideration around internal decay
- Carbon sequestered in wood products and landfills is either ignored, treated simplistically and/or underestimated
- Ignores the substitution of wood products for higher emissions products like steel, cement and plastic

- Fossil fuel displacement, even thermal energy for onsite production is ignored. (Ximenes, Carbon dynamics in native forests – a brief review, 2021)

Moreover, the use of 2005 data (even if the interpretation was correct) is also inappropriate in 2023.

4.8 Claim: Native forestry is emitting 3 MT carbon, equivalent to 700,000 cars

The *Victorian Forest Carbon Report* (Sanger, 2022) includes a one-page appendix outlining the methodology for calculating annual emissions. The estimated emissions are unreferenced, and lack any data or methods, and thus are unable to be interrogated.

The report's claims of carbon emissions from native forestry are at odds with both the Australian and Victorian carbon accounts (above) but may have been relevant if considering historic data (e.g. 1990).

Experts whose opinion was sought on the report suggest that the report is a limited assessment constrained by artificial accounting frameworks, which does not consider "what the atmosphere actually sees" e.g. long-term carbon storage in landfills, carbon savings due to product substitution, future potential for further improved carbon outcomes via alternative management of residues for bio products.

The cited carbon revenue benefits claimed are fictional, as the purported benefit cannot be monetised under existing ERF provisions.

The Sanger report is a glossy brochure at best and the author has previously had work on the same topic withdrawn due to questionable quality.

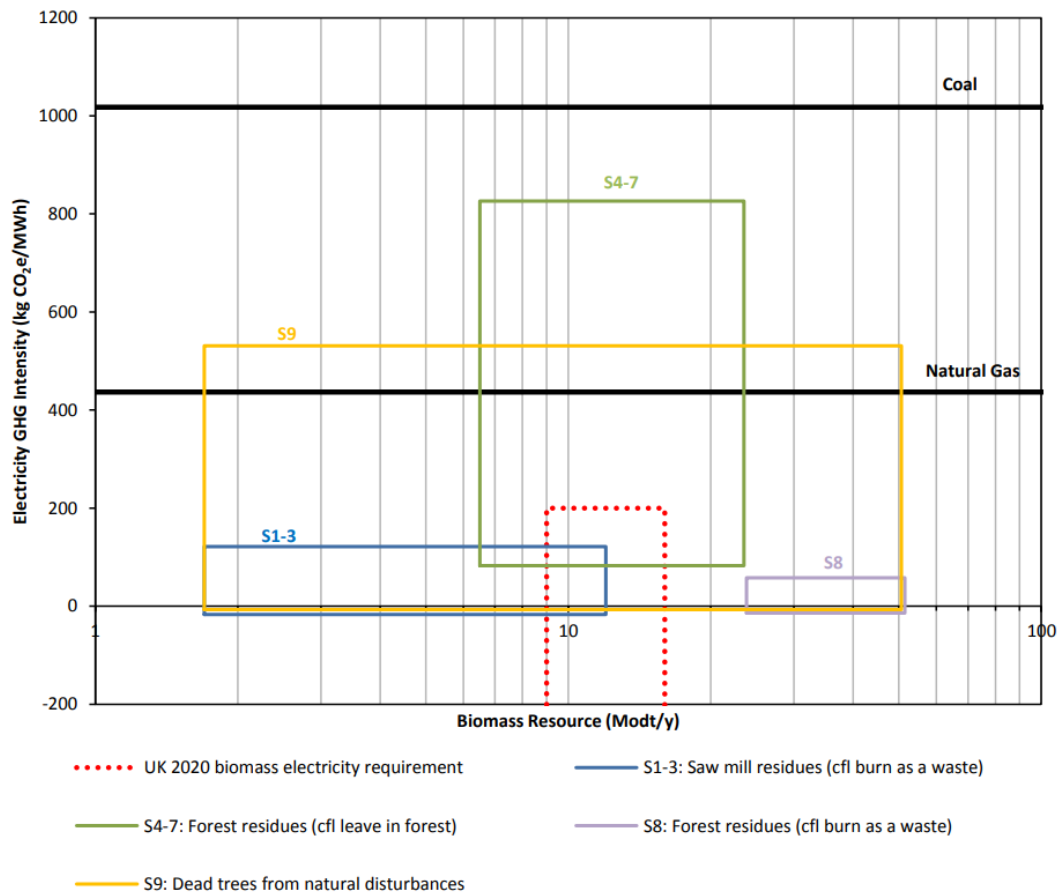
4.9 Claim: Logging releases ten times more carbon than a natural bushfire

The statement is at odds with Australia's State of Environment Report 2021. Figure 18 (page 24) shows Australia's carbon budget and the net effect in the atmosphere from 2010-29. The graph shows that the largest single emission is from bushfires (398 MT CO₂/year) with land use change (including native harvesting) a net sink at -15 MT CO₂/year.

4.10 Claim: Burning wood releases 1.5 times more CO₂ than burning coal to produce the same amount of energy

A U.S. study suggests that coal fired power stations emit on average 1,018 kg CO₂e/megawatt hour (MWh) of electricity – and are considered the dirtiest form of power generation. Gas comes in at less than half that (437 kg CO₂e /MWh), while biomass is under 200 kg CO₂e/MWh (Figure 19). Biomass is higher than other renewables such as wind (Stephenson & MacKay, 2014).

Figure 18 Electricity Greenhouse Gas Emissions Intensity from Wood Fibre Sources²¹



4.11 Claim: The only real motive for developing a biomass electricity industry based on native forest wood is because the demand for native forest woodchips for paper making is in long term decline

While it is true that there is an ongoing downward trend in the use of white paper (due to electronic communications), the demand for cardboard products and other native hardwood products is not in decline.

Despite the inclusion of biomass electricity generation as part of the Renewable Energy Target, there have been no RETs issued for this purpose. There may be biomass electricity generation outside the RET, albeit little is known about these operations.

Residues from processing are used onsite for thermal production mostly for drying the wood from the green mill after initial processing.

5 Claims in relation to the environment or environmental protection

5.1 Claim: Any logging of native forests is criminal in a climate emergency

In Victoria, timber harvesting in state forests is permitted under the state's timber harvesting and environmental legislative arrangements and other policy frameworks. These laws allow natural values to be protected while providing sustainable access to timber resources. The [multiple pieces of legislation](#) are available online.

²¹ Stephenson & MacKay, 2014

No law in Victoria currently prohibits native forest harvesting under state or federal legislation.

5.2 Claim: Alpine and Mountain Ash forests are critically endangered

Australian Law

Mountain Ash (*E. regnans*) is included as one of many species listed as part of the Cool Temperate Mixed Forest Community listed under Victoria's Flora and Fauna Guarantee Act (FFG Act). However, Alpine ash is not listed and neither tree is listed as endangered flora. A number of forest communities are included in [one Action Statement](#) (Department of Sustainability and Environment, 2009), however the Cool Temperate Mixed Forest Community is not included and nor is Alpine or Mountain Ash. Nor are these listed as flora or threatened communities under the EPBC Act.

International Frameworks

Mountain Ash Ecosystem has been listed as Critically Endangered under the International Union for Conservation of Nature (IUCN) Red List of Threatened Species, with fire listed as the primary threatening process – with native harvesting listed as the primary form of human disturbance.

IUCN listing is not legally binding and does not trigger the need to create legislation – it is merely an assessment tool.

The listing was based on a 2014 ecological assessment that focussed on hollow bearing trees across the landscape, and which had the following limitations:

Old growth is not the only predictor of hollow-bearing trees; they exist throughout the landscape and are often associated with riparian zones.

The report indicates 20% of Mountain Ash forests are preserved from timber harvesting, whereas at least 70% of the remaining forest is preserved from timber harvesting. Some 50% of the forest extent formally preserved and a further 20% is excluded from harvesting in accordance with the Code of Practice for Timber Production 2014 and other regulations.

The recruitment and development of hollow-bearing trees over time was not considered.

Since the report was published, VicForests has implemented changes to its forest management systems to improve the protection of high conservation values such as the retention of hollow bearing trees or future hollow bearing trees.

Further information can be found [here](#).

The listing also fails to note that native harvesting is strictly regulated in Victoria, including protections for fauna, hollow bearing trees, old growth forests, water and soils.

One third of the references used for IUCN listing is from one assessor and this could be considered 'self-citing'. When including known research collaborators, the self-citing percentage is 58%. This assessor, a known protagonist supporting the cessation of native forestry, is the key architect, author and protagonist seeking the establishment of the Great National Park in the Central Highlands, and it could be argued that the assessment lacks independence.

5.3 Claim: Logging is pushing threatened species towards extinction and has a devastating impact on wildlife and their habitat

Overexploitation, agriculture and urban development are the leading drivers of species decline globally. This is at odds with Australia, where the dominant threats are invasive species (82% of EPBC listings), ecosystem modifications which include mostly fire regimes (74.1%) and agriculture (56.9%) (CSIRO, 2019). Overexploitation mostly impacts 27.4% of listed species with the more significantly impacted taxa groups being invertebrates, amphibians and fish species (CSIRO, 2019).

No Victorian forest is listed under Federal EPBC Act as [critical habitat](#) (Department of Climate Change, Energy, the Environment and Water, 2022). While land clearing is listed as a key threatening process, the definition excludes native forestry as it primarily relates to deforestation whereby forests are replaced by non-local species or human artefacts:

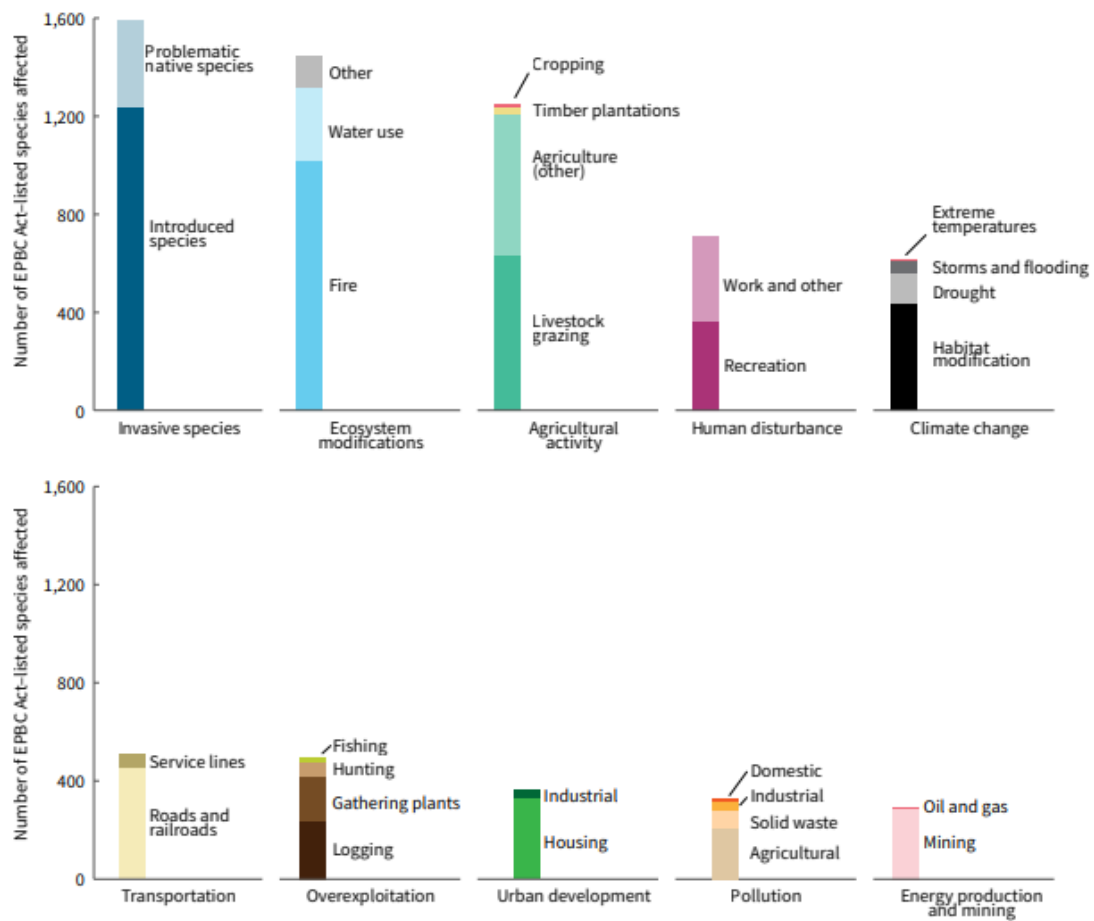
Land clearing consists of the destruction of the above ground biomass of native vegetation and its substantial replacement by non-local species or by human artefacts. Native vegetation is defined as vegetation in which native species constitute more than 70% of the plant cover, or other vegetation containing populations of species listed under the EPBC Act. Substantial replacement by non-local species or human artefacts is defined as the achievement of more than 70% of the total cover by species or human artefacts that did not occur previously on the site. (Threatened Species Scientific Committee, 2021)

The State of the Environment Report (State of Environment Report Committee, 2022) states that ongoing community concerns, notably from Chris Taylor and David Lindenmayer (Taylor & Lindenmayer, The adequacy of Victoria's protected areas for conserving its forest-dependent fauna, 2019) (Taylor & Lindenmayer, Temporal fragmentation of a critically endangered forest ecosystem, 2020) about the impact of forestry operations on threatened forest dependent species led to a court case between the Bob Brown Foundation and the Commonwealth of Australia. The court found the Tasmania RFA in question to be valid for the purposes of the Regional Forest Agreements Act 2002 and the EPBC Act – an appeal to the High Court was rejected.

An analysis of extinctions listed under the respective Victoria and Federal environmental law shows that no one species has become extinct due to logging. Victorian species that have become extinct do not coincide with the regions where native forestry have occurred. Moreover, the major reasons for extinction include predation, habitat loss & degradation (rabbit), changes to Indigenous fire regimes, agriculture/clearing for agriculture, tramping, grazing pressure (livestock, rabbits), illegal take, soil disturbance, and a small distribution that is often combined with the other causal factors listed.

This is supported by a CSIRO report analysing EPBC threats to species (Figure 20) that shows clearly that invasive species impacted 82% of EPBC listed species (CSIRO, 2019). In this report, logging is not noted as the main driver but a supplementary driver in conjunction with other impacts such as disease, climate change etc, particularly for species that are already under pressure.

Figure 19 Prevalence of Threats to Australian Threatened Taxa²²

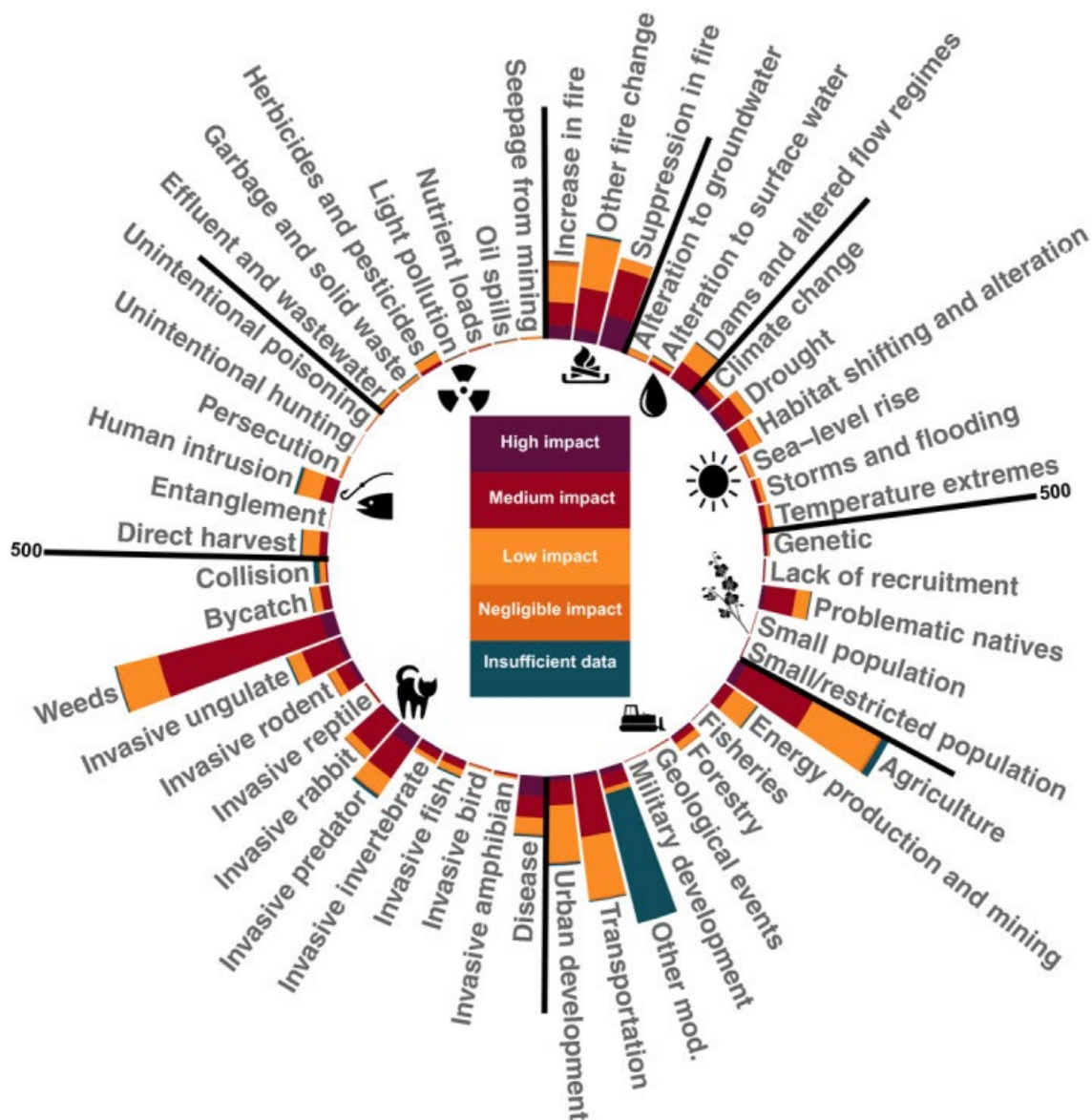


An alternative representation of the number of threatened species is shown in Figure 21. The supplementary data underpinning this research shows that logging and wood harvest impacts forty species out of 4876 – 0.8% of EPBC listed species. When these are further narrowed to those species listed for Victoria that also occur in native harvesting areas, the number of species is confined to eight species – three birds, three mammals, one fish and one invertebrate – or just 0.16% of listed species.

The broad threat levels depicted in Figure 21 (clockwise from the top) are adverse fire regimes, changed surface and groundwater, climate change and severe weather, disrupted ecosystems and population processes, habitat loss, fragmentation and degradation, invasive species, overexploitation and other direct harm from human activities, and pollution.

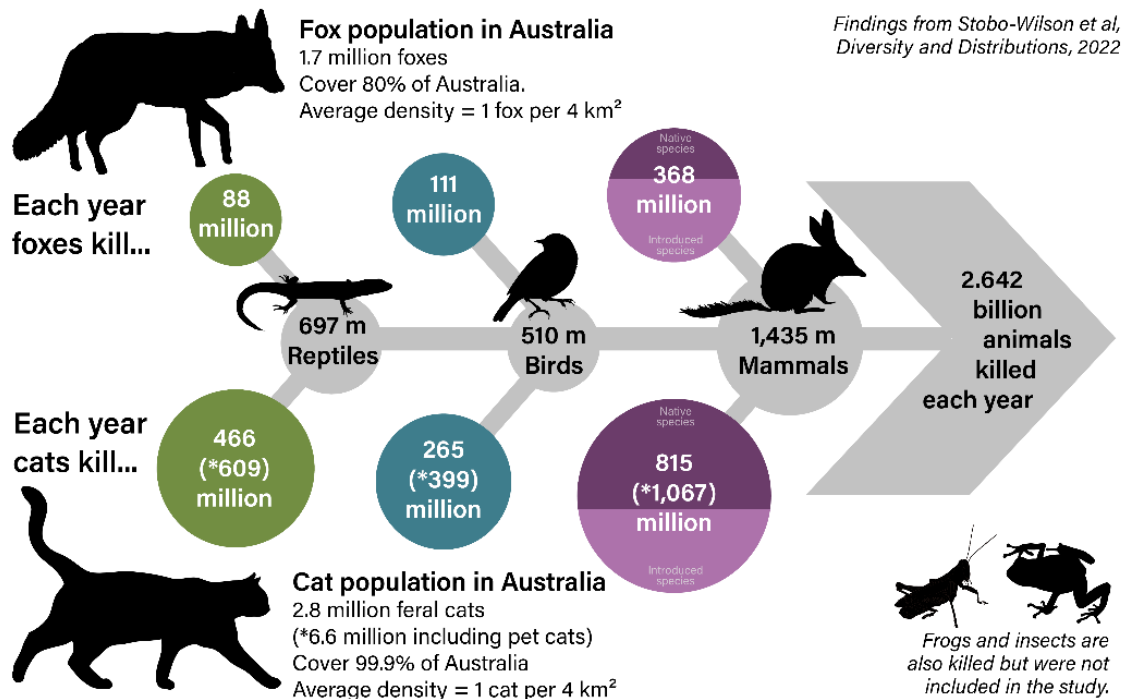
²² Murphy & Leeuwen, 2021

Figure 20 Number of threatened species and relative level of impact for each subcategory threat (Ward, et al., 2021)



A subsequent 2021 report shows that the single biggest threat to Australia's plants and animals are invasive species – with the worst being rabbits, cane toads, feral cats, feral pigs, red imported fire ants and European carp (Sheppard & Glaznig, 2021). Feral cats and foxes kill more native animals each year (Figure 22) than were killed in the 2019-20 bushfires (ABC News, 2022).

Figure 21 Animals Killed in Australia each year²³

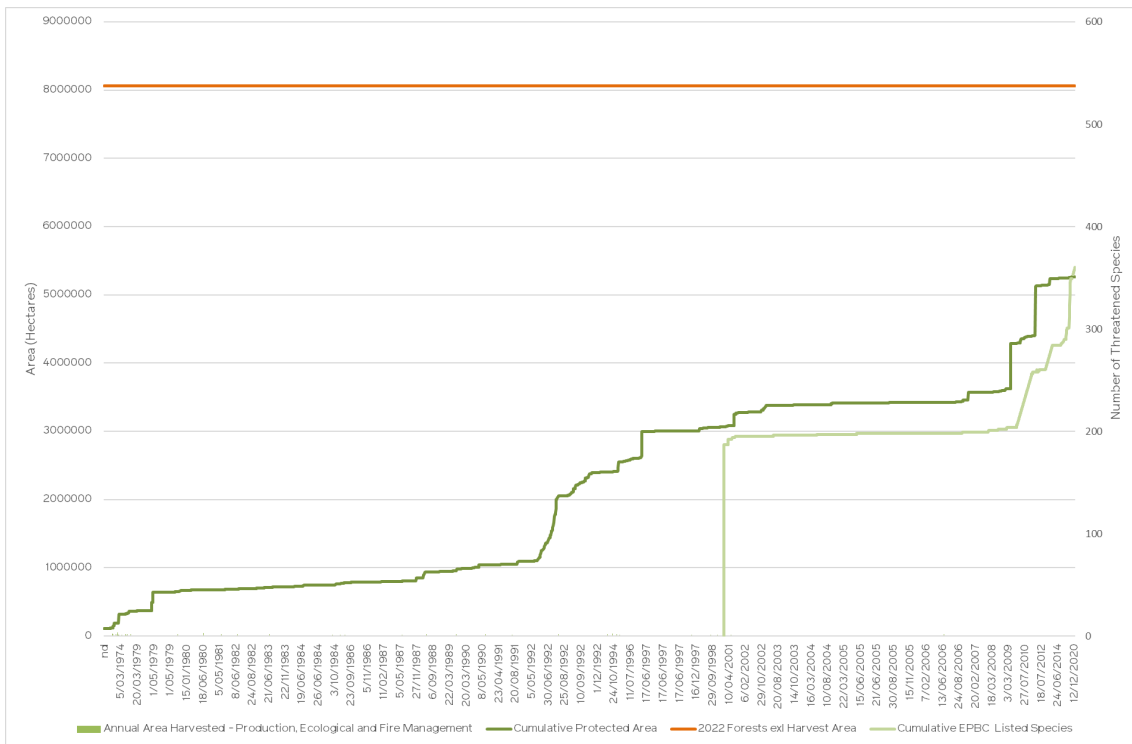


Despite the significant and ever-increasing conservation estate, the list of threatened species continues to grow. Figure 23 tracks additions to Victoria’s conservation estate against the Federal Government’s EPBC Act listings for Victoria (the Victoria FFG Act listing could not be included due to the lack of public information on the date listed). The area of forests harvested along with the areas managed for fire mitigation or other ecological management is included as a barely discernible bar graph at the bottom – and only in some years. The orange line at the top shows the total forest estate excluding the area available and able to be harvested. The small area harvested each year is unlikely to be the causal factor for extinction of species, and it could be said is so low it should not trigger the precautionary principle.

The critical question needs to be asked whether the conservation estate is being managed to deliver the outcomes for Victoria’s plants and animals.

²³ ABC News, 2022

Figure 22 Australia's Protected Terrestrial Estate and EPBC Threatened Species Listings²⁴



5.4 Claim: Many threatened forest-dependent species are still subjected to logging

These claims largely come down to e-NGO views that every animal or plant must be protected, versus the enacted legislation, subservient regulations and policies which focus on landscape scale protection underpinned by the national reserve system.

In Victoria, timber harvesting in state forests is permitted under environmental laws that allow natural values to be protected while providing sustainable access to timber resources. The [multiple pieces of legislation](#) outline:

- Where and when timber harvesting activities can occur, and
- How timber harvesting activities are conducted in compliance with Victorian laws and regulations.

The [Code of Practice for Timber Production](#), along with the Management Standards and Procedures that are incorporated into the Code, is the primary regulatory document. In addition, the [Office of Conservation Regulator \(OCR\)](#) oversees VicForests compliance through surveys, monitoring compliance along with investigating breaches and taking enforcement action.

The DELWP/OCR also conducts pre-harvest surveys in around 64% of coupes through the Forest Protection Survey Program²⁵. These surveys identify the presence of threatened species in coupes proposed for harvesting that then triggers compliance actions as required in the Code of Practice.

²⁴ Protected area data sourced from Department of Climate Change, Energy, the Environment and Water, 2021 and Threatened Species listings have been sourced from the SPRAT database (Department of Climate Change, Energy, the Environment and Water, 2022)

²⁵ [Forest Protection Survey Program | Victorian Government \(www.vic.gov.au\)](http://www.vic.gov.au)

In 2019, VicForests implemented [harvesting and regeneration reforms](#) with a focus on biodiversity and high conservation values. There is an increased focus on adaptive approaches to selecting and applying harvesting and regeneration systems that retain and protect a broad range of forest values including the Greater Glider and Leadbeater's Possum.

In 2019, the Federal Government's Threatened Species Scientific Committee [conservatively estimated](#) the Leadbeater's possum population at between 2,500 and 10,000. A total of 1,123 unique Leadbeater's Possum colonies (3-16 possums per colony) have been discovered since June 2014 and verified in a range of surveys.

Approximately 13,600 ha of State Forest is [currently protected in Leadbeater's Possum colony buffers](#). Since 2013, VicForests has established around 1,000 exclusion zones in State forests. This has resulted in an additional 5,500 ha of ash forest being reserved from harvesting activities to date.

All Australian governments have agreed that species protections are primarily managed through the CAR reserve system, which comprises a substantial proportion of Victoria's public land. Timber harvesting operations are excluded from these areas which aim to protect and maintain large areas of suitable habitat.

Information on how VicForests protects native wildlife during harvest can be found [here](#), including protections in relation to Greater Glider, Leadbeater's Possum, old growth forests, and water etc.

In June 2022, the Minister for the Environment and Climate Action was asked in Parliament how many prosecutions have resulted from referrals to the Office of Conservation Regulator regarding timber harvesting activities. The following [response](#) was tabled on 29 August 2022:

"Since its establishment in 2019, the Conservation Regulator has not commenced a prosecution as a result of a referral to it in regard to allegations of a breach of Victoria's commercial timber harvesting laws."

Moreover, litigation by various environmental groups in Victoria against VicForests have so far failed with the five decisions handed down out of twelve cases in favour of VicForests. Two recent cases were found in favour of the plaintiffs, but appeals are now underway through the courts.

5.5 Claim: There is no difference whether endangered wildlife is killed here or overseas

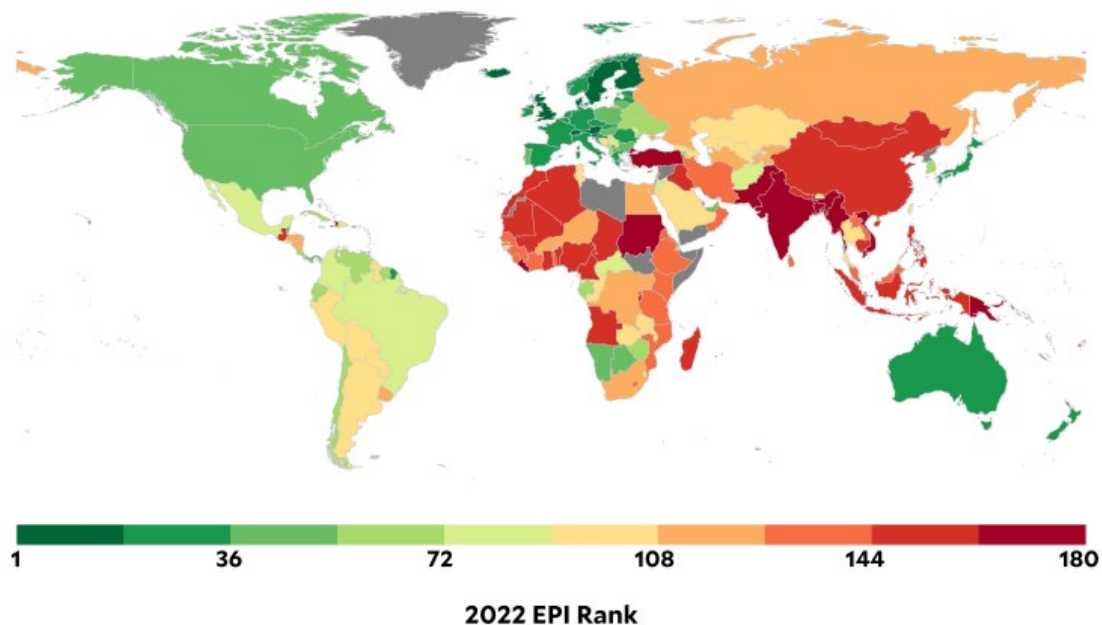
The threats to species in Australia are quite different from the rest of the world. In Australia, invasive species and fire are the single biggest threats (Figure 20 on page 30; Figure 21 on page 31) whereas the biggest drivers globally are over-exploitation, agriculture and urban development (CSIRO, 2019), which is clearly shown on the following diagram taken from the 2021 State of Environment Report (Murphy & Leeuwen, 2021).

The key difference between Australia and other countries is that some developing/least developing countries have neither the regulatory environment nor the resources to manage the impacts to plants and animals in their countries. Moreover, 74% of Victoria's hardwood imports come from countries with a higher corruption index than Australia, while 37% of these came from developing and least developed countries.

Australia is a developed country with the capability and resources to manage a sustainable native forest industry – with a high level of regulation. The Environmental Performance Index ranks 180 countries (Figure 24), particularly against the Sustainable Development Goals,

including change of forest cover. In 2022, overall Australia ranked 17th and 13th for global west countries (Environmental Performance Index, 2022). Within the three major assessment areas, Australia ranked eighth for environmental health, 16th for ecosystem vitality and 71st for climate change policies.

Figure 23 Environmental Performance Index Rankings for 180 Countries 2022²⁶



The EPI notes that when it comes to environmental outcomes “*wealth and good governance matter*” (Wolf, et al., 2022, p. 45) and that environmental drivers can be improved with robust public debate, accountability of officials and better enforcement of protections (Wolf, et al., 2022, p. 46). These points are important given that 93% of hardwood imports came from countries with a lower EPI than Australia and nearly 50% of these imports coming from countries that are classified as global south.

5.6 Claim: Logging is exempt from Australia's environmental laws/VicForests engages in 'lawless' logging

This statement is incorrect. Victoria's native forests are harvested under a strict regulatory environment. The EPBC Act requirements have been delegated to Victoria through the Regional Forest Agreements (RFAs) and Victoria's regulatory environment, including the Code of Practice for Timber Production. The major constraint of the RFAs is that the Australian Government has no ability to ensure compliance with the RFA, including that timber production should be maintained for the ecosystem services, and socio-economic benefits it provides to Victoria.

Importantly, 1.7% of Victoria's public forests are available and able to be harvested on a 50–120-year cycle. This means that each year just 0.04% of the forest is harvested using variable retention harvesting. It could be argued that this small area would not trigger the precautionary principle, and if it did, an alternative would need to be considered. A review of the interpretation of the precautionary principle identifies three considerations in its application:

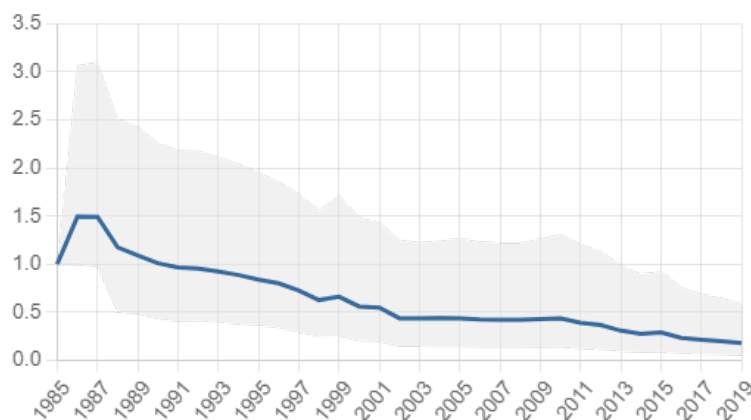
²⁶ Wolf, et al., 2022, p. 16

- 1) supplementation of additional decision principles where there are competing top priorities
- 2) the application of current science, and
- 3) the need for scientific updates and excluding too implausible dangers (Hansson, 2020).

In 2021, the Victorian Auditor General's Office issued a scathing audit of the Department of Land, Water, Environment and Planning (DELWP)²⁷ in its acquittal of its responsibilities under the *Flora and Fauna Guarantee Act 1988* (Vic) and the *Protecting Victoria's Environment-Biodiversity 2037*. VAGO stated that DELWP cannot demonstrate if, or how well, it is halting further decline in Victoria's threatened species populations, noting the use of outdated data in models, critical gaps and that its cost-benefit approach can miss endangered threatened species at extreme risk of extinction.

Figure 25 depicts the declining EPBC Act Threatened Species Index since 1985 (1985 is the base year and has a score of one, with scores less than one being a decrease since 1985) and is a sad indictment of Victorian Government's management of its public land. This supports the above high-level analysis where there is a high correlation between increased national parks over the last 150 years and increased national parks and listings on the EPBC Act since 2000.

Figure 24 Australia's EPBC Act Threatened Species Index 1985-2019²⁸



5.7 Claim: Native harvest areas have a high conservation value compared to forests set aside in the NRS

One of the main reasons for the vitality of harvest areas is that these are managed – consistent with Indigenous land management practices over tens of thousands of years. There is a significant difference between the Eurocentric wilderness views and how this has both influenced policy and promoted the exclusion of Traditional Owners (Fletcher, Hamilton, Dressler, & Palmer, 2021).

In an effort to manage the competing demands of conservation and industry, Australian governments agreed to the National Forest Policy Statement in 1995 as the framework to deliver a long term solution, which includes the establishment and protection of a forest reserve system that is comprehensive, adequate and representative (CAR), the ecologically sustainable management of forests outside the reserve system and the development of an

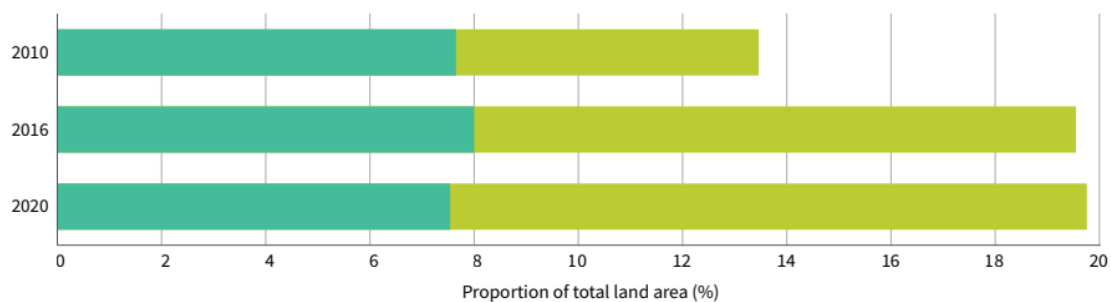
²⁷ Since 1 January 2023, DELWP is part of a new Department, the Department of Environment, Energy and Climate Action

²⁸ University of Queensland, 2022

efficient and internationally competitive timber industry (ANZECC, 1997). In Victoria, this CAR system now protects over 98% of Victorian forests.

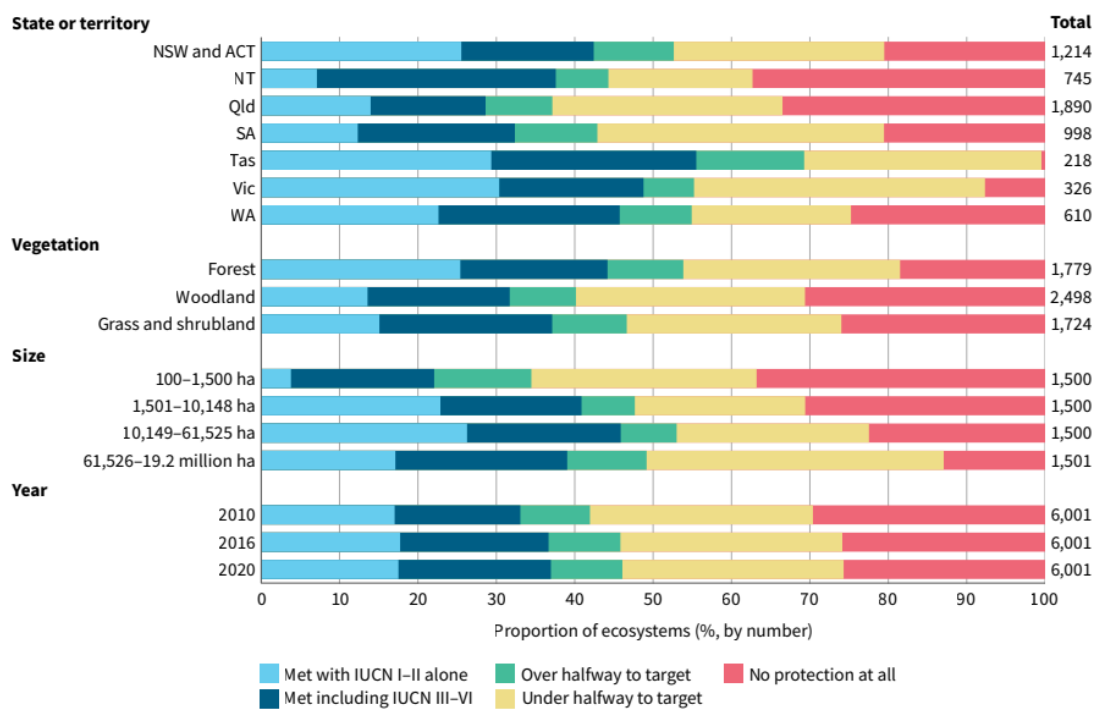
The purpose of Australia's protected areas is to conserve at least 17% of ecologically representative areas (Aichi target 11). Ecologically representative means "*protected area systems should contain adequate samples of the full range of existing ecosystems and ecological processes, including at least 10% of each ecoregion within the country*" (State of Environment Report Committee, 2022). This is reflected in Australia's Strategy for the National Reserve System 2009-2030, with priority given to under-represented IBRA bioregions with less than 10% protection in the NRS (Murphy & Leeuwen, 2021). The area of Australia in the NRS is nearly 20%, having increased from just under 14% in 2010 (Figure 26). The Federal Government has now set an aspirational target to reserve 30% of Australia's land in the protected terrestrial estate by 2030.

Figure 25 Area of Land in the National Reserve System 2010-2020²⁹



Victoria has met the target achieving 30% with IUCN I-II and nearly 50% with the inclusion of IUCN III-VI (Figure 27).

Figure 26 Proportion of Ecosystems Protected (IUCN Classifications)³⁰



²⁹ Murphy & Leeuwen, 2021

³⁰ Ibid

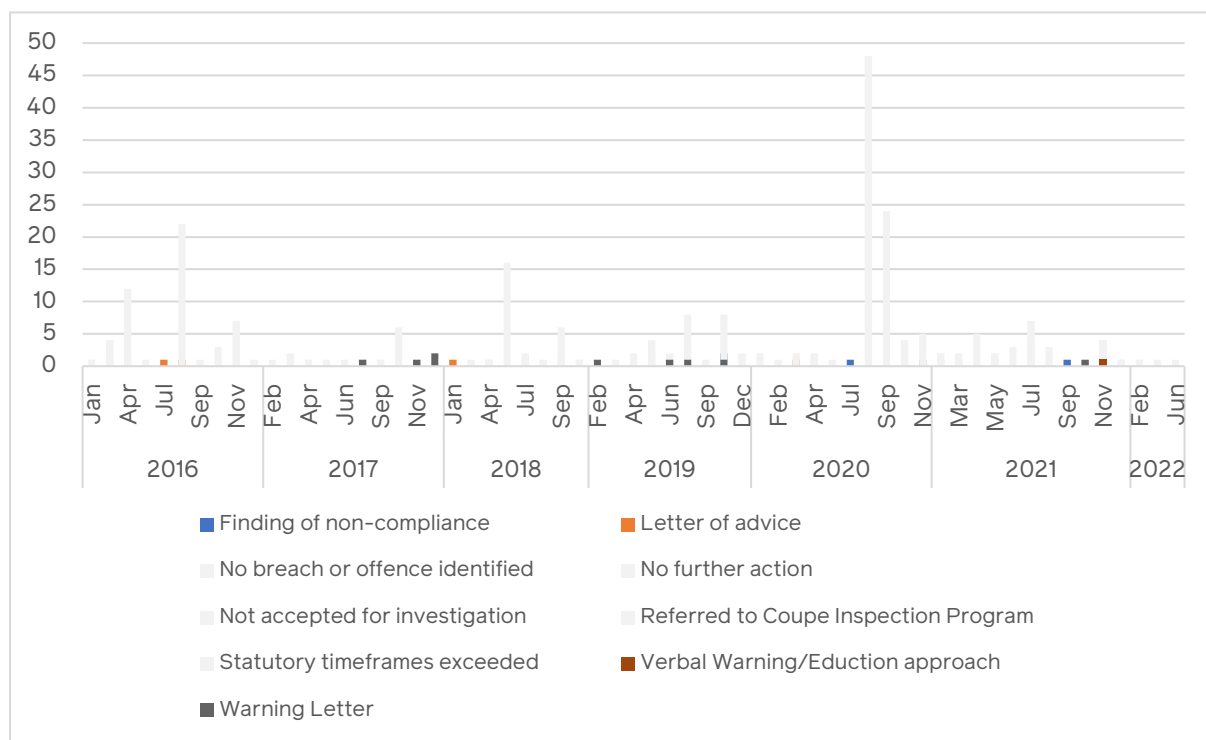
If environmental NGOs wish to add additional harvest coupe areas to the CAR, the forestry sector would be open to a conversation about substitution of areas within the CAR that are harvestable but not ecologically important with areas outside the CAR that are deemed of high ecological value.

5.8 Claim: State logging agencies routinely break environmental laws, systemic breaches

Claims of **systemic** breaches have not been found by VicForests' regulator, the Office of Conservation Regulator.

The Victorian Government established the Office of Conservation Regulator in 2017, with one of its roles being to regulate VicForests adherence to the Code of Practice for Timber Production. The OCR has several regulatory tools at its disposal in the event of a finding against VicForests (Figure 28), which shows two findings of non-compliance over the period 2016-2022. In relation to these two small breaches, the OCR found no evidence of environmental impact.

Figure 27 OCR Outcomes of VicForests Investigations (2016-2022)³¹



In relation to recent third-party litigations of VicForests through the Courts:

- Friends of Leadbeater's Possum (FOLP) v VicForests was initially won by the plaintiffs but this was overturned on appeal
- Warburton Environment v VicForests 2020 (the Tree Geebung case) was handed down in favour of the Plaintiff but is awaiting appeal

³¹ Data sourced from the Office of Conservation Regulator

- Kinglake Friends of Forests/Environment East Gippsland v VicForests (the glider cases) was won by the Plaintiffs but is awaiting the outcome of appeals. The outcome will also influence a third case brought by Gippsland Environment Group, and
- The remaining cases were dismissed, found in VicForests' favour or remain before the Courts.

Moreover, those supporting the litigation against VicForests, along with some journalists, continue to use outcomes of primary cases to support their cause against native forestry despite such cases being overturned on appeal³². This comes down to how individuals unfamiliar with Australia's legal system interpret appellate court decisions.

5.9 Claim: Logging impacts water yields in catchments threatening water for agriculture and urban centres

The Code of Practice for Timber Production requires that waterways are protected from harvesting by using vegetation buffers, minimising activities on steep slopes, use of vegetation filters, connectivity between waterways and vegetation buffers, avoiding or minimising machinery movement, scheduling operations in areas appropriate to the season, and taking due care and diligence with road construction.

Moreover, one study into the impact of timber harvesting on water yield suggests that water storage levels in Melbourne's catchments would increase by 1% over the next 40 years (Feikema, 2006).

Such claims made to the Office of Conservation Regulator have been found unsubstantiated, as the claimant, Prof David Lindenmayer, based his claims of impact to Melbourne's water catchments was "*based on modelled data and insufficient in-field sampling to make a valid inference*" (VicForests, 2021).

Historical logging activity in Melbourne's water catchments were greater than levels today. The quality of Melbourne's drinking water throughout history and today validates that harvesting practices protect Melbourne's drinking water quality.

6 Claims in relation to Bushfires

6.1 Claim: Logging of native forests increases the risk and severity of bushfires, puts communities at risk, and harvested forests are more flammable³³

An ANU [Media Release](#) in August 2021 states:

Logged forests near regional and rural towns and settlements are at increased risk of increased fire severity, new research from The Australian National University (ANU) shows.

The media release referenced a study that included one comment only in relation to communities in the opening sentence of the introduction:

Fire is a key ecological process in many terrestrial ecosystems globally (Bowman et al. 2009), and it has important effects on vegetation, biodiversity, and carbon loss, as well as on human communities, human health, and economies (Moritz et al. 2014, Boer et al. 2020, Vardoulakis et al. 2020). (Lindenmayer, Taylor, & Blanchard, 2021)

³² For example, [VicForests win appeal against Leadbeater's Possum logging case \(smh.com.au\)](#)

³³ For example, [Media release dated February 2022 from the Goongerah Environment Centre, letter to the editor](#) dated July 2022, [media story](#) dated May 2020 and a [media story](#) dated October 2021

Of the references used in relation to communities, only the Moritz et al study relates to learning to coexist with wildfires, mentioning mitigating the risk to human communities in the abstract.

A word search of settlements yielded three comments:

“logging resets stand age to zero, after which there is a subsequent period of increased probability of high-severity fire, particularly under extreme fire weather conditions. Therefore, policies to maintain cover of older forest near settlements should be considered. (End of the Abstract)”

Given relationships between fire severity and time since previous major disturbance for some forest types and under some fire weather conditions, we suggest that stands managed for timber production near settlements may be at increased risk of high fire severity. This is because clear cut logging resets stand age to zero, after which there is a subsequent period of increased probability of high-severity fire, particularly under extreme fire weather conditions (Figs. 4, 5). On this basis, policies to maintain cover of older more forests near human settlements should be considered. Such policies would have to be nuanced and contingent on forest type and other factors. (at the end of the article)”

Apart from these suggested comments about policies, there was nothing that specifically linked timber harvesting to a greater risk to communities and/or settlements.

Conversely, a review of above studies has shown that there is little purported evidence to support the contention that logging increases the severity and extent of fires (Keenan, et al., 2021). The 2019-20 bushfire severity and extent were almost entirely driven by three years of below-average rainfall, leading to dry fuels across all vegetation types, extreme fire weather conditions and local topography. Moreover, past timber harvesting had negligible or no impact on fire severity. The review also noted that three major reviews of bushfires made no recommendations regarding the impact of timber harvesting on fire risk. The researchers suggested that policy proposals should be evidence based and avoid cognitive bias associated with expert opinions, should consider the experience of traditional knowledge, local and professional fire managers, and the breadth of bushfire research. (Keenan, et al., 2021).

An opinion piece by two forest scientists noted 2014 and 2016 landscape studies in relation to the 2003 and 2007 Victorian fires shows that there is no significant difference between fire severity in parks compared with forests (including where timber harvesting occurs) (Tolhurst & Vanclay, 2023). Professors Tolhurst and Vanclay further state that scientists suggesting that timber harvesting leads to more severe fires based their conclusions on selective, local site observations with only one variable – time since harvesting – is poor science that is not supported by the evidence. The authors further point to the limitations of literature reviews as some publications may only be marginally relevant, are prone to inadvertent bias, and a synthesis can be problematic as a diverse range of forests can vary greatly in flammability and response to disturbance, resulting in inaccurate conclusions (Tolhurst & Vanclay, 2023).

6.2 Claim: VicForests continued to clear-fell critical unburnt refuges and recovering forests

The 2019-20 bushfires burnt 1.5 million ha across Victoria, predominantly in the east and north east regions. Of this area, 1.3 million ha was forested including 870,000 ha of State Forests, 460,000 ha of national parks and conservation reserves and 67,000 ha of private forests. The East Gippsland RFA was the most severely impacted with around 70% of the forest within the bushfire extent (Independent Panel, 2022) (Figure 29). Figure 30 portrays the fire severity, which is particularly devastating where ash forests are immature.

Extreme fires of the nature that occurred in 2019–20 do not recognise whether a forest is protected or multiple use. Out of the 5,439, 632 ha of Victoria's protected area estate, 923,800 ha (17%) were in the fire extent and 457,172 ha (8%) were burnt by high severity fire. While national parks and conservation reserves had the most area in the fire extent, special protection zones and immediate protection zones had the highest percentage of the total area within the fire extent and highest percentage burnt at high severity (Independent Panel , 2022).

Figure 28 2019–20 Bushfire Extent and forests within the bushfire extend (Independent Panel, 2022)

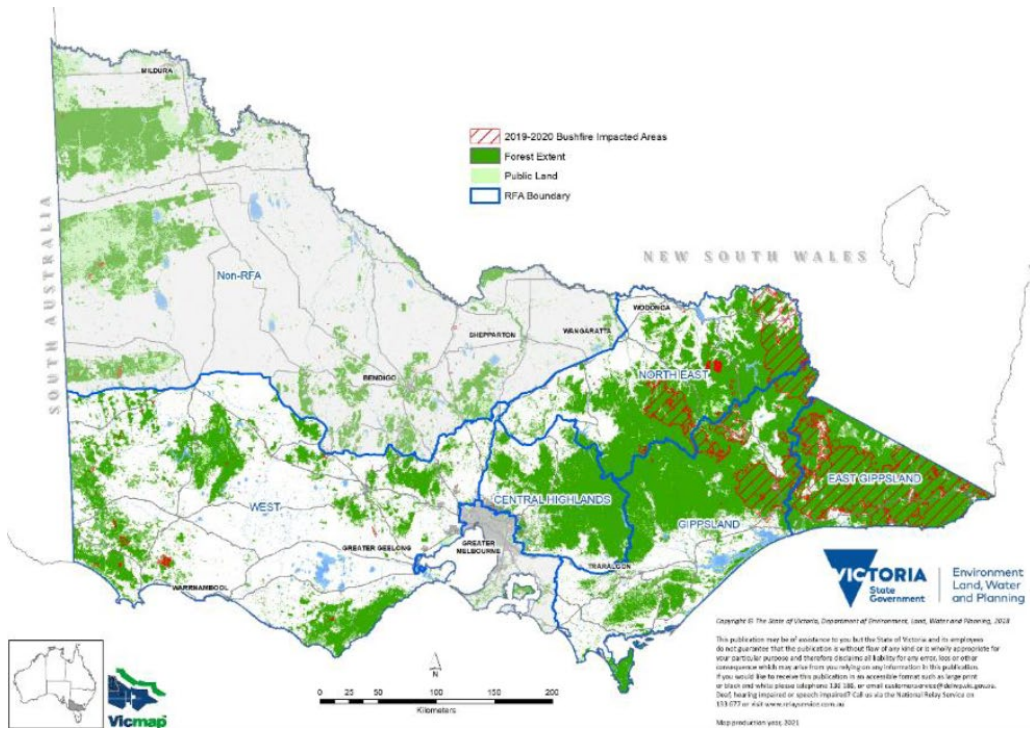
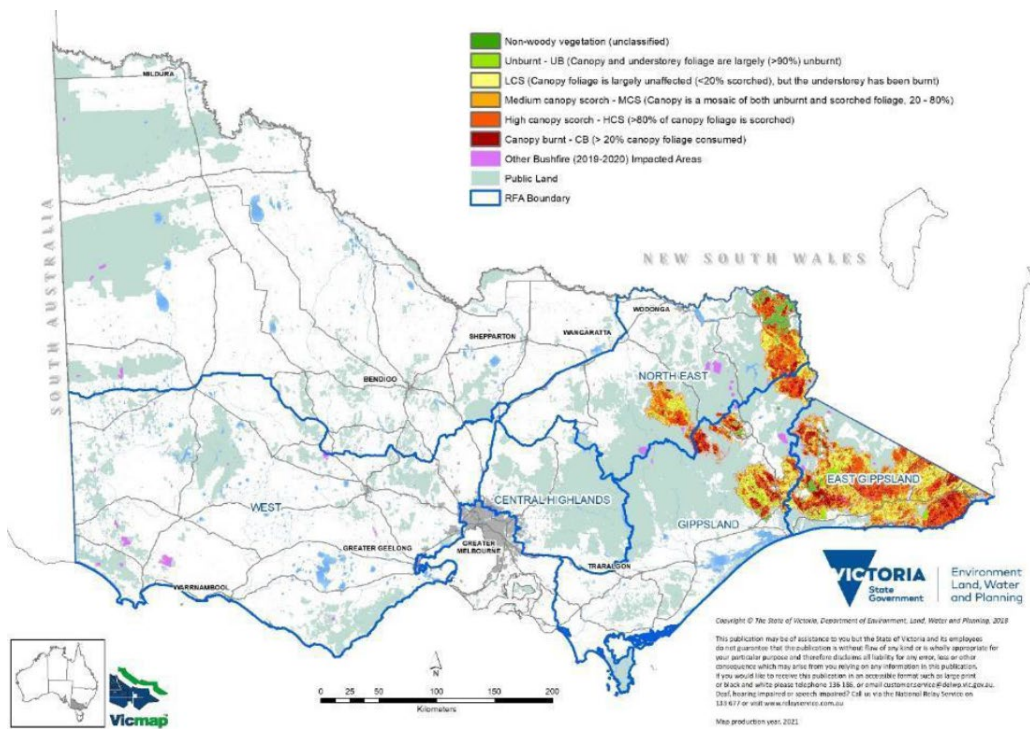


Figure 29 2019–20 Bushfire distribution of burn severity (Independent Panel , 2022)



The Major Event Review determined noted that the fire impacted on future harvest wood volumes - reducing ash volumes by 371,245 m³ and mixed species by 335,310 m³ (Independent Panel , 2022).

Table 4 Fire impact on D+ wood volumes ((Independent Panel , 2022)

RFA region	Ash (m ³)	Mixed species (m ³)
Central Highlands	Nil impact	Nil impact
East Gippsland	-7,095	-306,569
Gippsland	-155,871	-16,307
North East	-208,279	-12,435
Western Victoria	Nil impact	Nil impact
Total	-371,245	-335,310

According to the [RFA Major Event Review](#), by December 2020, the Government had commenced a review of the harvest level. It found that after considering the bushfire impacts on available timber volume in eastern Victoria, the annual timber supply commitments could still be met, and ecologically sustainable forest management supported. The review made no recommendations to VicForests' harvest volumes.

When the announcement of the Victorian Forestry Plan occurred just prior to the 2019-20 bushfires, the Government also announced protections of a further 90,000 ha of old growth forests along with additional protection areas for the Greater Glider habitat, including in East Gippsland.

Following the 2019-20 bushfires, the Office of Conservation Regulator formed the view that the precautionary principle under s.2.2.2.2 of the Code of Practice for Timber Production 2014 had been triggered. The OCR identified thirty-four species (in December 2020, reduced to twenty-five species on the advice of DELWP) of concern and required additional precautionary protection from timber harvesting, providing this to VicForests along with guidance to avoid or reduce the risk of harm. These included postponement of harvesting in the East Gippsland Forest Management Area and areas of highest value habitat (top 20%), along with survey and mitigation if harvesting in the best habitat identified priority species.

In response, VicForests proposed refined timber harvesting operations including:

- Reducing the timber harvesting impact area from 270,000 ha to 35,000 ha across the east of Victoria over the subsequent 10 years, and
- Included greater retention of habitat trees.

These measures were reviewed by the OCR.

In consultation with the OCR and DELWP biodiversity experts, VicForests developed a suite of precautionary measures that were implemented throughout 2020 to manage the specific risks from timber harvesting to soils, water, biodiversity, and habitats in the post 2019-20 bushfire environment. VicForests implemented an immediate precautionary response to the bushfires by pausing all timber harvesting in the East Gippsland RFA region, including unburnt forest areas within the East Gippsland fire footprint until the end of 2020, so that further assessment of the fire impacts could be undertaken.

VicForests subsequently resumed some harvesting of unburnt forest areas within the East Gippsland fire-affected areas in June 2021.

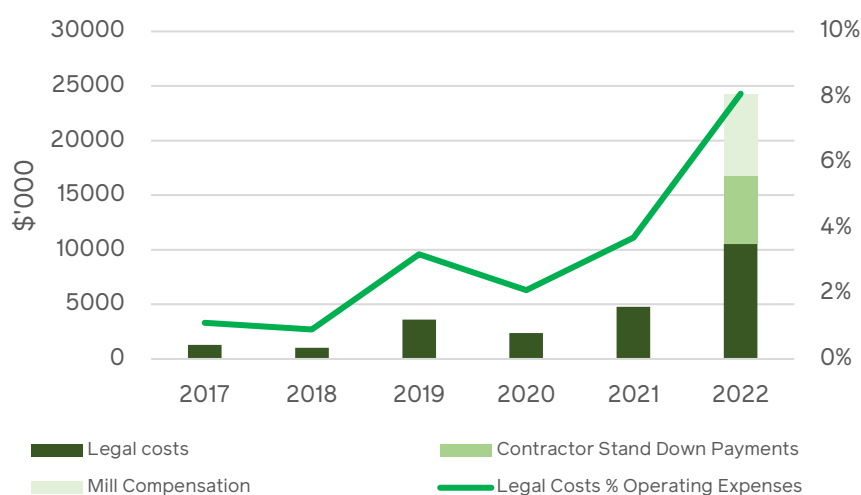
7 Claims in relation to Government subsidies or little consideration of environmental costs and benefits

7.1 Claim: Native forestry costs taxpayers, does not return profits to the state, receives subsidies and there would be no cost (or even savings) when ceasing native forestry

These claims mostly arise when e-NGOs review the annual reports of VicForests, and do not consider the costs of work undertaken by VicForests for the Victorian Government unrelated to timber harvesting – and largely do not exclude the direct and indirect costs incurred by VicForests of activist litigation brought by those opposed to native forestry (Figure 31).

The 2021-22 VicForests Annual Report (VicForests, 2022) shows a loss of over \$50 million, which reflects the costs of litigation (\$10.4 million), contractor stand down payments (\$6.2 million) and customer reimbursements for failure to supply contracted wood volumes (\$7.5 million) for a total of \$24 million. In addition, a \$26 million reduction in the book value of harvestable timber was mainly due to the un-anticipated current restrictions on harvesting.

Figure 30 VicForests Litigation, Stand Down and Compensation Expenses 2017-2022³⁴



In addition to VicForests' litigation costs, the native hardwood processors have incurred costs arising from injunctions relating to loss of income, support for workers stood down, and green mill reduced operating hours at best or closures at worst.

A better use of public funds would have been to expend this on the real threats to Victoria's plants and animals, i.e. invasive species (as outline above).

VicForests incurs other costs in day-to-day business operations not directly related to native harvesting. These costs relate to the management of forest values and access unrelated to harvesting. These include maintenance of roads, fire suppression/mitigation, biodiversity and survey work, etc. In other forest types or other Government departments (such as Parks Vic, VicRoads, etc), these are considered acceptable costs to the taxpayer and need to be considered in that context.

Despite these figures, the financial benefit of native forestry is in the economic activity of mills, affiliate businesses and downstream manufacturers. This equates to \$7.6bn economic activity annually.

³⁴ Source: VicForests Annual Report FY2017-FY2022

7.2 Claim: Government exit packages are a further cost to the state

When Governments decide to phase out an industry, it is accepted practice to manage the sectoral and economic transition. This avoids severe financial and social consequences to employees, businesses and communities. Governments have a 'whole of economy' perspective and the tools of just transition, such as fiscal measures, education, R&D, infrastructure, and social protection. Governments are the crucial participants in the process once the decision has been made.

The Victorian Government made the decision to phase out native forestry and this decision has been structured to facilitate an orderly transition, with some participants to exit earlier and the remainder deferred until 2030. This has been supported by:

- Victorian Forestry Plan \$197M
 - o Community transition \$63.5M or 32%
 - o Business innovation \$26.35 or 13%
 - o Worker transition \$60.7M or 31%
 - o Business exit \$46M or 23%
- \$120M Gippsland Plantation Investment Program for around 14,500 ha, primarily pine, plantations for sawlog production

Claims from e-NGOs of other grants as being part of the transition are incorrect:

- The \$60M Victorian Government investment in ASH's mill at Heyfield as a shareholder and to upgrade equipment for plantation log processing. The Weekly Times (Sullivan, 2017) reported that the cost for a 49% stake in Heyfield was \$50.6M plus \$11.5M on costs associated with the sale and business restructure and included \$20M to repay debt of the former owner, Hermal Group. The remaining shareholding of 51% is owned by the Shareholder Management Group, who are repaying the government loan.
- \$11M for Leadbeater's possum protections. Government decisions to protect individual species require government investment to deliver the protection outcome – decisions funded by taxpayers on behalf of the Victorian community as the primary beneficiaries of protections.
- \$18M for pre-logging surveys. The Forest Protection Survey Program aims to protect animals, plants and other values that are threatened or of high conservation value in areas of state forests that are scheduled to be harvested. The surveys are a direct responsibility of the Conservation Regulator who has ultimate oversight of forest regulation and auditing of VicForests adherence to the Code of Practice for Timber Production.
- \$18M for Regional Forest Agreement Modernisation. This is an agreement between the Australian and Victorian Governments which is wider than native forestry, with the Victorian Government responsible for the costs of its policy development. It is not a cost that should be slated to timber harvesting.

7.3 Claim: There is no consideration of other environmental costs and benefits

A recent report has attempted to analyse the costs and benefits of native forestry against conservation-only outcomes (NCEconomics and Indufor, 2022). While focussed on Queensland native forests, the report uses timeline horizons of 50, 100 and 200 years to assess the cost and

benefit analysis (CBA), and under every scenario, multiple use forests deliver higher benefits than conservation alone. The increased CBA for tourism under the conservation scenario did not overcome the benefits of native forestry, quarrying, beekeeping, and grazing. Moreover, increased management for conservation and tourism more than offset the value of increased tourism and recreation.

Using a mid-range value, the report shows that multiple use forests have an estimated annual value of \$1.2M (discount rate of 2.65%; one hundred years) over and above conservation-only use forests. The key take home messages are:

- multiple use forests can support and maintain a broader range of ecosystem services than conservation alone
- timber harvesting occurs in a small proportion of the public land estate, and practices can be modified to accommodate conservation of specific threatened species in space and time
- timber harvesting is not considered one of the common or significant threats to forest biodiversity or the environment in Australia
- sustainable timber harvesting supports a broad range of socio-economic benefits
- the cessation of timber harvesting is unlikely to result in any climate change mitigation/reduction benefits and may result in lower socio-economic benefits over the longer term, and
- multiple use and conservation forests provide complementary forest values and ecosystem services.

7.4 Claim: Converting native harvesting to eco-tourism activities would be a better economic return

Some reports suggest that moving from timber harvesting to eco-tourism is a better return for the state, largely due to the economic value of sequestered carbon and the NPV of recreation and tourism activities (Frontier Economics & Macintosh, 2021).

A more recent CBA suggests ending logging in the Central Highlands of Victoria would deliver a NPV of \$59M if logging were to be ended in 2023 instead of 2030. The analysis contains errors such as claiming only five mills remained when in fact twenty-two are operating (Blueprint Institute, 2022). The report relies almost entirely on a small number of academics opposed to native forestry. Alternative reports suggest that native forestry does not contribute to widespread economic returns, minimal employment, that native forestry is not well connected to the rest of the economy, and the value of carbon through avoided deforestation could be unlocked (PwC, 2016).

Like the differences in carbon claims above, much of the difference can be explained by methodological errors and inconsistencies arising from not following best practice cost-benefit analysis. Venn, 2022 was commissioned to undertake a review of the above Frontier Economics and Macintosh report, which found that once the methodological errors and inconsistencies were corrected, transitioning to mountain bike recreation would generate a net present value of \$-252.43 million (i.e. a loss), indicating that forestry was a higher economic value for society. Reports that seek to support other recreation or tourism pursuits also fundamentally ignore that both native forestry, recreation and tourism can occur concurrently in the multiple use

state forests. It is unfortunate that any critique of such reports ends with the reviewer being subjected to litigation by the original author.

A 2017 Economic Impact Report found that the cumulative value-added impact attributable to the native forestry industry in Victoria was \$2.23 billion in net present value terms over 10 years from 2016-2026, with the economy wide impact valued at \$5.21 billion (Deloitte Access Economics, 2017, p. 6). The report also noted that without native forestry:

- there would be significant impacts in some regions due to limited alternative employment opportunities
- net carbon emissions would be higher, because native forestry in Victoria is less carbon intensive than imported substitutes
- fire suppression would be negatively impacted by the loss of firefighting resources (skilled operators and specialised forestry equipment) and reduced road maintenance
- water production would marginally increase by around 4.3 GL per annum and there may be slight improvements in water quality, and
- biodiversity and tourism may experience net positive impacts; however the benefits are uncertain, and tourism would require significant government investment (Deloitte Access Economics, 2017, p. 7).

8 Social licence claims

8.1 Claim: Numerous studies show overwhelming support to end logging

Around 2016, media reporting reference a study that does not appear to have been published. The Federal Government's Forest Industry Advisory Council published a [report](#) in 2016, noting the following:

"Negative community perceptions are often influenced by high-profile anti-forestry campaigns that focus on the short-term effects of forest management practices and rely on a level of community ignorance about forest management to achieve their objectives." (Commonwealth of Australia, 2016)

A VFPA [poll](#) taken in early September 2022 for the Keysborough district found over two-thirds support for native forestry (Figure 32) and for the continued access to Victoria's native forests (Figure 33) to provide these timbers. Similar outcomes resulted from a poll of the Melton district conducted in early November:

Figure 31 Support For Victorian Government to Commit to a Sustainable Native Hardwood Timber Industry up to and Beyond 2030?

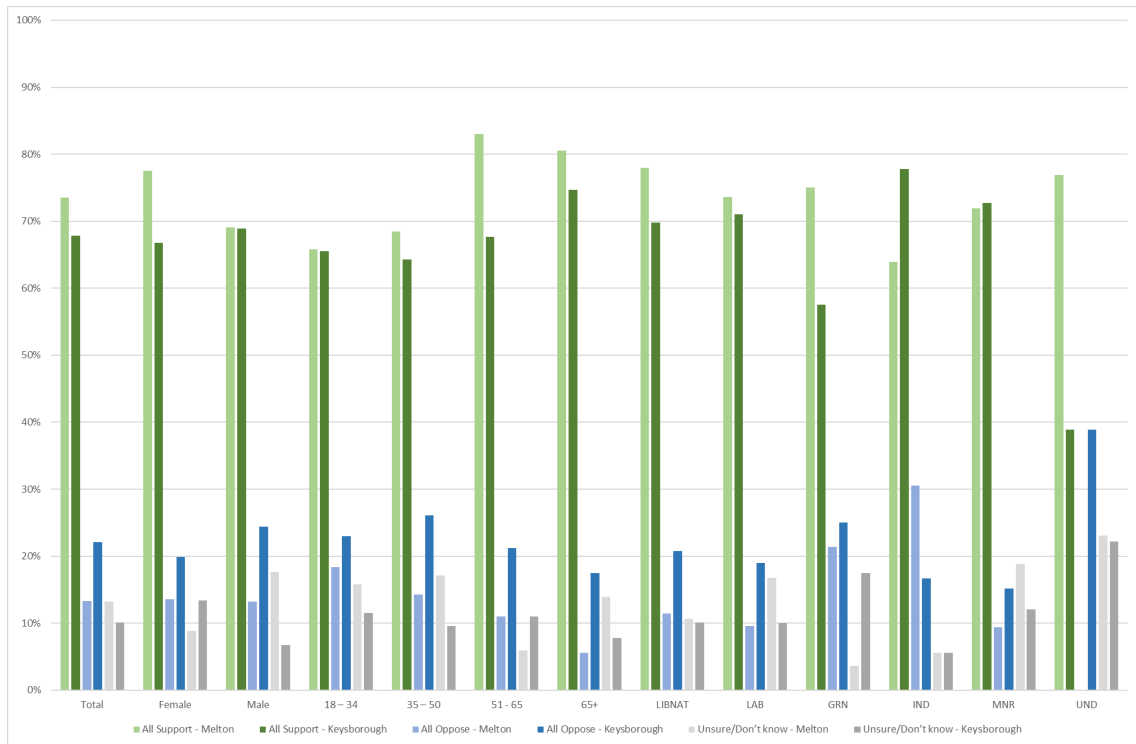
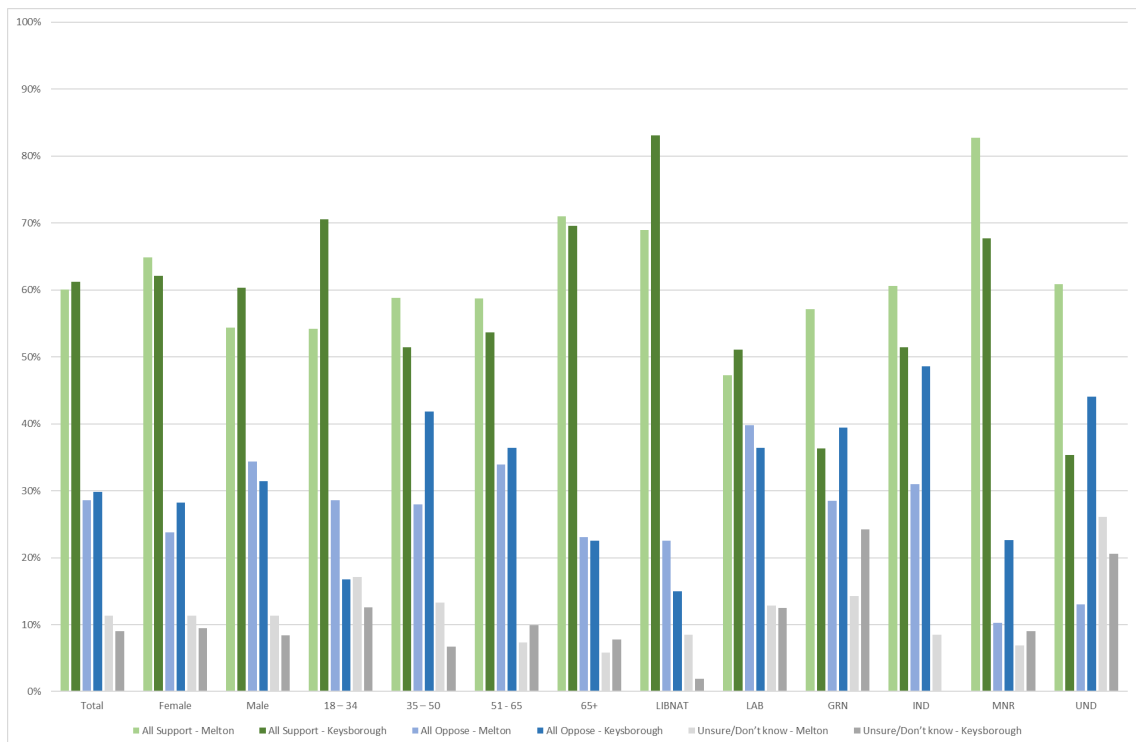


Figure 32 Support for Ongoing Access to Native Forests to Supply Native Hardwood Timbers



A poorly designed questionnaire can be the biggest source of non-sampling error (either directly or indirectly). The questionnaire can influence the response rate achieved in the survey, the quality of responses obtained and consequently the conclusions drawn from the survey results. Source: [Questionnaire Design \(abs.gov.au\)](http://www.abs.gov.au/questionnaire-design)

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VFPA is the peak industry body representing the forestry products value chain in Victoria from those growing, managing and harvesting our sustainable plantations and multiple use natural forests to the primary and secondary processing of timber, the manufacture of pulp and paper, and the value-added timber and pulp and paper products supply chains.