Independent Forestry Panel

Public submission

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[redacted]
wwf.org.au
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Cover page to the report *Transition support for the NSW native forest sector* by Frontier Economics

Forests provide homes for wildlife, store carbon, make rain, purify water, provide multiple benefits for Indigenous communities, support nature-based businesses, attract tourists, and benefit people's physical and mental health. They provide solutions to the nature and climate crises. Forests are explicitly recognised as a nature-based solution to climate change in the *Glasgow Climate Pact* and the *Glasgow Leaders' Declaration on Forests and Land Use*. The draft *UN Convention on Biological Diversity post-2020 Global Biodiversity Framework* includes goals and targets for protecting and expanding terrestrial ecosystems, which include forests.

Forests face tipping points due to deforestation and forest degradation, global heating and invasive species. As New South Wales (NSW) becomes hotter and drier, more tall wet sclerophyll forests will be replaced by woodlands, shrubland and even grasslands.

The unprecedented 2019/20 bushfires brought into stark reality the future of forests of NSW, and the businesses and communities which rely upon them. The fires burnt 4.8 million hectares including 64% of state forests. The fires had a devastating toll on wildlife, forest communities and the timber industry. Koalas and Greater Gliders are now endangered species in NSW.

WWF-Australia's *Regenerate Australia* is our vision and program of action to ensure our environment, people and wildlife thrive. WWF's *Towards Two Billion Trees* program is part of this vision and aims to save and grow two billion trees nationally by 2030.

This includes seeking a just transition out of industrial scale native forest logging to a timber and pulp industry based on plantations grown on already cleared land and managed to the highest standards.

As Australia's largest conservation organisation WWF-Australia has a material and legitimate interest in how forests are managed in NSW, especially on public lands.

NSW is the second largest producer of logs harvested from native forests in Australia. Victoria and Western Australia have made commitments to transition out of native forest logging, however NSW is yet to do so.

WWF-Australia considers that the forestry-to-plantations transition in NSW is inevitable, necessary, and overdue. Such a transition would support various NSW government initiatives: cutting emissions by 50% by 2030, doubling koala numbers by 2050, handback of lands to Indigenous communities, growth in nature-based tourism in the regions, increasing supply of low-carbon housing construction materials in the long term, reducing plastic pollution, and protecting and enhancing natural capital.

This transition should be efficient and equitable, end harmful and wasteful subsidies, minimise potential negative impacts and maximise the positive impacts on communities and the economy. Structural adjustment programs established by the governments of Victoria and Western Australia to support the transition from native forest logging to plantations demonstrates this is possible.

Therefore, WWF-Australia commissioned Frontier Economics to analyse the likely impact of completing the transition from native forest logging to plantations in NSW, and the structural adjustment design principles which could support a transition for the sector.

This report was not commissioned to ignite or exacerbate 'forestry wars'. Instead, it is designed to inform and motivate critical solution-focussed discussions, ideally led by the NSW Government.

WWF-Australia calls for a just transition from forestry-to-plantations, that engages industry, along with climate scientists and eminent ecologists. We also recognise that substantial structural adjustment funding will be required, as proposed in this report.

We urge the NSW government to engage forest and plantation stakeholders to carefully and sensitively consider the drivers and opportunities for completing the forestry-to-plantations transition.

The transition must benefit both people and nature.

It should be co-designed with the timber and plantations sectors, forest communities, First Nations and conservation organisations.

On behalf of our 2+ million supporters, we seek time-bound leadership on this issue, mindful of all that was lost in the recent 2019-20 bushfires, cognisant more native forest is being lost in NSW, and optimistic for a better future for forests and the timber and pulp industry.

WWF-Australia commends this report to the NSW government.

[redacted]
Acting CEO
WWF-Australia

8 August 2022

frontier economics

Transition support for the NSW native forest sector

A report for the World Wide Fund for Nature–Australia | 8 August 2022

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Executive summary

The New South Wales (NSW) native forest sector has been contracting over a long period as publicly provided wood supply has fallen to more sustainable levels. The 2019–20 Black Summer fires has compounded this trend, significantly reducing sustainable wood supplies, particularly in the South Coast and Tumut regions. This shock to the sector, economy and regional communities – combined with an increased recognition of the significantly higher value that standing native forests offer in comparison to logging – provides an opportunity to reconsider the best use of NSW's native forest resource. Other states including Victoria and Western Australia facing similar issues have made a decision to end the native forest logging.

In this context, Frontier Economics was engaged by WWF–Australia to develop an understanding of the likely impact of Forestry Corporation of NSW (FCNSW) ceasing native forest logging and the structural adjustment design principles which could support a transition for the sector.

Financial returns and economic contribution of FCNSW native forest business is small

This report finds that FCNSW's native forest logging business appears to offer poor financial returns to NSW taxpayers and some parts of the hardwood business are unlikely to be covering costs. The volume of wood supplied by FCNSW's native forest business has been falling, and is unlikely to return to historic levels of production given the current state of the native forest resource and the increasing impacts of climate change.

In line with the reduction of available wood supply, the economic contribution of FCNSW's native forest business in terms of employment and economic contribution in NSW has also fallen to a modest level. Across selected regions with a public native forest logging footprint, ABS data shows that the hardwood and softwood forestry sectors (both private and public) contribute a small and often declining share of regional employment, tending to contribute less than 1% and but ranging from 0% –1.3% for Forestry and Logging and 0.4% –2.5% for Wood Product Manufacturing.

Narrowing down the focus to the public native forestry sector, we estimate direct employment numbers in FCNSW, harvest/haulage and mills associated with this business to be in the order of 1,070 across the State (made up of Northern, Southern and Western region employments levels at 590, 332, and up to 150 employees, respectively).

Design of structural adjustment support

Despite the relatively small economic contribution public native forestry makes in NSW, the businesses and jobs are highly valued in the regional economies. As a result comprehensive packages of structural adjustment to support impacted employees, firms and communities have been put in place historically and would be required as part of ceasing the remaining native forest logging activity by FCNSW.

There is a broad consistency in the design of public native forest logging structural adjustment packages across jurisdictions, including:

- Support for workers through redundancy top-up payments and resources for retraining
- Support for harvest/haulage contractors and mills though capital redundancy payments, grants for transition and remediation, and contract buy-backs
- Longer term funding to diversify local regional economies and create jobs

- Longer term support for increased investment in plantation resources.

Estimated cost of structural adjustment support

Estimates are made of the costs associated with a structural adjustment package designed along similar lines to those adopted in other jurisdictions, should a decision be made to end public native forestry in NSW. It is assumed the adjustment package would be implemented from 2028-29 once the majority of the current Wood Supply Agreements (WSAs) with processors have expired.

The elements of the package that involve direct support payments and grants from government are estimated and assessed separately from potential investments to develop plantations. The former represent a direct budgetary cost to government. The latter is an investment decision for FCNSW (and potentially other businesses) that could be expected to make a long term financial return.

The estimated cost of the government-funded structural adjustment is $302 million in total. This includes:

- Up front structural adjustment funding of $244 million, which it is assumed would be incurred at the beginning of 2028-29. This is the payments to support worker redundancies and retraining, capital redundancies and WSA buy-backs, and
- Structural adjustment funding for regional economic diversification of $58 million, which is assumed to be spent over a 10-year period. Assuming this is spent in equal amounts over the 10 years to 2038-39, this provides a net present value (NPV)[1] cost of $47 million.

Therefore, the NPV cost of the whole package is $291 million over the 10-year period from 2028-29 to 2038-39.

Plantation expansion cost

It is challenging to estimate the cost of establish new plantations without more detailed analysis of the likely location and species. However, based on information from ABARES, to establish 33,000 ha of new plantation (comparable to the size of the current FCNSW hardwood plantation estate) would be approximately:

- $158 million upfront for land and establishment for softwood planation expansion (and around NPV$204 million in terms of whole of life costs over 30 years), and
- $165 million upfront for land and establishment for hardwood planation expansion (and around NPV$233 million in terms of whole of life costs over 25 years).

The Victorian and West Australian government have announced funding for plantations of $110 million (number of hectares unknown) and $350 million (for 33,000 ha as assumed above), respectively.

As noted above, the forestry sector (including FCNSW) would sensibly lead any plantation expansion in NSW based on its understanding of the best locations, appropriate size of expansion, plantation species and market needs. It is possible that the NSW government may contribute funding to expanding the plantations in NSW. However, this would need to be

[1] Net present value compares cost in a common year, in this case 2028-29. The NPV calculation assumes a 4% discount rate.

determined at a later date, and with a better understanding of whether there was a justifiable requirement for government funding.

Budgetary impact

As shown in the report, the cost of the structural adjustment package is likely to be readily outweighed by a range of positive budget impacts including avoided ongoing structural adjustment and bushfire support to the hardwood sector, avoided equity injections to FCNSW and the likelihood of increased dividends from FCNSW over time by avoiding the loss making activities of the hardwood division which have been highlighted by the Independent Pricing and Regulatory Tribunal of NSW (IPART).

Alternative employment opportunities

The transition out of public native forestry can be supported by employment growth in related regional sectors. We find that there are likely to be alternative employment opportunities for displaced workers from the native forestry sector, particularly in management of protected forest areas, recreation and tourism, plantation-based forestry work, fire and invasive species management and the management of carbon and biodiversity credits.

1 Context and purpose of this study

1.1 Study context

Native forest logging by Forestry Corporation of NSW (FCNSW) has been placed on a more sustainable footing in recent decades. The resulting reduction in wood supply has reduced the size of FCNSW's native forestry business and the downstream processing sector. The native forest area harvested by FCNSW has fallen from over 30,000 hectares in 2012-13 to a bit over 13,000 hectares in 2020-21.[2]

FCNSW's hardwood business has experienced long periods of unprofitability and has struggled to cover the cost of meeting some Wood Supply Agreements (WSAs). FCNSW's latest annual report shows that the Hardwood Division made a $20 million loss in 2020-21 after fire recovery expenses. In their latest annual Sustainability Report,[3] FCNSW acknowledge that the financial position of the Hardwood business is unlikely to improve for 'several years' due to reductions in wood supply and the ongoing fire impacts on the native forest estate.

While not fully transparent, there is strong evidence that the budgetary and environmental burden of effectively subsidising native forest logging operations of FCNSW are significant. At the same time there is far less community acceptance of the environmental damage associated with native forest logging,[4] including loss of precious remnant forest and native animal populations. Native forest logging also works against the NSW Government's objective to achieve a 50% reduction in greenhouse gas emissions by 2030 and achieving net zero emissions by 2050.

Importantly, the NSW community is likely to be better off if FCNSW's native forest is not logged. Recent analysis by the Australian National University (ANU) and Frontier Economics has shown that in just the South Coast and Eden areas, ceasing native forest logging would produce a net economic benefit to the state of approximately $60 million, while also reducing net greenhouse gas emissions by almost 1 million tonnes (Mt) per year over the period 2022-2041.

The small size of the native forestry sector, the cost of maintaining native forest logging operations along with the loss of social licence provides an opportunity for governments to end the logging activities of their forestry businesses and to transition communities to more productive uses of the standing forest and other resources supporting the sector. In recent years the Victorian and West Australian Governments have done just that, announcing a timetable to cease native forest logging and providing structural adjustment support to the remaining industry.

These packages have included substantial financial and training support to impacted workers, plant and equipment redundancy payments to mills and harvest and haulage contractors, business transition assistance and investment in new softwood plantations. The Victorian plans provides more than $200 million to support workers, businesses and communities and an

2 FCNSW, *2021 Sustainability Report*, p. 23.
3 FCNSW, *2021 Sustainability Report*, p. 5.
4 For example, see: Schirmer, J., Dare, L., and Mylek, M 2018, *Community perceptions of Australia's forest, wood and paper industries: implications for social license to operate*.

additional $110 million for plantation development. The WA plan includes $80 million in transition support and $350 million for softwood plantations.[5,6]

1.2 Design of structural adjustment arrangements for NSW

In this context, Frontier Economics has prepared this report for WWF–Australia that considers options for the design of appropriate structural adjustment arrangements that would accompany a decision to cease the native logging activity of FCNSW. The potential cost of the structural adjustment options, including buy-outs of WSAs and plantation establishment, are also estimated.

These costs were estimated using publicly available data, Frontier Economics did not have access to data from FCNSW or the NSW Government outside of that in the public domain.

Our approach to designing appropriate structural adjustment arrangements is based on:

- An understanding of the likely economic impact of FCNSW ceasing native forest logging, including analysis of the likely size of economic impact, the location of the economic impact and associated employment impacts.
- Principles for the sound design of structural adjustment packages including that they are well targeted, tailored to particular needs and circumstances, simple to administer, limited in duration and compatible with general safety net arrangements.
- An understanding of the design of native forestry sector structural adjustment packages in other jurisdictions and the underlying assumptions and approach that has been taken, including the expansion of plantation resources.

1.3 Report structure

The following report is structured as follows:

- Section 2 discusses the value of NSW's native forests to the community through the concept of natural capital
- Section 3 describes how the industry associated with FCNSW's native forestry business has declined over time as wood supply has fallen, and provides information on its current economic contribution to regional economies
- Section 4 provides case studies of structural adjustment support provided to the native forestry sector in Australia
- Section 5 advises on the design of a possible structural adjustment package for NSW and estimates the range of possible costs associated with the package. The net budgetary impact for NSW and alternative employment opportunities for impacted workers is also explored.

5 The Victorian Government, *Victorian Forestry Plan*, viewed 20 May 2022, https://djpr.vic.gov.au/forestry/forestry-plan

6 WA Government 2021, McGowan Government's historic move to protect native forests. 8 September. Available at: https://www.mediastatements.wa.gov.au/Pages/McGowan/2021/09/McGowan-Governments-historic-move-to-protect-native-forests.aspx (accessed: 20 May 2022).

Additional information is provided in supporting appendices including:

- Appendix A: Supporting information on FCNSW's native forestry business
- Appendix B: Supporting information on the NSW native forestry processing sector.

2 Recognising the value of the native forest

This section briefly outlines the growing mainstream acceptance of the contribution natural capital makes to the economy. While natural capital tends to still be undervalued it is increasingly being considered in economic and business decision making.

2.1 Nature as an asset

There is increasing recognition and formalisation of nature as an asset. In 2017, the Australian National University applied the United Nations System of Environmental-Economic Accounting (SEEA) framework to the Central Highlands region in Victoria.[7,8] The SEEA framework integrates economic and environmental data to provide a more comprehensive view of the interrelationships between the economy and the environment, allowing for the benefit to be valued. In taking a thorough view on benefits the study found that, 'native forests would provide greater benefits from their ecosystem services of carbon sequestration, water yield, habitat provisioning and recreational amenity, if harvesting for timber production ceased.'[9]

Policy makers are better placed to determine the best use of NSW's native forest resource when the broader and interrelated environmental and economic value of native forests are recognised. Viewing NSW's native forest resource as a natural capital can facilitate better economic, financial, cultural and environmental outcomes for the State. Indeed, in its *Consultation Draft NSW Natural Capital Statement of Intent* (see **Box 1**) the NSW Government articulates natural capital as:[10]

> *Natural capital refers to the world's stocks of natural assets, and the services that flow from them, which include geology, soil, air, water, and all living things. It is from this natural capital that humans derive a wide range of services, often called ecosystem services, which make human life possible. The most obvious ecosystem services include food, water, plant materials used for fuel, building materials and medicines (Convention for Biological Diversity 2021). Capital has traditionally been thought of as money or any resource or asset that stores or provides value to people and the economy. Natural capital is a way of thinking about nature in much the same way as traditional capital – if we invest in it, it creates value, and if we degrade it, we limit its value.*

7 The Central Highlands region in Victoria is approximately 100 km north-east of Melbourne. The 735,655-ha area is predominantly native forest of public land – half of which is managed for wood production, and half reserved for conservation.

8 The Australian National University, 2017, Experimental Ecosystem Accounts for the Central Highlands of Victoria, Heather Keith, Michael Vardon, John Stein, Janet Stein and David Lindenmayer. https://www.nespthreatenedspecies.edu.au/publications-tools/experimental-ecosystem-accounts-for-the-central-highlands-of-victoria-full-report-high-res-40mb (accessed: 17 May 2022)

9 Threatened Species Recovery Hub, *Ecosystem Accounts in the Victorian Central Highlands*, viewed 17 May 2022, https://www.nespthreatenedspecies.edu.au/projects/ecosystem-accounts-in-the-victorian-central-highlands

10 The NSW Government, Consultation Draft NSW Natural Capital Statement of Intent, viewed 20 April 2022, https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Research/Our-science-and-research/natural-capital-statement-intent-consultation-draft-220206.pdf

Box 1: NSW Natural Capital Statement of Intent

In April 2022, the NSW government published its Consultation Draft NSW Natural Capital Statement of Intent which sets the ambition for, and approach to, sustainably managing natural capital in New South Wales.

The consultation draft acknowledges that the economic case for natural capital is growing and recognised the need for an enabling policy framework to secure opportunities and benefits for NSW, including:

- Conserving, restoring, and enhancing the State's natural environment and productive landscapes for current and future generations
- Improved economic and investment decision-making resulting in long-term sustainable land use
- Future-proofing NSW's key industries, particularly the State's primary industries.

Underpinning the NSW Government's decision-making and planning are six principles:

1. Demonstrate government leadership on natural capital that delivers both ecosystem services and productive landscape outcomes
2. Integrate natural capital considerations into NSW government decision-making
3. Realise the value of natural capital to grow resilient industries, regional communities and jobs
4. Create and incentivise investable natural capital opportunities across all tenures and scales in NSW
5. Build capability and investment readiness
6. Foster collaboration and partnerships that will unlock and accelerate natural capital markets and opportunities.

Regarding principle three, the NSW Government proposes to focus on identifying and enabling natural capital opportunities in regional NSW which can contribute to the development of new regional industries, sustainable employment and opportunities for primary producers, landholders and Aboriginal communities. This includes creating the market framework and financial incentives for the primary industries and lands sector to sequester carbon, enhance biodiversity, improve productivity through best practice, and create other economic opportunities.

Source: The NSW Government, *Natural Capital*, viewed 17 May 2022, https://www.environment.nsw.gov.au/research-and-publications/our-science-and-research/our-research/social-and-economic/natural-capital

The concept of investing and maintaining natural capital to derive value is increasingly recognised by both policymakers and the private sector.

2.2 Investing in natural capital

Nature has sometimes been viewed as a free resource leading to its overuse and degradation. A recent review by the UK government into the economics of biodiversity finds that nature is a 'blind spot' in economics, stating 'we can no longer afford for [nature] to be absent from accounting systems that dictate our national finances or ignored by economic decision makers.'[11]

Government and the private sector are responding and are increasingly seeking to quantify and mitigate these nature-related risks. Recent examples include the release of the Taskforce on Nature-related Financial Disclosures (TNFD) delivering a risk management and disclosure framework for organisations to report and act on nature-related risks,[12] Australia signing the Glasgow Leaders' Declaration on Forest and Land Use at COP26 to end deforestation by 2030,[13] Australia adopting the Glasgow Climate Pact emphasising the important of protecting, conserving, and restoring forests to mitigate greenhouse gases and protect biodiversity,[14] and the NSW Governments recent release of its *Consultation Draft NSW Natural Capital Statement of Intent.*

In the context of Australia, numerous studies have demonstrated the damage native forest logging causes to biodiversity – for example, a 2019 analysis of areas of Victoria proposed for native forest logging found it would negatively affect 70 threatened forest-dependant species.[15] Relatedly, an analysis of the fire footprint of the 2019–20 Black Summer fires found logging elevated the risk of high-severity fires.[16]

Ending public native forest logging also holds the potential to support the NSW Government's objective to a 50% reduction in greenhouse gas emissions by 2030 and achieving net zero emissions by 2050. Research by Griffith University suggests that while international climate policy now recognises forest protection as a mitigation strategy, it is not receiving sufficient attention. Griffith University finds that Tasmania has become carbon negative due to a change in forest management – a large and rapid drop in native forest logging – revealing an effective mitigation strategy that can both reduce emissions from the forest sector and increase carbon sequestration from the atmosphere.[17] Indeed, recent work by Frontier Economics and the Australian National University applied carbon modelling and, 'found that stopping native forest harvesting in the Eden and Southern RFA regions is likely to generate significant abatement' for relatively low-cost.[18]

The economic contribution of native forestry sector can be weighed against these impacts.

11 Dasgupta, P 2021, *The Economics of Biodiversity: The Dasgupta Review* (London), available at: https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review

12 TNFD, *Taskforce on Nature-related Financial Disclosures*, viewed 20 April 2022, https://tnfd.global/

13 UN Climate Change Conference UK 2021, Glasgow Leaders' Declaration on Forests and Land use, viewed 17 May 2022, https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/

14 United Nations, *Glasgow Climate Pact*, viewed 20 April 2022, https://unfccc.int/documents/310475

15 Taylor, C & Lindenmayer, D 2019, 'The adequacy of Victoria's protected areas for conserving its forest-dependant fauna', *Austral Ecology*, vol. 44, no. 6, pp. 1076–1091, available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/aec.12805

16 The Australian National University, *Logging "amplified" severity of Black Summer bushfires*, viewed 20 April 2022, https://www.anu.edu.au/news/all-news/logging-amplified-severity-of-black-summer-bushfires

17 Mackey, B., Moomaw, w., Lindenmayer, D., & Keith, H. 2022. 'Net carbon accounting and reporting are a barrier to understanding the mitigation value of forest protection in developed countries'. *Environmental Research Letters*, vol. 17, no. 5, 054028. Available at: https://iopscience.iop.org/article/10.1088/1748-9326/ac661b

18 Frontier Economics and Macintosh, A 2021, *Comparing the value of alternative uses of native forests in Southern NSW,* available at: https://www.frontier-economics.com.au/documents/2021/11/comparing-the-value-of-alternative-uses-of-native-forest-in-southern-nsw.pdf/

3 The economic contribution of the NSW native forestry sector is small

The economic contribution of FCNSW's native forest business to the NSW economy in terms of employment and value added has reduced significantly from historical levels, driven by reductions in wood supply, market forces and more recently the significant impacts of bushfire. These factors substantially reduce the up-front cost of transitioning away from public native forest logging and makes the transition achievable.

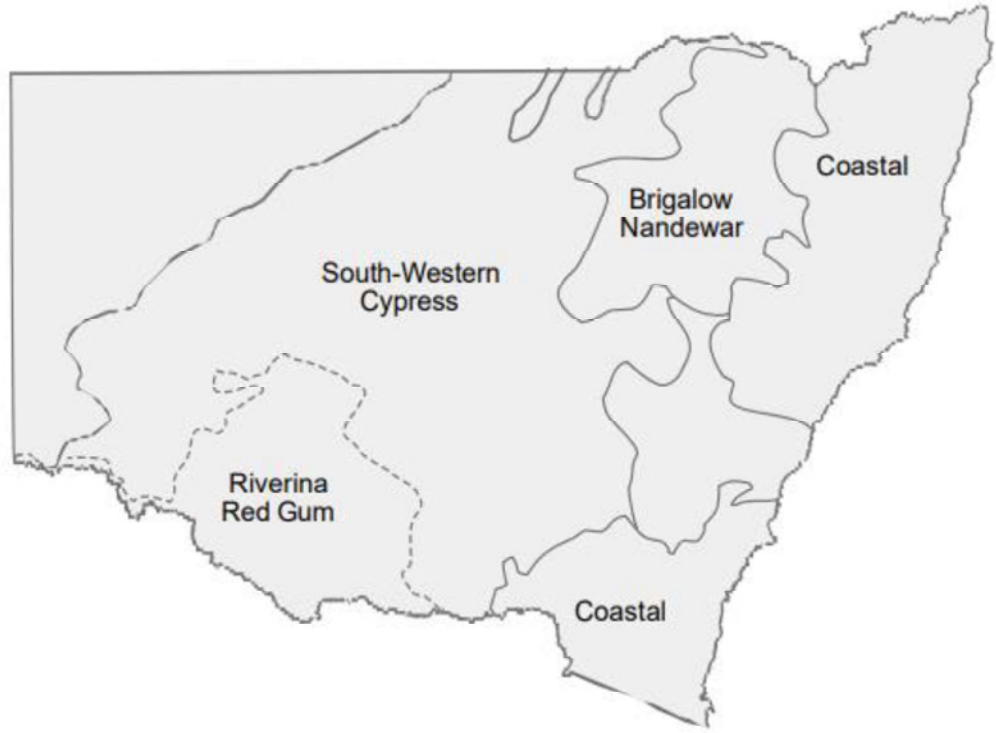
3.1 Reduction in wood supply

Since the late 1990s, stricter forest management regulations have been applied to transition native forest logging in NSW to a more sustainable footing. This commenced with the three Regional Forest Agreements (RFAs) struck between the Commonwealth and NSW Government covering the Eden, North East and Southern RFA areas. The agreements were put in place between 1999 and 2001. The agreements implemented ecologically sustainable forest management (ESFM) and sought to better balance the economic, social and environmental use of the forests. The RFAs will be in place until at least 2039 and include a five-year rolling review and extension mechanism.

In the RFA areas, timber harvesting operations are regulated by the terms of an Integrated Forestry Operations Approval (IFOA). The IFOA establish rules to protect native plants, animals, important habitat and ecosystems, soils and water in native forestry operations on public land, and set requirements to achieve ecologically sustainable forest management in NSW.

As shown in **Figure 1** there is a Coastal IFOA covering the Upper North East, Lower North East, Southern and Eden regions and three IFOAs covering the Western region (Brigalow Nandewar, South-Western Cypress and Riverina Red Gum IFOAs). The Coastal IFOA provides new rules on forest protection, including minimum standards to preserve habitat areas.

Figure 1: Integrated Forestry Operations Approval (IFOA) regions



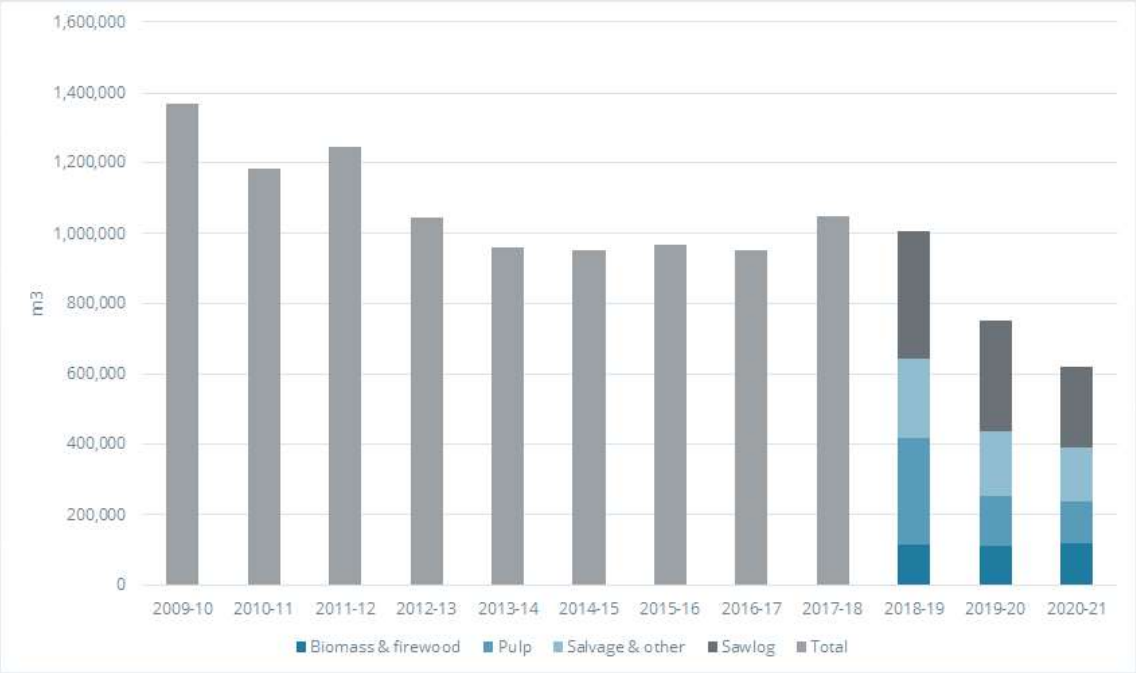
Source: NSW Environment Protection Authority, NSW Forestry Snapshot Report 2019-2020, P. 5.

The RFA process has reduced the extent of native forest available for harvest over time. This has resulted in substantial, ongoing industry structural adjustment and government funding has previously been provided to support the adjustment process.[19] As discussed in **section 4.2.1**, the NSW Government has also bought back timber allocations on the north coast which were not able to be sustainably supplied.

The reduction in native and plantation hardwood timber harvested by FCNSW is shown in **Figure 2**. Total hardwood timber production has fallen from just under 1.4 million cubic meters (m3) in 2009-10, to just over 1 million m^3 in 2018–19, and, post 2019–20 bushfires, 0.6 million m^3 in 2020-21.

[19] GHD 2017, *Report for NSW Department of Primary Industries - Review of Coastal Hardwood Wood Supply Agreements*, p. 6.

Figure 2: FCNSW hardwood timber harvested



Source: FCNSW Sustainability Reports

Note: The breakdown by product is only published from 2018-29 to 2020-21.

3.2 Impact of the 2019-20 bushfires

FCNSW's ability to supply public native forest hardwood has been substantially reduced by the 2019-20 bushfires. More detail on this impact is provided in Appendix A.

Recent analysis by the NRC[20] demonstrates the profound impacts:

- The South Coast subregion has suffered severe loss of native forest which could reduce supply by up to 90%
- The expected reduction of wood supply from the Eden subregion is 40% and 35% from the Tumut subregion
- The impact on the North Coast has been less severe, but is expected to have a 20% reduction in wood supply.

The NRC reports that the loss in wood supply is undermining the viability of a number of hardwood mills, including those in Nowra and Narooma. The NRC report that 74 jobs have been stood down as at March 2021.

Given the impacts of the 2019–20 bushfires the industry is unlikely to return to historic levels of production. Some of the challenges facing the NSW hardwood industry are structural in nature, not cyclical – which is in part reflected in declining sustainable yields as calculated by FCNSW.[21]

[20] NSW Natural Resources Commission 2021, *Coastal IFOA operations post 2019/20 wildfires*. This is a Cabinet-in-Confidence report that was publicly leaked.

[21] NSW Forestry Corporation, *Timber volumes and modelling*, viewed 19 May 2022, https://www.forestrycorporation.com.au/sustainability/timber-volumes-and-modelling

While it will take some time for the forest and industry to recover from the recent bushfire impact, the industry's exposure to climate risk will likely grow over time.

3.3 Native forest logging's small contribution to regional economies

This section demonstrates the small and declining economic contribution to regional communities associated with FCNSW's native forest logging business.[22]

The contribution of the overall forestry sector to regional economies is small

First, Australian Bureau of Statistics (ABS) data on employment and value added contribution by local government area (LGA) is presented. This data shows the broader economic contribution associated with forestry beyond FCNSW's native forest business, as it shows aggregated employment and value added data for the private and public forestry sectors and the softwood and hardwood sectors.

The contribution of FCNSW's native forest business, which cannot be separately identified with the ABS data, is one element and hence would be materially lower than the overall employment and value added data shown.

Table 1 presents the employment and value added contribution of what the ABS refers to as forestry and logging which includes forest management/growing and harvesting. **Table 2** presents the employment and value added contribution of wood product manufacturing, which the ABS defines to include milling, chipping and wood product manufacturing.

The LGAs shown were selected as they are known to contain some public native forest activities.

The ABS data shows that the hardwood and softwood forestry sectors (both private and public) contribute a small and often declining share of regional employment, tending to contribute less than 1% and but ranging from 0% –1.3% for Forestry and Logging and 0.4% –2.5% for Wood Product Manufacturing.

Employment associated with the native forest business of FCNSW will only be a subset of this small proportion of regional employment. Hence, the economic benefits from hardwood and softwood logging, as measured by employment, are small compared to other industries in the regions – and public native forest logging, which is logically a subset of these measurements, is smaller still.

[22] Based on analysis by the NSW and Commonwealth Governments. See *NSW Regional Forest Agreements Assessment of matters pertaining to renewal of Regional Forest Agreements,* NSW Department of Primary Industries, 2018, p. 299.

Table 1: Forestry and Logging (hardwood and softwood)

LGA	Employment (2020-21)	Employment (% LGA employment)	Change in employment (since 2015-16)	Value added (2020-21, $million)
Southern and Eden RFA Regions: Hardwood and softwood				
Bega Valley	181	1.4%	67	42.2
Snowy Monaro	100	1.0%	9	22
Eurobodalla	73	0.5%	18	21
Queanbeyan–Palerang	15	0.1%	1	3.4
Shoalhaven	16	0.0%	0	3.2
Upper North and Lower North RFA Regions: Hardwood and softwood				
Kyogle	21	0.7%	8	2.6
Richmond Valley	95	1.2%	29	16.3
Clarence Valley	187	1.1%	80	40.9
Bellingen	26	0.7%	5	4.1
Coffs Harbour	157	0.5%	60	38.3
Kempsey	8	0.1%	-1	1.4
Port Macquarie-Hastings	78	0.2%	-22	18.9
Mid-coast	35	0.1%	N/A	N/A

Source: Data sourced from local government profiles at https://economy.id.com.au based on data from the Australian Bureau of Statistics. Data includes softwood and hardwood employment and activity. Data for Mid-Coast LGA not available for value added, employment data is based on 2016 census.

Note: Activities included in the Forestry and Logging industry includes units mainly engaged in growing standard timber in native or plantation forests, or timber tracts, for commercial benefit and units mainly engaged in logging native of plantation forests, including felling, cutting and/or roughly hewing logs into products such as railway sleepers or posts. For more information on industry definitions see: https://www.abs.gov.au/ausstats/

Table 2: Wood Product Manufacturing (hardwood and softwood)

LGA	Employment (2020-21)	Employment (% LGA employment)	Change in employment (since 2015-16)	Value added (2020-21, $million)
Southern and Eden RFA Regions: Hardwood and softwood				
Bega Valley	73	0.5%	-64	5
Snowy Monaro	94	1.0%	-46	7.6
Eurobodalla	64	0.5%	-61	4.4
Queanbeyan–Palerang	183	1.1%	-108	12.1
Shoalhaven	294	0.7%	70	19
Upper North and Lower North RFA Regions: Hardwood and softwood				
Kyogle	79	2.5%	-19	5.2
Richmond Valley	150	1.9%	32	10
Clarence Valley	311	1.8%	-97	19.8
Bellingen	60	1.6%	-4	3.4
Coffs Harbour	124	0.4%	-39	7.1
Kempsey	66	0.6%	-14	3.7
Port Macquarie-Hastings	277	0.8%	-10	18.9
Mid-coast	179	0.6%	N/A	N/A

Source: Source: Data sourced from local government profiles at https://economy.id.com.au based on data from the Australian Bureau of Statistics. Data includes softwood and hardwood employment and activity. Data for Mid-Coast LGA not available for value added, employment data is based on 2016 census

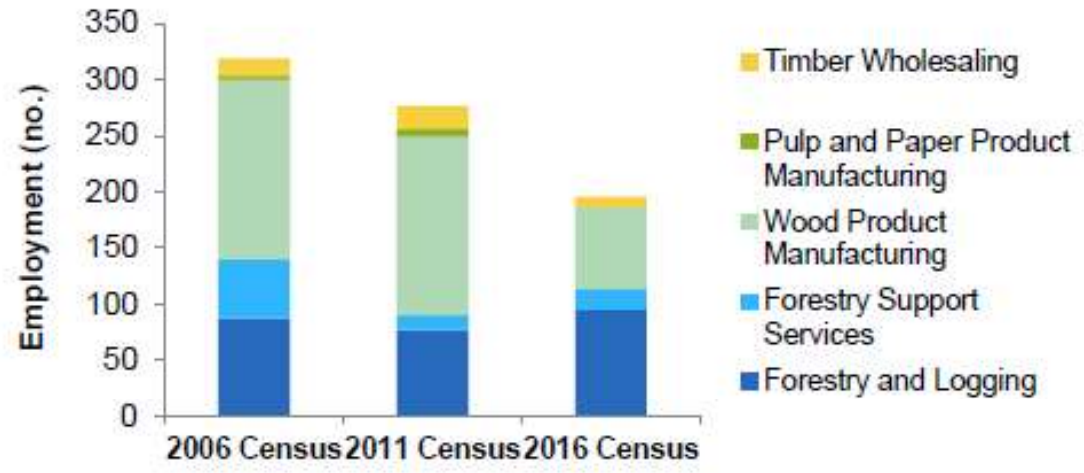
Note: Activities included in Wood Product Manufacturing include log sawmilling, wood chipping, timber resawing and dressing in addition to other wood product manufacturing (such as prefabricated wooden building manufacturing, wooden structural fitting and component manufacturing, veneer and plywood manufacturing, etc.). For more information on industry definitions see: https://www.abs.gov.au/ausstats/

Native forest-related employment has been declining significantly

Employment associated with FCNSW's native forest business is concentrated in certain LGAs. Examining these LGAs give us insight into the declining economic contribution of the native forest sector in particular.

Within the Eden RFA, native forest activity is best represented by Bega Valley LGA data. **Figure 3** shows that this employment declined by 39% over the 10 year period to 2016.

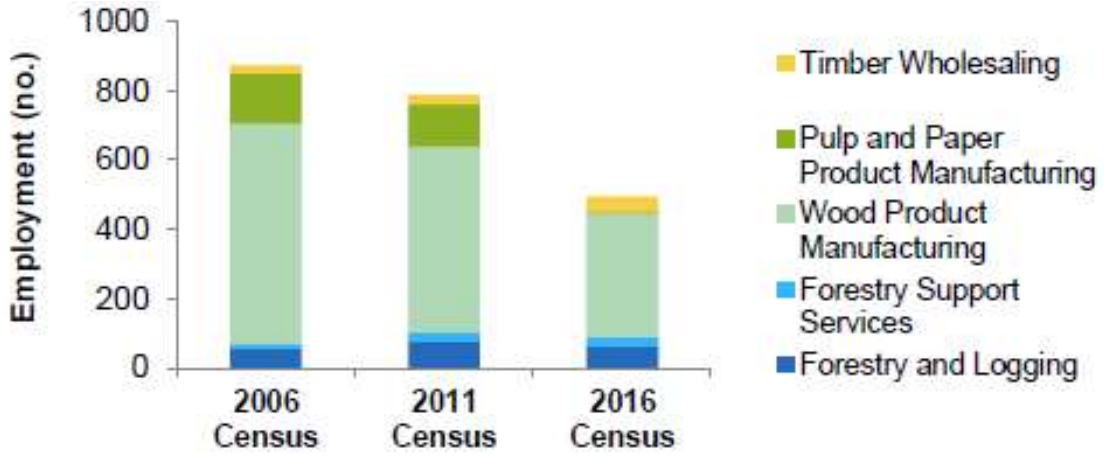
Figure 3: Direct hardwood and softwood employment Eden RFA (Bega Valley LGA)



Source: NSW Department of Primary Industries 2018, NSW Regional Forest Agreements – Assessment of matters pertaining to renewal of NSW Regional Forest Agreements, Aust 2018, p. 300.

Within the Southern RFA, the hardwood sector (plantation and native forest) can be reasonably represented by data for Eurobodalla, Shoalhaven and Queanbeyan-Palerang Regional LGAs. **Figure 4** shows that in these LGAs the decline in employment was 27% over the 10 year period to 2016.

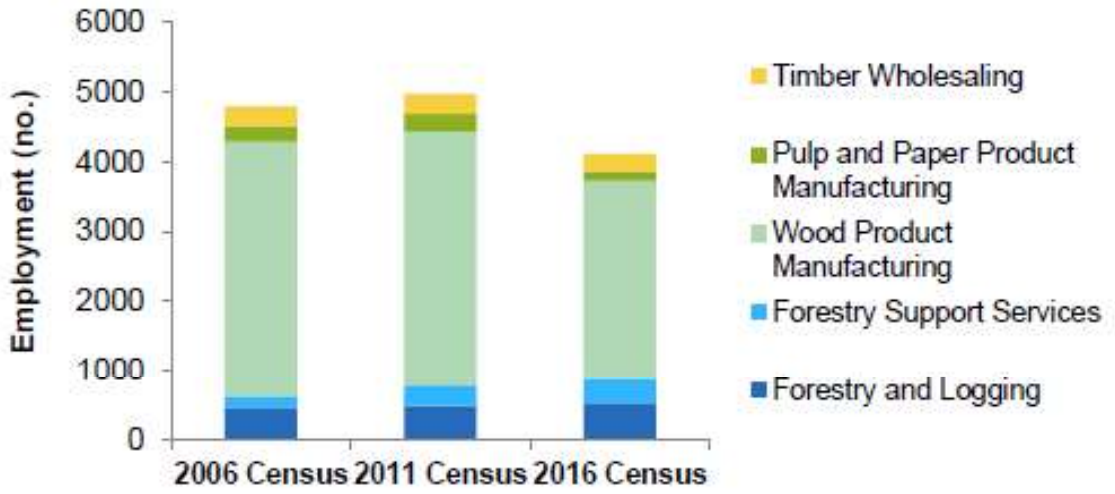
Figure 4: Direct hardwood and softwood employment in Southern RFA



Source: NSW Department of Primary Industries 2018, NSW Regional Forest Agreements – Assessment of matters pertaining to renewal of NSW Regional Forest Agreements, Aust 2018, p. 301.

Of the three NSW RFA regions, employment in the North East RFA region is likely to be the most significant for native forest logging. As shown in **Figure 5**, employment in this region has fluctuated, peaking in the 2011 Census. However, between 2006 and 2016, there has been an overall reduction in employment of 14%.

Figure 5: Direct hardwood and softwood employment in North East RFA



Source: NSW Department of Primary Industries 2018, NSW Regional Forest Agreements – Assessment of matters pertaining to renewal of NSW Regional Forest Agreements, Aust 2018, p. 301.

Across the Eden, Southern and North Coast RFA regions, employment in hardwood and softwood forestry and logging is broadly lower than that involved in downstream manufacturing activities. Employment in downstream manufacturing activities may not be materially exposed to a cessation in native forest logging. For example, pulp logs can be substituted by wood products from plantation forests and recycled paper, and plantations can provide some substitute sawlog products.

Current direct employment associated with FCNSW native forest logging is estimated to be just over 1,000 employees across NSW

The NSW NRC provides credible data on employment associated with the native forest business of FCNSW in the coastal IFOA regions. This captures the bulk of FCNSW's native forestry business.

The NRC estimate that the number of employees associated with FCNSW's coastal native forestry business – including FCNSW staff, harvest and haulage contractor staff and primary processors (hardwood forest mills and chipping) – is 332 in the South Coast sub regions and 590 in the North Coast sub regions.[23]

For FCNSW's other native forestry areas in the Western IFOA regions, Frontier Economics estimate that there are no more than 150 employees, accounting for FCSNW, harvest and haulage and processor employees. Further elaboration on these 'bottom up' estimates are contained in **Attachment B**.

This means that across NSW, direct employment associated with FCNSW's native forestry business is estimated to be in the order of 1,070 employees.

[23] NRC 2021, *Advice on Coastal IFOA operations post-2019-20 wildfires, Final Report*, June.

4 Case studies of native forestry structural adjustment support

This section provides a review of forestry industry structural adjustment packages.

4.1 Structural adjustment policies as an appropriate economic transition tool

Structural adjustment refers to compositional shifts in the economy, including in the relative size of industries, workforce characteristics and the value and mix of economic activity. The sources of structural adjustment are diverse, and include government policy and reform, as well as non-policy drivers such as technology, market conditions, or environmental conditions.

Regional economic performance is dependant, among other factors, on the capacity of the regional economy to adapt and be resilient to ongoing structural adjustment. Broadly speaking, Australian and State governments have a suite of existing measures under the social security, tax, training and job services systems to assist community and businesses when faced with economic disruptions.[24] These measures are not designed to handle all eventualities, and additional support measures are sometimes warranted.

Inherent to structural adjustment policies is the concept of a fair and efficient economic transition.[25] Circumstances which can justify the use of additional measures include:[26]

- Equity or fairness: The case for additional support can rest on a reform imposing an identifiable and sizeable burden on a specific group, particularly in the case of unanticipated shocks or changes to well defined property rights.
- Efficiency: Intervention can improve the efficiency of economic transition to a new model of growth. For example, reforms that result in sizeable economic shocks to a particular region can have adverse, compounding, and persistent flow-on socio-economic effects.

In the case of public native forest logging, other jurisdictions have deemed it necessary to adopt structural adjustment packages to support employees, firms and communities during the transition away from native logging to plantation-based logging. The remainder of this section surveys structural adjustment packages in the native forestry industry.

[24] Australian Government Productivity Commission December 2017, *Transitioning Regional Economies Productivity Commission Study Report*, available at: https://www.pc.gov.au/inquiries/completed/transitioning-regions/report/transitioning-regions-report.pdf

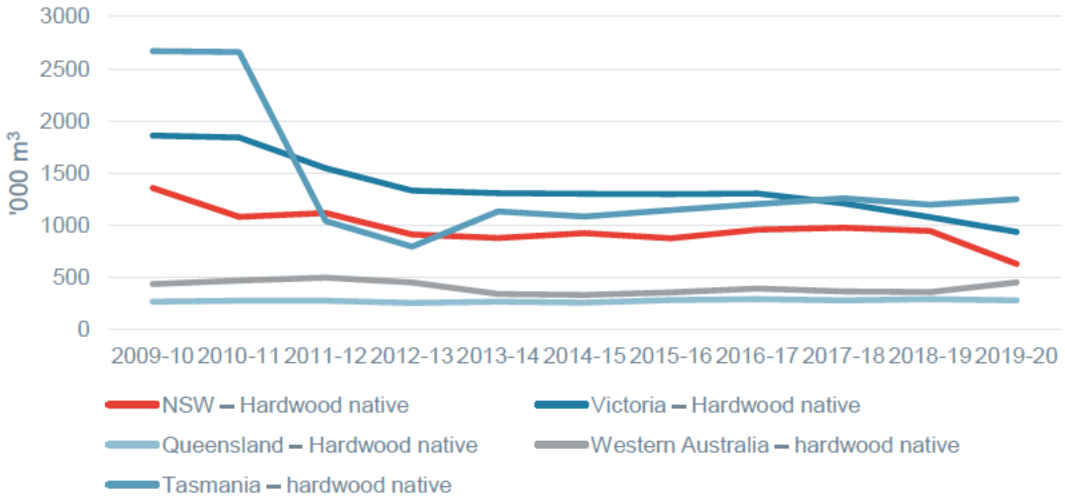
[25] Australian Government Rural Industries Research and Development Corporation 2014, *Structural Adjustment in Regional Australia Learning from experience, improving future responses by Aither*, available at: https://www.aither.com.au/wp-content/uploads/2019/04/15-110-NRI-Structural-Adjustment_online.pdf

[26] Australian Government Productivity Commission 2001, *Structural Adjustment – Key Policy Issues*, available at: https://www.pc.gov.au/research/completed/structural-adjustment-issues/sakpi.pdf

4.2 Survey of native forest logging structural adjustment packages

According to the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) data for 2019–20, the volume of log removals from Victoria, Western Australia, New South Wales, and Tasmania was 938,000 m³, 452,000 m³, 629,000 m³ and 1,247,000 m³ respectively. Broadly, hardwood native log harvesting across the States has been flat to declining over the past decade.

Figure 6: Volume of hardwood native logs harvested, by State



Source: Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), Australian forest and wood products statistics: March – June quarters 2021.

Note: This data reports on public and private supply volumes.

Victoria and Western Australia are transitioning away from native forest harvesting. In Western Australia logging of native forests will cease by the end of 2023, while Victoria is phasing out native logging of state forests by 2030. In Queensland, state-owned native timber production is being phased out in the south-east, west, and eastern regions, with decisions on the northern region still forthcoming and dependant on plantation supply. Tasmanian structural reform has been ongoing and inconsistent across time, the apparent size of the adjustment in that state potentially providing a source of political and economic rigidity.

We have not included South Australia in our sample as there is no commercial harvesting of native forests in South Australia and there has not been for some time. Native vegetation is protected under the *Native Vegetation Act 1991* and the associated *Native Vegetation Regulations 2017*.[27] Instead, South Australia's forest and wood products industry is entirely plantation-based.

A summary of themes from the structural adjustment packages of other jurisdictions is contained in Box 2.

[27] Australian Government, Government of South Australian 2021, *State Specific Guideline for South Australia*, viewed 17 May 2022, https://www.awe.gov.au/sites/default/files/documents/sa-state-specific-guideline.pdf

Box 2: Lessons in designing native forestry structural adjustment packages

A key theme is signalling the transition out of native forest logging well in advance, in order to provide time for efficient and equitable adjustment. This tended to be coupled with governance arrangements across industry, and negotiations with industry stakeholders as to the most impactful use of structural adjustment funding. In the case of Victoria and Western Australia, governments have materially increased the size of their structural adjustment packages after consulting their stakeholders.

Key and well signalled interventions along the value chain include:

- Policy commitments to support the industry transition through increased investment in plantation resources
- Support for workers through redundancy payments and resources for retraining
- Support for harvesting and haulage contractors and mills though capital redundancy payments, other financial supports and/or contract buy-backs
- Government funding to diversify local regional economies, though details remain unclear.

The basic form of these structural adjustment packages is likely applicable to the NSW public native forestry industry.

Source: Frontier Economics

4.2.1 Selected adjustment assistance in NSW

The NSW Government has in the past has provided structural adjustment support to workers and businesses in the public native hardwood sector. This has been when substantial areas of native timber resource has been protected from logging or when necessary changes have been made to reduce WSA volumes.

For example, in 2010 the NSW Government protected more than 100,000 hectares of river red gum forests in the Riverina-Murray region from logging. The NSW Government's decision reflected recommendations made by the NRC about the conservation and management of the forests, involving estimated industry job losses of approximately 120.[28] The government developed a $97 million structural adjustment package incorporating:[29,30]

- Business exit assistance of $25 million
- Worker assistance to $21.5 million
- Regional Employment and Community Development Fund of $12 million
- National Park funding of $23 million, of which $12 million is capital works.

[28] ABC News, *NRC recommends red gum national parks*, viewed 20 April 2022, https://www.abc.net.au/news/2009-12-22/nrc-recommends-red-gum-national-parks/2692286

[29] ABC News 2010, *Sartor says red gum compo enough*, viewed 20 May 2022, https://www.abc.net.au/news/2010-05-21/sartor-says-red-gum-compo-enough/835636

[30] NSW Parliament 2010, *National Park Estate (Riverina Red Gum Reservations) Bill 2010 (No. 2) Agreement in principle*, viewed 17 May 2022, https://www.parliament.nsw.gov.au/bill/files/357/LA%202210.pdf

This package is similar in design to the more comprehensive structural adjustment packages designed by the Victorian, Western Australian, and Tasmanian public native hardwood sectors.

More targeted financial support has also been provided when necessary reductions have been made to FCNSW's native timber WSAs. For example, the NSW Government provided redundancy payments to workers impacted by a WSA not being renewed (see **Box 3**), and has undertaken a buy back of timber allocations under a WSA (see **Box 4**).

In 2018, the NSW Government also provided a $24 million equity injection to FCNSW to acquire land for new timber plantations.[31]

Box 3: Blue Ridge Hardwoods in Eden

Blue Ridge Hardwoods in Eden had a WSA for 24,000 m^3 of high-quality sawlogs per annum which expired in 2018.[32] The native forest resource was no longer available to supply this quantity of high-quality sawlogs and hence the WSA was not renewed.

FCNSW has been able to offer 25,000 m^3 per annum of smaller regrowth sawlogs rather than high quality sawlogs. Presumably to ensure that it obtains a fair market price for this wood, it was also offered the smaller sawlogs to the market via a competitive tender process.

Blue Ridge Hardwoods would have required new or altered equipment to process the smaller logs. They were unsuccessful in the tender process, which was won by Allied Natural Wood Exports who proposed to build a new mill suited to processing the smaller logs.[33] The government provided financial transition support to the impacted workforce of around 50 employees.[34] A payment of $150,000 was made to each of the 50 employees.

Subsequently, South Coast Timber took over the mill (in October 2020) employing 30 employees (some of whom were retained from Blue Ridge Hardwoods). The mill is sourcing wood supplies from private property and from the Eden Management Area (Forestry).[35]

31 FCNSW 2019, Annual Report 2018–19, p. 11.

32 IPART 2017, *Review of Forestry Corporation of NSW's native timber harvesting and haulage costs, Final Report*, December, p. 17.

33 NSW Forestry Corporation, Eden Wood Supply Agreement – statement, viewed 20 April 2022, https://www.forestrycorporation.com.au/about/releases/2019/eden-wsa-statement

34 NSW Parliament, *Budget Estimates 2020–21 supplementary questions Portfolio Committee No.4 – Industry*, viewed 16 September 2022, https://www.parliament.nsw.gov.au/lcdocs/other/15367/Answers%20to%20supplementary%20questions%20-%20Barilaro.pdf

35 Szanto, L 2021, 'Future looks bright', Eden's South Coast Timber reflects on first year of business', viewed 20 April 2022, https://www.begadistrictnews.com.au/story/7539230/future-looks-bright-edens-south-coast-timber-reflects-on-first-year-of-business/

Box 4: Boral buy-back of 50,000 m^3 of native timber

In 2014, the NSW Government spent $8.5 million to buy back timber allocations on the north coast from Boral. The purchase reduced Boral's annual supply of high-quality native saw logs by 50,000 cubic metres for nine years to achieve sustainable harvest levels.

The buy back was recommended by a government steering committee which considered it the most effective way of achieving a sustainable yield after investigating North Coast timber supply issues. Boral had in the past sued Forests NSW (predecessor to Forestry Corporation) in 2006 and 2011 for a failure to supply the contracted amount of high-quality timber.

Source: IPART 2017, Review of Forestry Corporation of NSW's native timber harvesting and haulage costs, Final Report, December.

4.2.2 Victorian Forestry Plan

In 2019, the Victorian Government announced a 30-year forestry plan to support the native timber industry shift entirely to plantation timber while protecting as many jobs as possible.

The plan includes establishing a Consultative Committee with representatives from industry, VicForests, unions, local councils and government to help manage the transition. In explaining the rationale behind the plan, the Victorian Government notes that, 'since the 1980s the amount of native timber available for harvest has more than halved and is increasingly vulnerable due to the impact of bushfires and environmental protections.' The Victorian Budget Office costed an accelerated version of the plan and found it would substantially improve the state's budget position over the period 2019–20 to 2029–30 (see **Box 5**).

In response to industry feedback, the Victorian Government announced in December 2021 an additional $100 million in transition support, bringing the Government's total commitment to more than $200 million.

The $100 million in newly announced funding included opt-out packages and increased redundancy payments delivering closer alignment with previous forestry industry adjustment packages such as the 2003 Victorian Government Our Forests Our Future assistance and the assistance provided to Tasmanian workers in 2013 by the Commonwealth and Tasmanian Governments.[36,37,38] This funding will also be accompanied by new environmental standards for logging in native forests.[39]

36 Premier of Victoria 2021, Bolstering the Victorian Forestry Plan, https://www.premier.vic.gov.au/bolstering-victorian-forestry-plan (accessed 1 April 2022)

37 Victorian Government, *Victorian Forestry Plan*, viewed 19 May 2022, https://djpr.vic.gov.au/forestry/forestry-plan

38 StarMail, *An increase in support for timber workers through the Victorian Forestry Plan,* viewed 19 May 2022, https://mountainviews.mailcommunity.com.au/news/2021-12-17/an-increase-in-support-for-timber-workers-through-the-victorian-forestry-plan/

39 O'Malley, N 2021, 'New money for transition from old-growth logging in Victoria', *The Sydney Morning Herald,* December 17, available at: https://www.smh.com.au/environment/conservation/new-money-for-transition-from-old-growth-logging-in-victoria-20211217-p59ilv.html

The Victorian Forestry Plan aims to ensure that supply chains and workers relying on native timber can adjust as native forest logging is phased out from 2024 to 2030. Key features of the current plan include support for:[40]

- Mills and harvest haulage contractors: Plant and equipment redundancy payments of up to $250,000 per business, available from 2024, and mill site rehabilitation payments of up to $75,000 available from 2023.
- Mill, harvest, and haulage workers: From 2023, top-up of redundancy payments of up to $120,000, relocation support payments of up to $20,000, per person, and access to training and retraining programs.
- Communities: A $36 million Regional Growth Fund and a $22 million Community Transition and Development Fund to support actions from the local development strategies, particularly targeting job creation that is relevant for the location, timing and skills of affected native timber workers.
- Plantation wood supply: $110 million investment in plantation development 'to leverage and accelerate private investment and boost new plantation development in Gippsland.'[41] New plantations will not be ready for the planned native timber reductions in 2024 or 2030 and are not intended to replace native timber tree-for-tree which has caused concern in industry about job losses.[42]

Under the plan, the industry will hold continued supply of native timber until 2024, after which supply levels will step down until ending in 2030. Between 2024 and 2030, a competitive process will be applied to allocate native timber. In this period mills can enter an 'opt-out scheme' rather than participate in the competitive process for native timber.[43]

40 The Victorian Government 2019, *Victorian Forestry Plan*, accessed 1 April 2022, available at: https://www.vic.gov.au/sites/default/files/2019-11/DJPR-Inclusion-Forestry-Plan-1.pdf

41 The Victorian Government, *Forestry Plantations*, viewed 19 May 2022, https://djpr.vic.gov.au/forestry/plantations

42 Australian Forest Products Association 2021, *Daniel Andrews' sham forestry plan felled,* viewed 19 May 2022, https://ausfpa.com.au/daniel-andrews-sham-forestry-plan-felled/

43 The opt-out scheme provides for redundancy payments for workers of up to $120,000, plant and equipment redundancy payment of up to $250,000, relocation support increased from $20,000 to $45,000 and a doubling of mill site rehabilitation funding from $75,000 to $150,000 among other initiatives. Refer: The Victorian Government, *Victorian Forestry Plan*, viewed 19 May 2022, https://djpr.vic.gov.au/forestry/forestry-plan

Box 5: Estimated budgetary impact of ending native forest logging in Victoria

In 2020, and based on a $120 million transition package, the Victorian Parliamentary Budget Office calculated that an immediate cessation of native forest logging would improve the State's net budgetary position by $192 million.

The Victorian Parliamentary Budget Office was asked to calculate the net position to the State of Victoria from immediately ending native forest logging in Victoria (in contrast to the announced 2030 cessation of native forest logging outlined above) as well as bringing forward the proposed $120 million transition package for industry and workers.

The Parliamentary Budget Office expected such a policy would decrease the State's net position by $15.3 million over three years from the 2019–20 Budget due to:

- Decrease revenue of $31.3 million from the abolition of VicForests
- Decreased operating expenses of $16 million largely from a cessation of grants to VicForests.

Over the period 2019–20 to 2029–30 the State's budgeted net position was expected to improve by $191.9 million due to:

- Decrease in operating expenses of $309.6 million due to cessation of grants to VicForests
- Decrease in revenue of $177.7 million due the abolition of VicForests.

Source: Parliamentary Budget Office 2020, End native forest logging in Victoria, viewed 11 April 2022, https://sway.office.com/cQXoiKWO0HHNL6ml

4.2.3 Western Australia Native Forestry Just Transition Plan

In September 2021, The Western Australian (WA) Government announced that native forest logging will come to an end at the start of 2024[44] – the State's next forest management plan covering the period 2024–2033 would not include native forest clearing.[45] The Native Forestry Transition Group (NFTG) was established to assist in the development and implementation of the plan, consisting of local industry, union, and government stakeholders.

The WA government stated that its decision, 'was driven by the impacts of climate change, the importance of maintaining biodiversity and forest health, the need for carbon capture and storage, and declining timber yields.'[46]

[44] WA Government 2021, McGowan Government's historic move to protect native forests. 8 September. Available at: https://www.mediastatements.wa.gov.au/Pages/McGowan/2021/09/McGowan-Governments-historic-move-to-protect-native-forests.aspx (accessed: 20 May 2022).

[45] From 2024, timber taken from Western Australia's native forests will be limited to forest management activities that improve forest health and clearing for approved mining operations.

[46] The WA Government, *Native Forest Transition*, viewed 4 April 2022, https://www.wa.gov.au/organisation/department-of-jobs-tourism-science-and-innovation/native-forest-transition

Some industry participants criticised an apparent lack of consultation behind this decision[47,48] and some members of the logging sector expressed concern about alternative employment options[49] – it was reported that up to 400 forestry jobs will be lost by the decision to stop native forest harvesting.[50]

Key features of the Western Australia Native Forestry Just Transition Plan include:

- An immediate 12-month freeze on the logging of 'two-tier' karri forests in the South West region which exhibit characteristics of old-growth forest.[51,52]
- A $80 million Native Forest Just Transition Plan which is intended to provide support to affected workers and businesses and drive further diversification of local economies (increased from an initial $50 million).[53]
- $350 million over ten years for the creation of new softwood plantations across the South-West.
- A $26.9 million Business Transition Program to support native timber sawmills and harvesters before native forestry ends in 2024. The Program provides for an Industry Restructure Payment based on contract volumes, further support of up to $225,000 for redundancy payments, site-clean up, and equipment reimbursement, and funding of up to $50,000 for firewood processors who exit the industry.[54]

The Western Australian Government noted a range of existing grants and program available to support industry[55] and its expectation that funds under the Native Forest Just Transition plan would be available in the first half of 2022, such that workers and business can make informed decisions well in advance of December 2023.[56]

47 Zimmerman, J & Law, P 2021, 'Logging of native forests to be banned in WA from the end of 2023', *The West Australian*, 8 September, available at: https://thewest.com.au/politics/state-politics/logging-of-native-forests-to-be-banned-in-wa-from-the-end-of-2023-ng-b881997499z

48 Morton, A 2021, 'Western Australia to ban native forest logging from 2024 in move that blindsides industry', *The Guardian*, 8 September, available at: https://www.theguardian.com/australia-news/2021/sep/08/western-australia-to-ban-native-forest-logging-from-2024-in-move-that-blindsides-industry

49 Shine, R et al. 2021, 'Logging of WA native forests to be banned under state budget plan unveiled by Mark McGowan' *ABC news*, 8 September, available at: https://www.abc.net.au/news/2021-09-08/logging-of-wa-native-forests-to-be-banned-in-state-budget-plan/100443070

50 Zimmerman, J & Law, P 2021, 'Logging of native forests to be banned in WA from the end of 2023', *The West Australian*, 8 September, available at: https://thewest.com.au/politics/state-politics/logging-of-native-forests-to-be-banned-in-wa-from-the-end-of-2023-ng-b881997499z

51 The WA Government, *Protective Western Australia's Native Forests,* viewed 19 May 2022, https://www.wa.gov.au/system/files/2021-09/Announcement%20Fact%20Sheet.pdf

52 Conservation Council of Western Australia 2020, *Ancient Southwest forest spared the chainsaw this year but protection must become permanent,* viewed 19 May 2022, https://www.ccwa.org.au/ancient_southwest_forest_spared

53 WA Department of Jobs, Tourism, Science and Innovation 2022, *$30 million boost to support native forestry transition*, viewed 19 May 2022, available at: https://www.wa.gov.au/government/announcements/30-million-boost-support-native-forestry-transition

54 WA Department of Jobs, Tourism, Science and Innovation 2022, *Business Transition Programs*, viewed 19 May 2022, available at: https://www.wa.gov.au/government/document-collections/business-transition-programs

55 WA Department of Jobs, Tourism, Science and Innovation 2022, *Grants Assistance and Programs Register for WA industry*, viewed 19 May 2022, available at: https://www.wa.gov.au/organisation/department-of-jobs-tourism-science-and-innovation/grants-assistance-and-programs-register-wa-industry

56 WA Department of Jobs, Tourism, Science and Innovation 2022, *Native Forest Transition,* viewed 19 May 2022, available at: https://www.wa.gov.au/organisation/department-of-jobs-tourism-science-and-innovation/native-forest-transition

4.2.4 South-East Queensland Forests Agreement

The South-East Queensland Forests Agreement (SEQFA) was signed by the Queensland Government, the timber industry and the conservation sector in 1999.[57] At the time of signing, the forests of South-East Queensland (SEQ) contributed about 75% of the sawlog volume that was processed in Queensland.[58]

The agreement, and arrangements in other regions, aimed to end timber production in State forests and allow the transition of these areas to the conservation estate. The agreements put in place long-term supply agreements for the supply of State-owned native timber that would phase out in accordance with the following timetable:

- South-East hardwoods region by 31 December 2024
- Eastern hardwoods region by 31 December 2026
- Western hardwoods region in 2034.[59]

No decisions yet have been made regarding other regions of Queensland (covering the rest of the State north of approximately Mackay) with future decisions being informed by outcomes of assessments into sustainable long-term supply options for hardwood and cypress timber.

As part of the South-East transition, the government commenced a native hardwood plantation program in 1999 to support the supply of alternative resources after 2024. An independent review of the hardwood plantation program was completed in 2015. It showed that many of the hardwood plantations established were performing poorly and would not deliver the intended 20,000 ha of hardwood resource.[60] Because of this, the decision was made to end the program[61] and state-owned native timber production in the Eastern hardwoods region was extended by two years, to the end of 2026, to provide time to 'undertake the work needed to make future decisions.'[62]

In the absence of policy certainty supporting the transition out of native forest logging, and an apparent inadequacy of plantation resource, the timber sector has framed the problem as 'becoming an industry crisis' which could deter investment and financing in the timber industry.[63]

57 Queensland Government 2020, *State-owned native timber,* viewed 18 May 2022, available at: https://www.daf.qld.gov.au/business-priorities/forestry/native-timber-action-plan/state-owned-native-timber

58 Queensland Parliamentary Library, July 2000, *Regional Forest Agreements Research Bulletin No 2/00.*

59 Queensland Government 2020, *State-owned native timber,* viewed 18 May 2022, available at: https://www.daf.qld.gov.au/business-priorities/forestry/native-timber-action-plan/state-owned-native-timber

60 At the time planting commenced, large-scale native hardwood plantations were untested in Queensland. Planting locations were challenging to find as available land was typically of marginal soil quality and in areas of increasing climate variability. More suitable land was either already in use for agriculture or was too expensive to buy. Matching the right species to the right site proved challenging, with research benefits from improved plant genetics, including for insect and pest resilience, yet to be realised. Despite the plantations being managed using well-established practices, the site and species selection challenges, along with increasing climate variability, pests and diseases, resulted in poor growth rates and the commercial failure of large areas of plantations.

61 Queensland Government 2020, *Hardwood plantation program,* viewed 20 May 2022, available at https://www.daf.qld.gov.au/business-priorities/forestry/native-timber-action-plan/hardwood-plantation-program

62 Queensland Government 2020, *State-owned native timber,* viewed 18 May 2022, available at: https://www.daf.qld.gov.au/business-priorities/forestry/native-timber-action-plan/state-owned-native-timber

63 Timber Queensland, *Securing the future of South-East Queensland's native hardwood industry,* viewed 20 April 2022, available at: http://www.timberqueensland.com.au/Growing/SEQNativeHardwood.aspx

In June 2021, the Queensland Government has appointed a Native Timber Advisory Panel to advise on policy options and implications for the native timber industry. The Panel met in mid-2021, with a study that is due by the end of 2021[64] – the study is currently not publicly available.

4.2.5 Tasmania and ongoing reform

Sustainable Timber Tasmania (formerly Forestry Tasmania) operates across native forest (87% forest type), hardwood plantation (6.5%) and softwood plantation (6.5%) forest types.[65]

In 2011, Gunns Limited, a major forestry enterprise, decided to exit native forestry. The company withdrew from native forest harvesting, closed sawmills, stopped exporting woodchips and sold the Triabunna woodchip mill[66] to new owners who sought to redevelop the site for tourism.[67] This coincided with the Tasmanian Forests Intergovernmental Agreement, a $277 million agreement between the Commonwealth and the Tasmanian Governments and included: [68]

- $85 million to support logging contractors leave the industry following the decision of Gunns Limited.
- $43 million to protect 430,000 hectares of new reserve[69]
- $120 million over 15 years to fund regional development projects.

Relatedly, participants in the native forestry industry and environmentalists signed the Tasmanian Forest Agreement in 2012[70] which agreed to place 500,000 hectares of native forest in reserves (including 400,000 hectares as soon as legislation was made)[71] while also agreeing that areas of native forest could be logged – the agreement also pledged to eventually end all native forest logging.[72] Tasmania's parliament passed the Tasmanian Forests Agreement putting the agreement into effect in 2013, some key measures (largely funded by the Commonwealth Government) included:[73]

- Economic diversification fund: $120 million to fund regional economic development initiatives, $115 million of which will be funded by the Commonwealth Government.

64 Coade, M 2021, 'Advisory panel to oversee future of Queensland forest industry', *The Mandarin*, 13 June, available at: https://www.themandarin.com.au/159946-advisory-panel-to-oversee-future-of-queensland-forest-industry/

65 Sustainable Timber Tasmania 2021, Annual Report 2021, p. 86. https://sttwebdata.blob.core.windows.net/stt-prod/assets/Sustainable_Timber_Tasmania_Annual_Report_2021_55b8acc215.pdf

66 ABC news, *Timeline: The rise and fall of Gunns*, viewed 17 May 2022, available at: https://www.abc.net.au/news/2012-09-25/gunns-timber-company-rise-fall-timeline/4235708

67 ABC news, *Triabunna woodchip mill; Timeline of key events*, viewed 17 May 2022, available at: https://www.abc.net.au/news/2015-10-14/triabunna-woodchip-mill-timeline-of-key-events/6823748?nw=0&r=HtmlFragment

68 Australian Government Department of Agriculture, Water and the Environment, *Tasmanian Forests Intergovernmental Agreement*, viewed 17 May 2022, available at: https://www.awe.gov.au/agriculture-land/forestry/national/aus-govt-tas-forests

69 Australian Government Department of Agriculture, Water and the Environment, *Conservation Agreement to protect interim forest area under the Tasmanian Forests Intergovernmental Agreement*, viewed 19 May 2022, available at: https://www.awe.gov.au/agriculture-land/land/forests/intergovernmental-agreement/conservation-agreement

70 Tasmanian Forests Agreement 2012, available at: https://www.wilderness.org.au/images/resources/Tasmanian-Forest-Agreement-2012.pdf

71 Wilderness Society 2018, *The Tasmanian Forest Agreement: your questions answered*, viewed 19 May 2022, available at: https://www.wilderness.org.au/news-events/the-tasmanian-forest-agreement-your-questions-answered

72 ABC news 2010, *Native logging end to take decades*, viewed 19 May 2022, available at: https://www.abc.net.au/news/2010-10-19/native-logging-end-to-take-decades/2304032

73 Parliament of Tasmania 2013, *Report on the Tasmanian Forests Agreement Bill 2012,* available at: https://www.parliament.tas.gov.au/ctee/Council/Reports/TFA%20FINAL%20REPORT.pdf

- Worker support: $45 million in transition support payments to workers directly impacted, and $25 million to provide immediate employment and training support for redundant workers.
- Business support: $45 million for native forest harvest and haulage contractors exiting the industry, $10 million for sawmills, and $20 million to assist employees and contractors that might be affected by sawmill exits.
- Sawlog contract buybacks of $15 million.
- Manufacturing Innovation Development: $22.6 million to assist industry to transition to greater use of plantation timber in the longer term.

In 2014, a new Tasmanian Government repealed the Tasmanian Forest Agreement Act and reclassified 400,000 hectares of native forest for potential future logging after a six-year moratorium.[74,75]

There is evidence that native forest logging in Tasmania is not financially sustainable – based on publicly available information cash operating surpluses and profitability appear to be reliant on Government funding (which contributes toward the performance of Community Service Obligations). In 2021, Sustainable Timber Tasmania reported a net profit after tax of $2.7 million, from revenues of $125 million ($12 million of which was government finding).[76] The financial performance of Sustainable Timber Tasmania has been under scrutiny for some time, with some estimates in the media revealing structural operating deficits and a reliance on government subsidy since 2004.[77]

In early 2022, Birdlife Australia proposed that legislative requirements on Sustainable Timber Tasmania be lifted such that it is not required to make 137,000 m^3 of native forest timber available each year – therefore allowing the protection of Swift parrot habitat (the parrot could be extinct by 2031 in a scenario of continued logging).[78,79] The proposal is consistent with a request by Sustainable Timber Tasmania's own Board (then Forestry Tasmania) in 2016 which found the legislated requirement forced it to lose money.[80] The Tasmanian Government has not publicly responded to the proposal.

74 Ikin, S & Nightingale, T 2014, 'Tasmania repeals the forestry peace deal between conservationists and loggers, opening up 400,000 hectares', ABC news, 2 September, available at: https://www.abc.net.au/news/2014-09-02/forestry-peace-deal-repeal-bill-passed-by-tasmania-parliament/5714634

75 The Conversation *End of Tasmania's forest peace deal heralds more* uncertainty viewed 19 May 2022 available at: https://theconversation.com/end-of-tasmanias-forest-peace-deal-heralds-more-uncertainty-31010

76 Sustainable Timber Tasmania, Annual Report 2021, p. 33, https://sttwebdata.blob.core.windows.net/stt-prod/assets/Sustainable_Timber_Tasmania_Annual_Report_2021_55b8acc215.pdf

77 Lawrence, J 2018, 'Tasmanian regional forest agreement delivers $1.3bn losses in 'giant fraud' on taxpayers', *The Guardian*, 29 March, available at: https://www.theguardian.com/environment/2018/mar/29/tasmanian-forest-agreement-delivers-13bn-losses-in-giant-on-taxpayers

78 The Tree Projects, *The Swift Parrot Protection Plan*, viewed 20 April 2022, available at: https://www.thetreeprojects.com/swiftparrot

79 Morton, A 2020, 'Tasmania's 'precious' swift parrot habitats marked for logging despite expert warnings', *the Guardian*, 11 June, available at: https://www.theguardian.com/environment/2020/jul/11/tasmanias-precious-swift-parrot-habitats-marked-for-logging-despite-expert-warnings

80 Humphries, A, 'new plan could save swift parrot from 'imminent danger of extinction', researchers say', *ABC news*, 22 February, available at: https://www.abc.net.au/news/2022-02-22/swift-parrot-forestry-extinction-tasmania/100849384

5 NSW structural adjustment package

5.1 Possible features of NSW package

The design of a possible structural adjustment package to transition the NSW public forestry industry out of native forest logging should be:

- Targeted to impacted businesses, workers, and communities
- Proportionate to participants' economic and financial exposures to native forest logging
- Relevant to addressing clearly identified and temporary business disruption, economic exposure, and equity concerns.

Adherence to these principles in the design of a structural adjustment package will provide some assurance that the package negotiated with stakeholders will deliver efficient, equitable, and cost-effective outcomes.

In accordance with these principles, structural adjustment assistance is targeted to the primary processing sector of the native hardwood supply chain receiving wood supply from FCNSW. The elements of the assistance package have been estimated to include:

- Business support payments for harvesters, haulers, and mills to support redundancies and retraining, business repurposing, or the write-down of assets
- The buying out or phasing down of WSAs with mills
- Where relevant, economic diversification packages for those local regions most impacted by a cessation of native forest logging.

Separate to the transition support payments, the potential cost of establishing new plantations to provide additional local wood supply in the medium to long term is also investigated. Plantation establishment costs have been assessed separately from the elements of the package that involve direct support payments and grants from government.

The decision to invest in plantations needs to be undertaken on a commercial basis with an expert understanding of plantation establishment and management costs, how best to meet expected timber product demand, and with an understanding of expected long term financial returns. Therefore, it is assumed that this investment would be made by FCNSW (and potentially other businesses) and hence would be off-budget.

Finally, it is assumed that the transition out of public native forestry would only occur, and the adjustment package implemented, from 2028-29 once the majority of the current WSAs with processors have expired (assuming that there are no further WSA renewals beyond the recent five-year extension of the North Coast WSAs)[81].

[81] https://www.nsw.gov.au/media-releases/wood-supply-agreements accessed 4 August 2022.

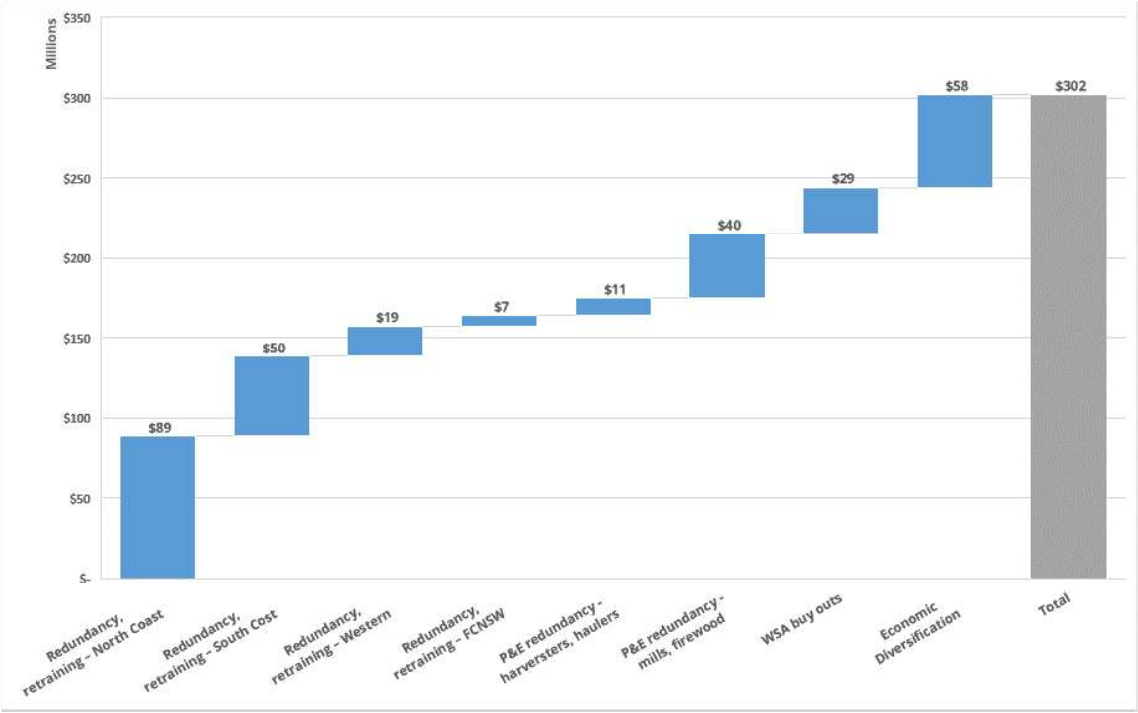
5.2 Cost estimate for structural adjustment support

We have estimated the potential costs to the NSW government associated with a structural adjustment package. Costs have been benchmarked against announced policy costs in comparable jurisdictions were available, and where relevant, on historic sector-specific adjustment payments made in NSW. The estimated costs should be interpreted as conservative and indicative.

We estimate that a structural adjustment package to end FCNSW's native forest logging could cost in the order of **$302 million** (noting that this does not include plantation establishment costs which are considered separately). This includes the cost of worker redundancy and retraining, plant and equipment redundancies, WSA buyouts, and funding for economic diversification packages. The $302 million compares to the more than $90 million recently announced in Victoria and $80 million in WA (excluding plantation expansion). The costs are higher for NSW given the larger size of the public native sector relative to Victoria and WA.

Figure 7 provides a summary of how the cost estimate for a structural adjustment package to transition out of public native forest logging has been built up. **Table 3** provides a detailed breakdown of these first pass estimates of costs.

Figure 7: Estimated costs to end NSW public native forest logging



Source: Frontier Economics analysis

Table 3: Benchmarking structural adjustment costs

Intervention	Scale assumptions	Payments	Cost Estimate
Redundancy and retraining support for workers – North Coast	590 direct employees (Harvest/haulage and mills, consistent with NRC estimate)	$150,000 per worker (as per Blue Ridge Hardwoods)	$89 million
Redundancy and retraining support for workers – South Coast	332 direct employees, (Harvest/haulage and mills, consistent with NRC estimate)	As above	$50 million
Redundancy and retraining support for workers – Western	126 direct employees calculated proportional to WSA volumes	As above	$19 million
Redundancy and retraining support for impacted FCNSW staff	Estimated 47 employees in the Hardwood marketing and timber sales, and Timber harvesting and roading operations	As above	$7 million [1]
Plant and equipment redundancy (harvesters and haulers)	33 harvesters, 10 haulers, payments capped	$250,000 per firm (as per Victoria)	$11 million
Plant and equipment redundancy (mills)	156 mills in the North Coast and South Coast regions, 3 mills and 8 firewood producers in the Western region	$250,000 per firm (as per Victoria) or $50,000 per firewood producer (as per Western Australia)	$40 million
WSA buyout	Buyout of WSAs that extend beyond 2028 [2]	$19/m^3 per year (as per Boral contract buyback)	$29 million
Regional economic diversification package	Notional, requiring further analysis	As per Victoria	$58 million
Total		Not adjusted for time value of money	**$302 million**

*Source: Frontier Economics analysis. More detail on the data sources regarding employment levels and number of harvesting and haulage contractors and mills is provided in **Appendix A and B**.*

1. To be conservative it is assumed that the FCNSW staff are not included in the direct employment estimates in each region.

2. Includes three Coastal WSAs and one Western WSA.

In terms of the scope of the assistance package, the estimated structural adjustment package, in common with those made elsewhere, focuses most heavily on the directly impacted employees and businesses. This includes those in FCNSW, harvest and haulage contractors and wood processors. Downstream businesses such as manufacturers and retailers are not included in the support package as these sectors will be able to access alternative timber supplies and products that mean they will not be substantially impacted by a formal cessation in native forest logging by

FCNSW. However, the package does include broad based financial support for impacted regional communities.

In June 2022 the NSW Government announced a five-year extension to the North Coast WSAs, most of which were due to end in 2023 while others run through to 2028.[82] The cost of the WSA buyouts is based on buying out those extending beyond 2028. FCNSW has WSAs in the South Coast region that extend beyond 2028 (see details in **Table 9** in **Appendix B**). These are the two ANWE contracts (25,000 m^3 pa. sawlog to 2029 and 290,000 m^3 pa. pulp log to 2033) and the Ryan & McNulty high quality sawlog contract (18,500 m^3 to 2030). In the Western Region, FCNSW has one WSAs that extends beyond 2028 (see details in **Table 10** in **Appendix B)**. This is the Arbuthnot Sawmills contract (4,613 m^3 logs to 30 June 2030).

It is challenging to sensibly estimate costs associated with regional economic diversification and industry development support. The first pass estimate of $58 million is consistent with the Victorian Forestry Plan (that is, $36 million in the Regional Development Growth Fund and $22 million in the recently announced Community Transition Fund).

The NSW government may consider establishing a fund to support actions from local development strategies, particularly targeting job creation that is relevant for the location, timing and skills of affected native timber workers. Any actual costs would necessarily reflect the opportunities, challenges and features of each unique regional economy. Existing regional economic development strategies could guide this initiative, as may existing programs such as the NSW Government's Forest Industries Innovation Fund or the Regional Growth Fund.[83,84]

5.3 Plantation expansion

A final element of the transition may involve prudent investment in plantation expansion in NSW. The sector would sensibly lead this expansion based on its understanding of the best locations, appropriate size of expansion, plantation species and market needs.

An initial estimate of the new plantation establishment cost has been made assuming that there is a 33,000 hectare (ha) plantation expansion. This is the size of the planned expansion in Western Australia and is close to the size of the FCNSW's current hardwood plantation estate, which is just under 35,000 ha.[85]

To estimate the cost of the expansion we have considered plantation establishment costs published by ABARES and by Western Australia as part of their transition package.

Table 4 shows new plantation and establishment costs published by ABARES. ABARES also assume that the land cost for new plantations is approximately $2,900 per ha.

82 NSW Government, Certainty for local timber processors after extension to Wood Supply Agreements, viewed 26 July 2022, https://www.nsw.gov.au/media-releases/wood-supply-agreements

83 In 2018, the NSW Government assisted local council to develop regional economic development strategies. NSW Government 2018, *Regional Economic Development Strategies,* viewed 18 May 2022, available at: https://www.nsw.gov.au/regional-nsw/regional-economic-development-strategies

84 NSW Department of Primary Industries, Forest Industries Innovation Fund, viewed 18 May 2022, available at: https://www.dpi.nsw.gov.au/forestry/forest-industries-innovation-fund#:~:text=The%20NSW%20Government%20is%20committed new%20markets%20for%20forest%20products.

85 FCNSW, 2020-21 Sustainability Report, p. 7.

Table 4: New plantation and maintenance costs

Regime	Establishment ($/ha)	First year ($/ha)	Ongoing ($/ha)	Rotation length (years)
Softwood				
Radiata pine	1,900	482	82	30
Maritime pine	1,900	482	82	40
Caribbean pine	1,900	482	82	30
Southern Pines	1,500	640	90	30
Hardwood				
Tasmanian blue gum–long rotation	2,100	140	180	25
Tasmanian blue gum–short rotation	2,100	140	25	10
Spotted gum (sawlogs)	2,100	140	180	25
Shining gum (pulplogs)	2,100	140	25	10

Source: Whittle, L, Lock, P & Hug, B 2019, Economic potential for new plantation establishment in Australia: outlook to 2050, ABARES research report, Canberra, February, p. 17.

Using the cost assumptions for Radiata pine[86] to estimate a softwood only plantation expansion, the upfront land and establishment cost would be $158 million and the whole of life costs for the plantation (over 30 years, assuming a 7% discount rate) would be NPV$204 million.

Using the cost assumptions for long rotation gum to estimate a hardwood only plantation expansion, the upfront land and establishment cost would be $165 million and the whole of life costs for the plantation (over 25 years, assuming a 7% discount rate) would be NPV$233 million.

This estimate compares to the Western Australian Native Forestry Just Transition Plan which provides a cost estimate of $350 million to provide 'at least an additional 33,000 hectares of softwood timber plantation.'[87] Detailed information is not available to understand what is driving this higher cost estimate for the comparable hectares of new plantation in Western Australia.

We also note that Victorian Plan proposes a $110 million investment in plantation development, though it is not clear how many hectares this is intended to supply.

It is possible that the NSW government may contribute funding to expanding the plantations in NSW. However, this would need to be determined at a later date, and with a better understanding of whether there was a justifiable requirement for government funding.

86 The FCNSW 2020-21 Sustainability Report indicates that Radiata pine accounts for the greatest proportion of FCNSW's softwood plantation species (see p. 7).

87 Forest Products Commission 2021, *premier announces softwood investment*, viewed 18 may 2022, available at: https://www.wa.gov.au/government/announcements/premier-announces-softwood-investment#:~:text=The%20Forest%20Products%20Commission%20(FPC Australia's%20softwood%20plantation%20timber%20industry.

5.4 NSW budgetary impact

Budget impact is deteriorating

Estimating the likely budgetary impact of ceasing FCNSW's native forestry business is more difficult given the limited information available on the true financial position and financial support given to FCNSW's hardwood business and the hardwood sector more generally.

However, it is clear that this budgetary position has been deteriorating significantly since the 2019-20 bushfires. For example, due to the bushfires FCNSW will not be in a position to pay a dividend for the next three years and the NSW Government has offered over $67 million in assistance, much of which is going to the hardwood sector (see details in **Box 6** below).

Box 6: Bushfire related payments and support being provided to the NSW timber industry

- FCNSW's 2021-22 Statement of Corporate Intent report that FCNSW will not be paying a dividend up to and including 2024-25 financial year, due to the impact of the 2019-20 bushfires.
- $41.8 million in approved Bushfire Industry Recovery Package sector development grants.
- $10 million for haulage of fire-affected timber and $15 million for storage assistance (with complementary Commonwealth assistance). NSW successfully negotiated a one-year extension with the Commonwealth for haulage subsidy claims (now expiring June 2022).
- Low interest loans from the Forest Industries Innovation Fund (including a recent increase in the loan cap from $3 million to $5 million).

Source: FCNSW, Statement of Corporate Intent – 2021-22, p. 6, https://www.parliament.nsw.gov.au/lcdocs/other/16422/Answers%20to%20supp%20questions%20-%20Regional%20NSW,%20Paul%20Toole,%20MP%20-%20Received%201%20December%202021.pdf

Understanding the budget impact

Table 5 explores the sources of positive and negative budgetary impacts that could arise by ceasing FCNSW's native forestry business. As shown, there are likely to be substantial budget position improvements, and these are likely to outweigh the budget position reductions.

Table 5: Positive and negative budget impacts

Budget position improvements	Comment	Budget position reductions	Comment
FCNSW Dividend	Improved profitability would increase FCNSW dividend over time (by avoiding the loss making activities of the hardwood division as noted by IPART)	One-off structural adjustment package	Approximately NPV$291 million over 10 years from 2028-29. [4]
Ongoing and one off industry support	Avoided regular structural adjustment and event related payments. Since 2010 this has conservatively been around $180 million to the hardwood sector (excluding FCNSW). [1]	Native forest management costs	These costs would come on-budget through a transfer of responsibility from FCNSW to the NSW National Parks and Wildlife Service. However, these could reasonably be assumed to be equivalent under FCNSW or national parks management.
Avoided CSO payments and other equity injections to FCNSW	The CSO payments alone have been approximately $17 million per annum over the last 7 years. This would amount to NPV$160 million over 10 years. [2] Recent examples of one-off support from the NSW Government includes $105 million in the form of stimulus, equity and dividend relief. [3]		
Forest -related revenue sources	A range of revenue streams associated with the native forests would also come on-budget including park fees, lease revenue, carbon-credit earnings, etc.		

Notes:
1. This includes the 2010 red gum structural adjustment package, the Boral WSA buy out, recent assistance to Blue Ridge Hardwoods workers, and recent bushfire related assistance to the sector (other than to FCNSW).
2. The avoided CSO cost of NPV$160 million reflects approximately $20 million per annum between 2028-29 and 2038-39 (historic costs escalated by 1.4% per annum out to 2038-39 in line with historic trends).
3. FCNSW, 2020-21 Sustainability Report, p.5.
4. The one-off $291 million present value reflects immediate expenditure of $244 million in 2028-29 toward redundancies and WSA buy-outs plus a $47 million present value of ongoing economic diversification funding from 2028-29.

Estimated budget impact

As shown in **Table 5**, we can assume costs are incurred over the 10-year period from 2028-29 and that the impact of a one-off structural adjustment package to the budget position could be in the order of NPV$291 million,[88] reflecting:

- Structural adjustment funding of $244 million, (assumed to be incurred at the beginning of 2022-23) to support worker redundancies and retraining, capital redundancies and WSA buy-backs
- Structural adjustment funding related to regional economic diversification of $6 million per annum for 10 years to 2031–32. This sums to NPV $47 million.

It is assumed that the cost associated with any expansion of the softwood plantation estate would be funded on a commercial basis by FCNSW and hence is assumed to be off budget.

As shown above, under a set of plausible assumptions the $291 million would likely be outweighed by a range of positive budget impacts including avoided ongoing structural adjustment and bushfire support to the hardwood sector, avoided equity injections to FCNSW and the likelihood of increased dividends from FCNSW over time by avoiding the loss making activities of the hardwood division which have been highlighted by IPART.

It is recommended that NSW Treasury undertake more detailed analysis of the budgetary impacts given that it will have access to more detailed budgetary data than is available in the public domain. Wider impacts outside of the NSW Government's net operating position could also be considered including the wider natural capital benefits provided by NSW's native forests to the economy, including carbon, environmental, water production, tourism and mental health benefits.

5.5 Alternative employment opportunities for native forestry workforce

There are likely to be alternative employment opportunities for displaced workers from the native forestry sectors. There will be alternative forms of employment that are associated with the native hardwood forests and softwood plantation forests in the areas. In addition, it is likely that some workers would transition to employment in other sectors of the local economies.

Key areas of significant employment associated with forestry include:

- Forest management: Forest management employees would still be required in the absence of native forest logging, albeit with different management objectives.
- Recreation and tourism: It would be expected that there would be jobs created in recreation and tourism. By means of an illustrative example, Derby in the North East of Tasmania has created around 100 part-time and full-time jobs as result of becoming a mountain biking destination,[89] while the Wild Mersey mountain bike development in the north west of Tasmania is estimated to create 51 full-time jobs.[90] This analysis included development of a network of mountain bike trails to become a tourism destination and therefore 50-100

[88] That is, the impact of the structural adjustment package discounted to 2028-29 from across the 2028-29 – 2037-38 period. Assumes a 4% discount rate.

[89] Australian Geographic, *Going with the flow down Derby way.*

[90] Mountain Bike Australia, *The Rise of Blue Derby Case Study*, viewed 8 September 2021, available at: https://www.mtba.org.au/wp-content/uploads/CCJ17427-Blue-Derby-Case-Study.pdf

recreation and tourism jobs supported may be a reasonable benchmark. Additional information is provided in **Box 7**.

- Plantation-based forestry work: both in softwood and hardwood plantations and in the establishment and management of new plantations, for which there is known demand associated such as with the Visy paper mill in Tumut.[91] Softwood plantation work in the area – in the Eden RFA region, the softwood sector centres around the Snowy Monaro LGA. In the Southern RFA region, the softwood industry is concentrated around Tumut which is within the Snowy Valleys LGA.[92] Furter north the softwood industry has employment concentrations in Oberon LGA and Walcha LGA.[93]
- Fire and invasive species management: Harvesting and haulage contractors have already diversified in providing firefighting and fire management services in the forests. There are also increasing opportunities in invasive species management (e.g., control of feral deer). It should be noted that the harvesting and haulage contractors may also work over significant areas across NSW and including into Victoria.
- Management of carbon and biodiversity credits: The climate benefits of the carbon stored in plantations offer a potential new income stream for plantation forestry and potentially the incentivisation of smaller scale farm forestry, with associated job creation and the opportunity for co-benefits including biodiversity credits.[94]

Box 7: Mountain bike trail industry in Tasmania and New Zealand

Derby in north-east Tasmania is an example of a rural town which has been transformed by developing a network of high quality mountain bike trails. Around 30km of purpose built mountain trails were opened in 2015 with the network now extending to more than 80km. Prior to covid the trails were getting 30,000 visitors per year, bringing an estimated $30m per annum of tourism spend while it has been reported that the network cost $3.1m to develop. It has been estimated that the area supports around 100 jobs (a combination of full-time and part-time roles).

In Rotorua, New Zealand they have 180km mountain bike trail network. This has been estimated to bring between NZ$29.2 million and NZ$47.4 million per annum and support up to 340 jobs.

Source: Australian Geographic, Going with the flow down Derby way; Mountain Bike Australia, The Rise of Blue Derby Case Study; Stuff NZ, How mountain biking became part of Rotorua's DNA.

91 Hawkins, D. 2020, Submission by Visy Pulp and Paper Pty Ltd (Visy) to the House of Representative Standing Committee on Agriculture and Water Resources Timber Supply Chain Constraints in the Australian Plantation Sector. Commonwealth of Australia, Canberra.

92 NSW Department of Primary Industries 2018, *NSW Regional Forest Agreements – Assessment of matters pertaining to renewal of NSW Regional Forest Agreements*, August p. 299.

93 NSW Department of Primary Industries 2018, *NSW Regional Forest Agreements – Assessment of matters pertaining to renewal of NSW Regional Forest Agreements*, August p. 299.

94 Parliament of the Commonwealth of Australia 2021, 'Aussie logs for Aussie jobs', available at: https://parlinfo.aph.gov.au/parlInfo/download/committees/reportrep/024630/toc_pdf/AussielogsforAussiejobs.pdf;fileType=application%2Fpdf

A FCNSW native forestry business

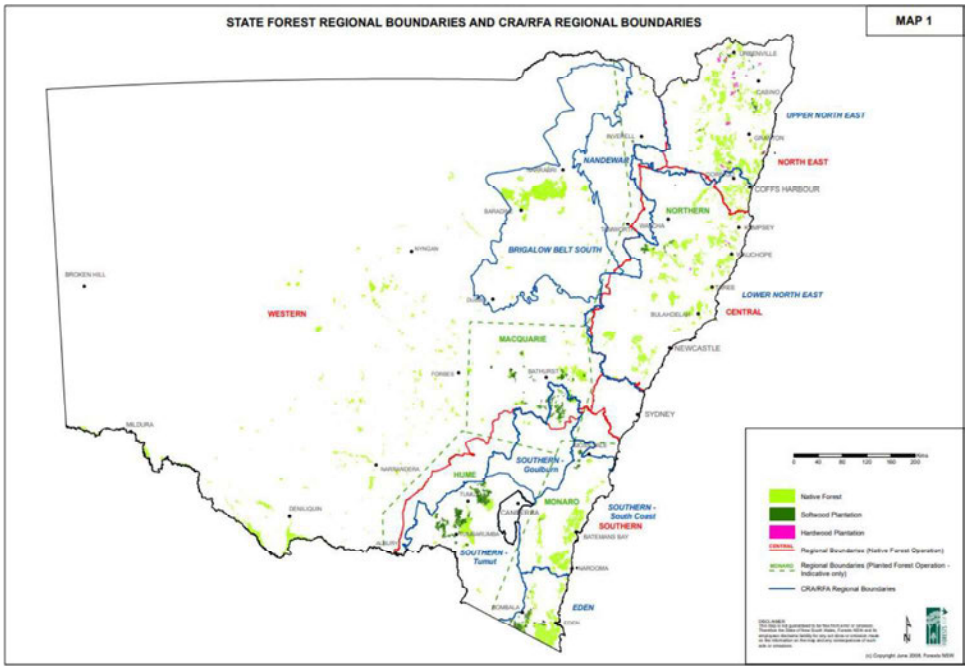
This attachment provides an overview of the FCNSW's native forestry business including the size of the native forest estate, the log products and volumes that it supplies, the financial position of the hardwood business and the approximate number of employees in the hardwood business.

FCNSW native forest estate

The native hardwood forests in NSW are an important natural resource, providing a range of economic and environmental services. FCNSW manages approximately two million hectares of native forests and 34,000 hectares of hardwood plantations in the north[95]. Around half of this area is managed for conservation and the other half is able to be harvested.[96]

Figure 8 shows the areas of native forest resource managed by FCNSW. The majority of the native forest timber is harvested from the three Regional Forest Agreements (RFAs) areas in NSW, which are the North East, Southern and Eden RFA areas.[97]

Figure 8: State Forest and Regional Forest Agreement Boundaries



Source: FCNSW, Boundary Map, https://www.forestrycorporation.com.au/operations/esfm (accessed 24 March 2022).

95 FCNSW, *Statement of Corporate Intent – 2021-22*, p. 4.

96 FCNSW, *Impact of fires 2019–20,* viewed 20 April 2022, https://www.forestrycorporation.com.au/operations/fire-management/fire-impact-of-2019-20

97 The RFAs between the Australian Government and the NSW government control and manage the native forests in these areas and seek to balance economic uses with environmental protections.

FCNSW native forest log supply

FCNSW grades the native timber logs it harvests according to their size, shape and quality and sells them as 'high quality' and 'low-quality' log products. The classification of the log products and the processed wood products produced from them are shown in **Table 6**.

Hardwood processors in NSW currently source the majority of their wood supply from FCNSW, with a smaller volumes sourced from private native forests.

Table 6: Native forest log products and use

Log product type	Processed wood product
High quality	
Poles and piles	Power poles
Girders	Construction beams
High quality sawlogs	Flooring and decking
Low quality	
Low quality sawlogs	Fencing pales
Pulpwood	Woodchips (for paper)
Firewood/other	Firewood

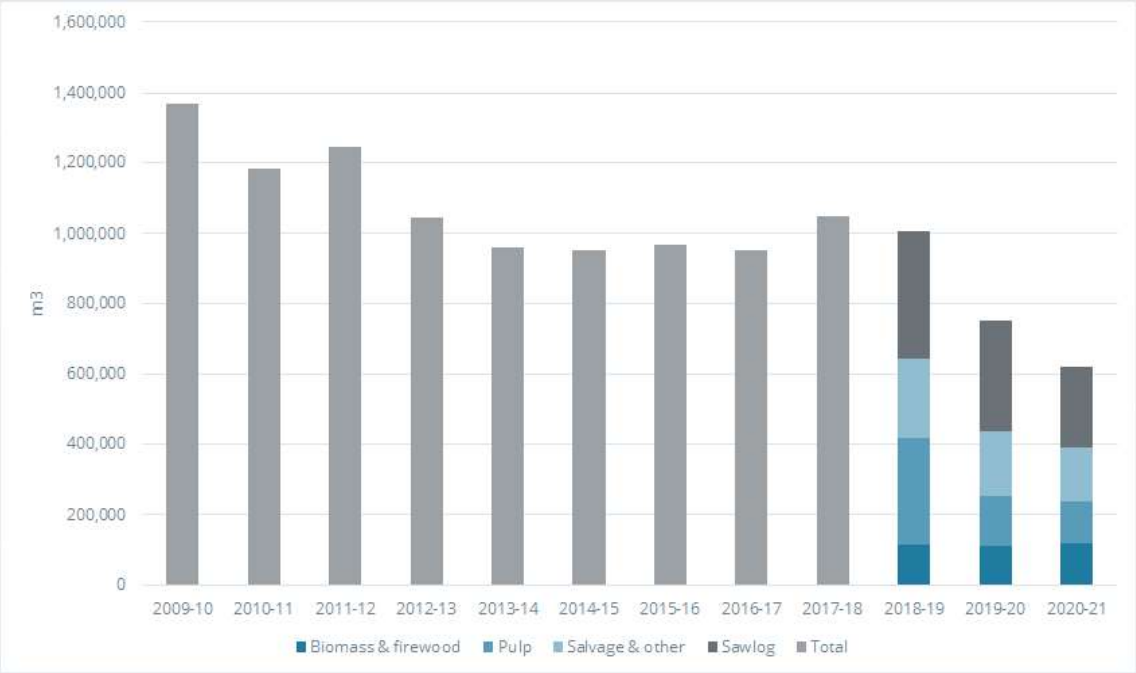
Source: IPART 2017, Review of Forestry Corporation of NSW's native timber harvesting and haulage costs, Final Report, December, p. 14

While over 50 species of native timber is harvested, five species contribute the majority of FCNSW's revenue. This includes Blackbutt, Spotted Gum, Brush Box, Blue Gum and Tallowwood. Total hardwood timber harvested by FCNSW is shown in **Figure 9**. This include native timber and hardwood plantation timber harvested and shows that total hardwood timber production has fallen from just under 1.4 million cubic meters (m3) in 2009-10, to just over 0.6 million m3 in 2020-21.

Hardwood plantation volumes as a proportion of total hardwood sales shows significant variation in the data reported in FCNSW's 2021 Sustainability Report. Over the period from 2010-11 to 2020-21 it varies between 4% and 40% of hardwood sales from year to year.[98]

[98] FCNSW, *Sustainability Report 2020–21*, p.9.

Figure 9: FCNSW hardwood timber harvested



Source: FCNSW Sustainability Reports

Note: The breakdown by product is only published from 2018-29 to 2020-21

FCNSW's ability to supply hardwood has been substantially reduced by the 2019-20 bushfires

FCNSW conducted a preliminary assessment of the impact of the 2019-20 bushfires on long term sustainable yield in 2020.[99] More recently, the NSW Natural Resources Commission (NRC) has prepared a detailed report for the NSW Government on the short and longer terms impacts of the bushfires on FCNSW's native timber supplies.[100]

The analysis by FCNSW in 2020 found that:

- In the North East RFA area:
  - Around 60% of the net harvestable area available for timber production was impacted by fires in the Upper North East and 38% in the Lower North East, or close to 50% of the net harvestable area across the region
  - Over 10% of the hardwood plantation estate was affected
  - Blackbutt log supply can be maintained but the Spotted Gum on the North Coast (which grows significantly slower than Blackbutt) was heavily affected by fire
  - Long-term sustainable timber supply from the North East forests was estimated to have fallen by approximately 4%.
- In South Coast and Eden RFA areas:

[99] The sustainable yield is intended to show the amount and types of log products that can be harvested from the native forest each year without diminishing the volume the forests can produce into the future. FCNSW 2020, *2019–20 Wildfires NSW Coastal Hardwood Forests Sustainable Yield Review*, December.

[100] NSW Natural Resources Commission 2021, *Coastal IFOA operations post 2019/20 wildfires*, June. This was a Cabinet-in-Confidence report that has been publicly leaked.

- Over 80% of the forest area that is able to be harvested in the South Coast and Eden RFA areas were impacted by fire
- The biggest impacts were in the southern regions, with lowered sawlog availability in the South Coast and Tumut regions
- The recovery of the forests in these areas will take longer than the northern NSW forests as the southern region forests are slower growing
- Long-term sustainable timber supply from the south coast forests was estimated to have fallen by approximately 30%.

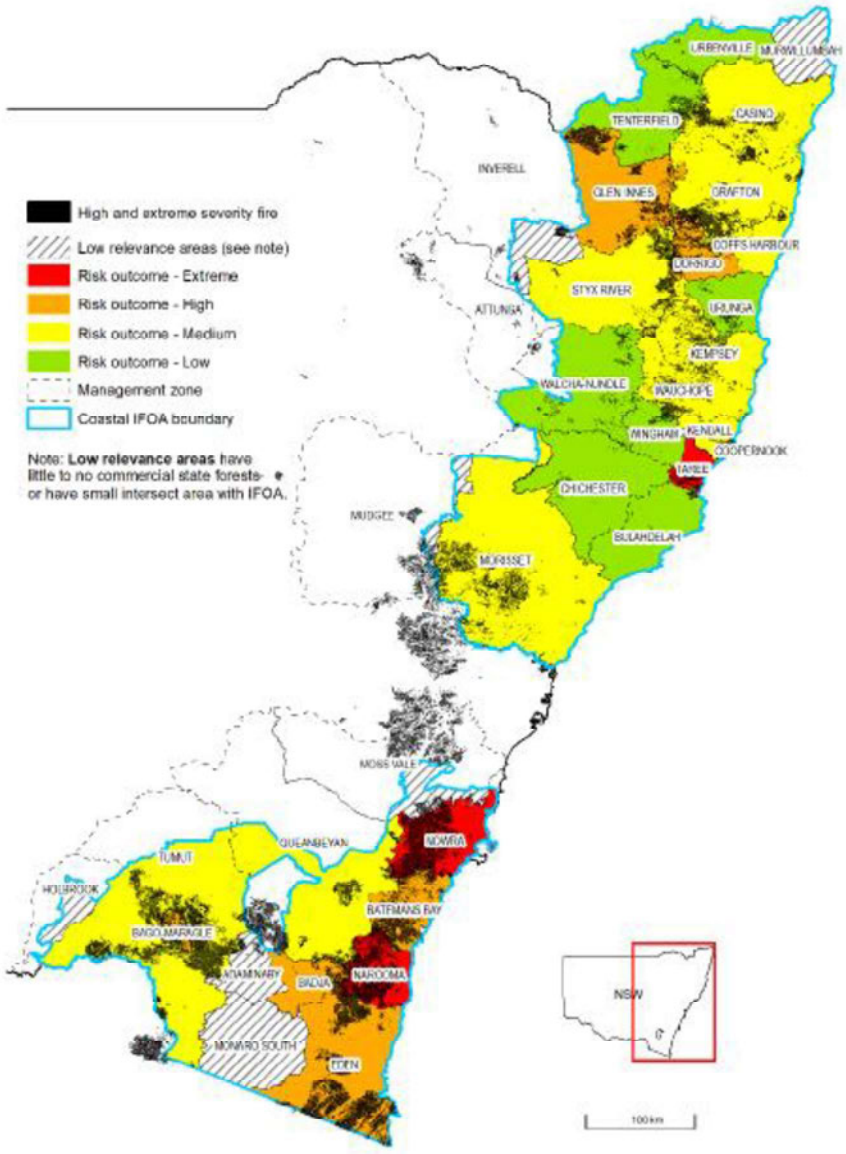
The more recent analysis by the NRC has found the following in terms of bushfire impacts:

> *Impacts were most severe in the South Coast subregion, where there may be up to an 80-90 percent reduction in planned wood supply volume based on the Commission's recommended pathways and risk mitigations. In the Eden subregion, risk mitigations are expected to reduce available wood supply volume by 40 percent. These impacts, while not as large as in the South Coast subregion, are still significant. In the Tumut subregion there is an estimated reduction in supply of approximately 35 percent of wood supply agreement volume. Across the north coast subregions, wood supply may be reduced by 10-20 percent under the recommended pathways and risk mitigations.*

This suggests a more significant impact on wood supply than the initial analysis by FCNSW.

As a result, the NRC has recommended that harvesting be suspended for three years from February 2020 in three management zones shown in red in **Figure 10** (Narooma, Nowra and Taree). Restricted harvesting arrangements have also been recommended in a further 17 management zones across the Southern, Eden and North East RFA areas. This is the areas marked in orange and yellow in **Figure 10**.

Figure 10: NRC risk assessment results by management zone



Source: NRC 2021, Advice on Coastal IFOA operations post-2019-20 wildfires, Final Report, June, p. 5.

Limited or negative returns earned by the hardwood business

It appears that the FCNSW (a government owned entity) receives very limited financial returns on the harvesting and sale of native hardwood forests. Financial data relating to the native forest business alone or individual RFA regions is not publicly available.

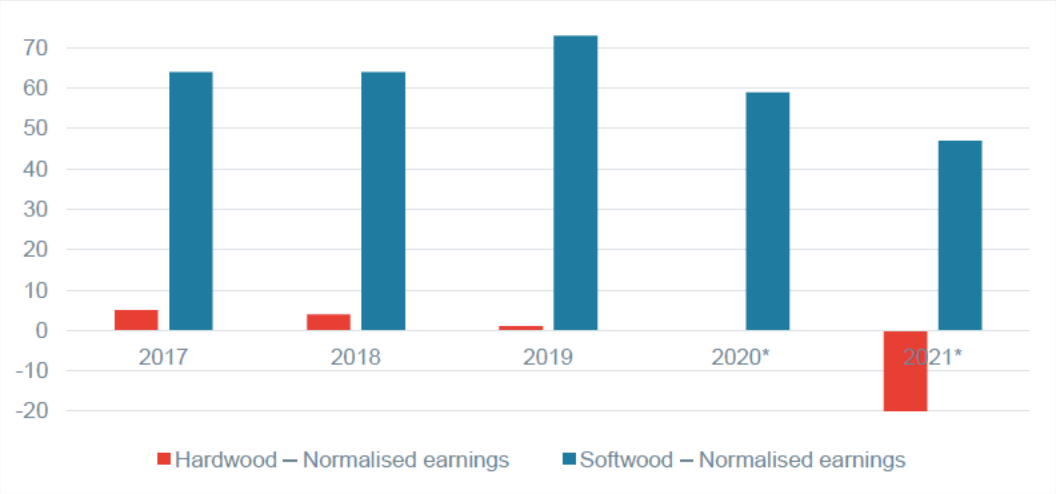
Financial information is published on FCNSW's hardwood division, which includes both native forest harvesting and hardwood plantation sales.

Figure 11 provides a timeseries of normalised earnings for the FCNSW's hardwood and softwood divisions. FCNSW's hardwood division made normalised earnings of -$6 million in 2021, declining to -$20 million if fire-recovery expenses are included. Average normalised earnings across 2017–

2021 were $2.2 million per annum in contrast to $66 million per annum for the softwood division (excluding fire-recovery expenses).[101]

This poor normalised earnings return does not consider the debt that it is servicing, and it appears unlikely that the hardwood division would meet a commercial target return on capital employed. Greater transparency is needed in NSW about the financial position of the native forest business to support informed policymaking.

Figure 11: FCNW normalised earnings: Hardwood and softwood divisions



Source: FCNSW, Annual Report 2012-13 to 2020-2021; Frontier Economics analysis.

Note: Figures include fire-recovery expenses for hardwood ($7M in 2020; $14M in 2021) and softwood ($8M in 2020; $15M in 2021) divisions.

FCNSW acknowledges in its 2021 Sustainability Report that reductions in total revenue was predominately due to a reduction in hardwood revenue, resulting from reduced operations in fire-affected areas as well as significant wet weather and flooding on the north coast. The FCNSW does not expect financial performance to recover for 'several years' as a consequence of these factors.[102]

In terms of FCNSW's overall business, the hardwood division accounts for a much smaller proportion of timber volumes and revenue. In 2020-21, FCNSW's softwood volumes harvested were close to 5 million m3 compared to just over 0.6 million m3 for hardwood. In terms of revenue, in 2020-21 hardwood sales revenue was $89 million and softwood sales revenue was $300 million.[103]

IPART's analysis indicates that the hardwood business is not covering costs

IPART has responsibilities to review, benchmark and report on FCNSW's native timber harvesting and haulage costs. In its two reports to date, IPART has raised concerns that FCNSW is not recovering the costs of its native timber sales.

101 FCNSW, *Annual Report 2020–21*, p. 11, 13.

102 FCNSW, *Sustainability Report 2020–21*, p. 5.

103 FCNSW, *Sustainability Report 2020–21*, p.10.

For example, IPART's 2017 report states:

> *FCNSW's native timber business incurs significant direct costs in managing forests to harvest native timber. These costs include developing harvesting plans, tree selection and marking, building roads to access coupes for harvesting, forest re-generation, and complying with environmental laws.*
>
> *Our consultations and analysis of FCNSW data indicate the current stumpage prices FCNSW charges are unlikely to recover these direct costs in some harvest areas, particularly the New England area. As a result, its harvesting activities in these areas may be loss-making for FCNSW.*
>
> *FCNSW's delivery charge is under-recovering its harvesting and haulage costs (including its administration costs) on most species, and is under-recovering around $40 per m3 for High Country species* [104]

In their 2021 report, IPART's analysis of harvesting and haulage costs indicates that at times, the hardwood business is not recovering its harvesting and haulage costs. The 2021 report[105] indicates that over the 2016 to 2019 period, the harvesting and haulage costs exceeded revenue, with an average shortfall of $3.96 per green metric tonne.

IPART noted that FCNSW received revenue from two sources to cover its harvesting and haulage costs:

- delivery charges to customers
- industry adjustment grants from the NSW Government, which relate to forestry policy changes on the South Coast.

The two revenue sources were not sufficient to cover the harvesting and haulage costs over the 2016 to 2019 period. IPART report that FCNSW has since increased its delivery charges to achieve cost recovery in the future.

Historical periods of unprofitability

FCNSW had negative earnings before income tax for over 10 years prior to 2014-15.[106]

Employment in the FCNSW hardwood business

Employment across all divisions

In their Annual Report, FCNSW report total employment across the organisation and do not separately identify staff by division. In 2020-21, FCNSW employed 549 full-time equivalent (FTE) staff including:

- 317 office based staff: involved in management, administration and technical roles
- 232 field based staff: field contractor management, road construction and maintenance, tree planting and pruning, nursery work, forest conservation and fire protection.

In addition to the head office in Sydney, operations are managed from regional offices in Coffs Harbour, Wauchope, Bathurst, Dubbo, Batemans Bay, and Tumut.[107]

104 IPART 2017, *Review of Forestry Corporation of NSW's native timber harvesting and haulage costs, Final Report*, December, p. 8-9, 49
105 IPART 2021, *Review of Forestry Corporation's native timber harvesting and haulage costs*, p. 23
106 GHD 2017, *Review of Coastal Hardwood Wood Supply Agreements, Final Report*, March, p.3
107 FCNSW, *Sustainability Report 2020-21*, p. 31.

Hardwood division employment

A General Manager is in charge of the Hardwood Forests Division, which has the following teams[108]:

- Hardwood marketing and timber sales
- Native forest stewardship and fire management
- Forest management planning
- Timber harvesting and roading operations
- Ecological surveys and monitoring
- Hardwood plantations.

The key positions that would be impacted by ceasing FCNSW's native forest logging are the positions that manage the timber sales and harvesting and haulage operations.

Information provided to 2015 NSW Budget Estimates hearings indicated that Forestry Corporation employed 220 people in its hardwood division, including both the hardwood native and plantation timber operations.[109]

Harvesting and haulage operations management

Indufor estimated[110] Forestry Corporation's administration cost based on staff costs associated with managing harvesting and haulage operations in the Northern and Southern regions. This includes 14 full time equivalent (FTE) staff dedicated to management, supervision and coordination of contractors and an additional 19 positions, whose roles are 50% attributed to managing harvesting and haulage operations .

108 FCNSW, *Annual Report 2020–21*, p. 23.

109 National Parks Association of NSW, 'Regional Forest Agreement have not worked economically or socially', viewed 25 April 2022, available at: https://npansw.org.au/wp-content/uploads/2016/10/npa_regional-forest-agreement-have-not-worked-economically-or-socially.pdf

110 IPART 2021, *Review of Forestry Corporation's native timber harvesting and haulage costs*, p.23 and further detail in Indufor 2021, *Native Forest Harvest and Haulage Review and Benchmarking, Final Report*, 1 February, p. 82.

B NSW native forest processing sector

This attachment provides information on the current size of the processing sector that uses FCNSW's supply of native forest logs and details on employment levels, location and economic contribution to NSW regional communities. We note that the size of the industry has been declining over time as the level of wood supply has fallen.

Wood supply from native forests has suffered another significant downward shock due to the 2019-20 bushfires which is currently further impacting the viability of the native forest processing sector.

In this report, we report on direct employment in the processing sector, which is defined to include harvest and haulage contractors and primary wood processors (e.g. sawmills, chipmills, and pole producers). We do not report on downstream sectors including truss and frame producers, furniture manufacturers or timber sales and distribution.

Key hardwood processing employment centres are around Eden, Narooma, Batemans Bay, Nowra, Tumbarumba, Grafton, Kyogle, Casino, Coffs Harbour, Kempsey, Wauchope, Taree and Bulahdelah.

Taking the most recent employment estimates from the NRC, direct employment in the native forest-related harvest and haulage and mills prior to the 2019-20 bushfires was in the order of 332 in the South Coast sub regions and 590 in the North Coast sub regions. The NRC has estimated that this could fall to around 155 and 500 direct jobs, respectively, if their recommendations are implemented.

The NRC defines the direct jobs as:[111]

> *jobs involved in the forestry supply chain from the point of forest management and harvest planning and operations, through to and including primary processing of the log products.*

[111] NRC 2021, *Advice on Coastal IFOA operations post-2019-20 wildfires, Final Report*, June, p. 37.

Table 7: NRC direct employment estimates

Region	2019-20 (pre-fire)	After NRC recommendations
South Coast	67	13
Eden	250	130
Tumut	15	12
Total South Coast	**332**	**155**
North Coast	**590**	**500**
Total South and North Coast	**922**	**655**

Source: NRC 2021, Advice on Coastal IFOA operations post-2019-20 wildfires, Final Report, June

As well as the North and South Coast regions shown above, as shown in **Table 7**, FCNSW's hardwood business also supplies wood from its Western Region. The Western Region business supplies red gum and white cypress to processors.

Of the Western Region WSA holders (shown in **Table 10** below), there are two redgum sawmills and a white cypress processor with two mills (in Narrandera and Condobolin) and a number of red gum firewood suppliers.

Employment among these processors receiving red gum and white cypress native timber under WSAs with FCNSW is estimated to be in the order of 125 - 150 employees. This is based on reported information on employment levels at the mills and inferred levels of employment given the volume of wood supply.

Further detail on the harvest and haulage and processing sectors that is useful in estimating potential structural adjustment assistance is provided below.

Harvest and haulage

Contracting arrangements

Harvest and haulage contractors are retained by either by FCNSW or directly by the mills to harvest the wood and haul it to the milling facilities, depending on the nature of the log sales.

Harvesting operations involve tree felling, skidding the logs to roadside, log grading and roadside storage. Haulage operations involve loading logs onto trucks and transportation to mills.

Under the delivered price or a mill door sales arrangement, FCNSW arranges for harvesting and haulage to the sawmill and charges a bundled price that includes the harvesting and haulage and stumpage. According to IPART delivered price arrangement are largely used for low-quality and high quality sawlogs sales, accounting for around 62% of FCNSW's native timber production.

Under stumpage sales, the sawmill has a right to harvest timber from a specific forest. In this case, the sawmill only pays FCNSW a stumpage price. It contracts directly for harvesting and haulage services. According to IPART, stumpage is primarily used in the West Region and Eden Forest Management Areas.[112]

Harvesting and haulage contractors are small, privately owned businesses that may operate in more than one state.

FCNSW's harvesting and haulage contracts are generally up to 5 years in length, allowing contractors to finance equipment.

Number of native forestry related harvest and haulage contractors involved in mill door/delivered sales

IPART report that in 2019, there were 33 harvesting contractors and 10 haulage contractors serving FCNSW's delivered sales.[113](IPART, p.41)

The Benchmarking Report prepared for IPARTs consultant, Indufor, provides detailed information on harvest and haulage contractors. This indicates that:[114]

- Harvesters are geographically based. Over the period from 2017-19, FCNSW contracted with one large, 5 medium and 27 smaller harvesters. Eight of the businesses were vertically integrated harvest and haulage operators.
- FCNSW contracted with one large haulage consortium (North Haul) on the North Coast, 4 medium and 5 small haulage contractors.

The table below summarises the number of harvesting and haulage contractors.

Table 8: FCNSW delivered sales harvest and haulage contractors

	Upper North	Lower North / Central	South	South West
Harvest	13	12	8	3
Haulage	4	3	1	2
Vertically integrated	4 [1]	3 [1]	7	2

Source: Indufor 2021, Native Forest Harvest and Haulage Review and Benchmarking, Final Report, 1 February, p. 68. 1: Includes the 3 contractors that have formed the North Haul consortium).

Contractors servicing stumpage sales

As noted above, mills in the Western Region and Eden Forest Management Areas purchase hardwoods logs on a stumpage basis. Hence, these mills retain the harvesting and haulage

112 See IPART 2017, *Review of Forestry Corporation of NSW's native timber harvesting and haulage costs, Final Report*, December and IPART 2021, *Review of Forestry Corporation's native timber harvesting and haulage costs*,
113 IPART 2021, *Review of Forestry Corporation's native timber harvesting and haulage costs*, p. 41.
114 Indufor 2021, *Native Forest Harvest and Haulage Review and Benchmarking, Final Report*, 1 February, p. 62-68.

contractors themselves. In some cases, there are also integrated haulage and processing businesses. For example, ARH Contracting which supplies red gum firewood.

Data on the number of harvest and haulage contractors supplying the Western and Eden regions has not been found. We note that the log volumes being harvested and hauled in the Western and Eden region are significantly lower than in the other native hardwood supply regions.

Capital requirements of harvesting and haulage

Indufor (p. 36) report that typical capital costs for a standard 3 machine harvesting crew are in the order of $1.2 million to $2 million. Financing costs are in the order of $0.6 million to 1 million per harvesting crew.

Wood processors

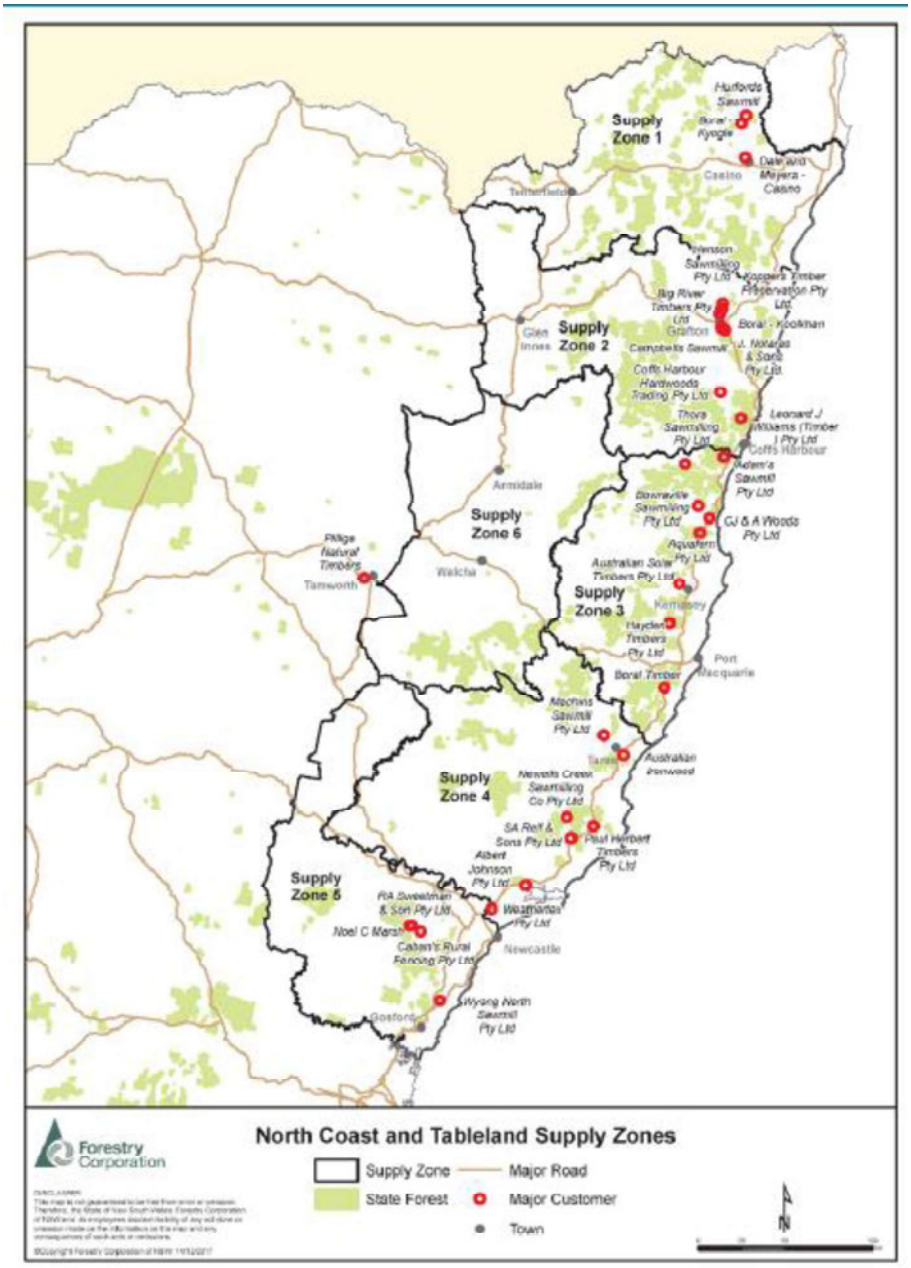
Over financial year 2017 to 2019, FCNSW sold native forest logs to: 130 mill door sales customers; 5 stumpage sales customers, 21 combined stumpage and delivered sales customers. [115] The location of the costal mills is shown in **Figure 12** and **Figure 13**.

[115] Indufor 2021, *Native Forest Harvest and Haulage Review and Benchmarking, Final Report*, 1 February, p. 14.

Figure 12: Location of hardwood sawmills

Source: GHD 2017, Report for NSW Department of Primary Industries – Review of Coastal hardwood Supply Agreements, p. 4.

Figure 13: FCNSW's native timber supply zones and major customers on the North Coast



Source: IPART 2017, Review of Forestry Corporation of NSW's native timber harvesting and haulage costs, Final Report, December, p. 23

Wood supply agreements

The largest processors have traditionally received their wood supply from FCNSW under long term (20 year) wood supply agreements. The majority of WSAs are due to expire in 2023. However, the Boral Wood Supply Agreement on the North Coast (which specifies quantities by species including Blackbutt and is a challenging contract for FCNSW to service) does not expire until 2028.

The coastal region WSAs are shown in **Table 9** and the Western region WSAs in **Table 10**.

Table 9: Wood supply agreements: Coastal

Company	Mill Locations	Product	Contract Term[1]	Sale Type	Allocation Total (m^3 or gmt per annum)
Allied Natural Wood Exports	Edrom	Pulplog	2018 - 2033	Stumpage	**290 000**
Allied Natural Wood Exports	Edrom	Sawlog	2020 - 2029	Stumpage	**25 000**
Boral Timber	Koolkhan Herons Ck, Kyogle	High Quality Sawlogs	2004 - 2028	Mill door	**163 000**
	Narooma, Nowra	High Quality Sawlogs	2001 - 2020		
Thora Sawmilling Pty Limited	Thora	High Quality Sawlogs, Low Quality Sawlogs	2004 - 2023	Mill door	**42 627**
Hurfords Hardwood Kempsey Pty Ltd	West Kempsey	High Quality Sawlogs, Low Quality Sawlogs	2004 - 2023	Mill door	**8 123**
Newells Creek Sawmilling Co. Pty Ltd SA Relf & Sons Pty Ltd	Bulahdelah	High Quality Sawlogs, Low Quality Sawlogs	2004 - 2023	Mill door	**19 807**
Adams Sawmills Pty Ltd	Bonville	Low Quality Sawlogs	2004 – 2021	Mill door	**21 863**
Hurford's Building Supplies Ltd	Kyogle, Casino, Karuah, Tuncester	High Quality Sawlogs, Low Quality Sawlogs	2004 - 2023	Mill door	**21 753**
Koppers Wood Products Pty Ltd	Junction Hill	Poles and Piles	2004 - 2023	Mill door	**20 260**
Aquafern Pty Limited	Warrell Creek	Low Quality Sawlogs	2005 - 2023	Mill door	**18 000**
Hayden Timbers Pty Ltd	Telegraph Point	Low Quality Sawlogs	2006 - 2023	Mill door	**17 925**
CJ & A Woods Pty Limited	Nambucca	High Quality Sawlogs, Low Quality Sawlogs	2007 - 2023	Mill door	**7 182**
J Notaras & Sons	Grafton	High Quality Sawlogs, Low Quality Sawlogs	2004 - 2023	Mill door	**16 579**
Big Rivers Timbers	Junction Hill	Veneer Logs	2004 - 2023	Mill door	**16 502**
Weathertex Pty Ltd	Heatherbrae	Pulplog	2023	Mill door	**21 000**
Ryan & McNulty Pty Ltd	Benalla	High Quality Sawlogs	2004 - 2030	Mill door	**18 500**
Braidwood Sawmill	Braidwood	High Quality Sawlogs, Low Quality Sawlogs	2020	Mill door	**5 886**
Williams Timber Pty Ltd	Bucca	Poles, Piles, Girders, High Quality Sawlogs, Low Quality Sawlogs	2023	Mill door	**4 550**
Other (63 entities)	Various	Various	Various		**>1000**

Source: Indufor 2021, Native Forest Harvest and Haulage Review and Benchmarking, Final Report, 1 February, p. 12-13.

FCNSW reports that in 2019 it supplied native timber to more than 16 customers, with the volume of supply varying between less than 1,000 m3 to over 20,000 m3 per annum. [116] As shown in **Table 10**, FCNSW has had WSAs with 11 processors in the Western Region. Only two of these agreements appear to extend beyond mid-2022 (for a redgum mill in Victoria and white cypress mills in NSW).

116 FCNSW Hardwood Forests Division 2019, Forest Management Plan for the Western Forests of NSW, p. 42.

Table 10: Wood supply agreements: Western region

WSA holder	Business and location	WSA term	WSA annual volume	Employees
Arbuthnot Sawmills (Logs)	Redgum timber milling, furniture, firewood Koondrook Victoria	To 30 June 2030	4,613 m3	15 FTEs Use 6 logging contractors in NSW and VIC [1]
ARH Contracting (Residue)	Red gum firewood Balranald NSW	To 30 June 2022	11,000 tonnes	n.a
Campi Bulk Haulage (Residue)	Red gum firewood Barham, NSW	To 31 December 2020	1,748 tonnes	n.a
Forest Logging Contracting (Residue)	Red gum firewood Balranald NSW	To 30 June 2022	11,000 tonnes	n.a
Gelletly (Residue)	Red gum firewood Barham, NSW	To 30 June 2019	20,000 tonnes	n.a
Grants Baradine Sawmill [2]	White cypress mills Narrandera and Condobolin, NSW	Unclear – at least to 30 June 2026	14,390 m3	n.a.
Mathoura (Red Gum)	Redgum timber milling Mathoura, NSW	To 31 December 2020	4,178 m3	n.a

WSA holder	Business and location	WSA term	WSA annual volume	Employees
O'Briens Sawmills (Red Gum Thinnings)	Red gum firewood Barham, NSW	To 30 June 2019 (maximum term)	22,250 tonnes	n.a
Peter Strange (Red Gum)	Redgum residue	To 31 December 2020	2,356 tonnes	n.a
Rameus September Nominees (Gelletly)	Redgum Horfield, Victoria	To 30 June 2019	17,500 tonnes	n.a
TRT Pastoral (Red Gum)	Juanbung Mill (firewood) Near Balranald, NSW	To 30 June 2022	11,000 tonnes	n.a

Notes:
1 https://www.arbuthnotsawmills.com.au/about-us/ accessed 20 May 2022.
2 Grants Holdings Co Pty Ltd was given a $1 million grant by the NSW Government in 2021 to recommission Baradine Sawmill and install new machinery and upgraded equipment. It was reported that this would support the creation of 50 full-time jobs. https://www.nswnationals.org.au/nats-in-government-back-warrumbungle-sawmill/ accessed 19 May 2022.
Source: Frontier Economics and Forestry Corporation NSW https://www.forestrycorporation.com.au/about/sales-and-supply accessed 19 May 2022

Capacity of the hardwood mills

Hardwood sawmills tend to be much smaller than softwood mills, given the nature of the native resource and need to be located relatively close to the forest resource. ABARES data shows that the average capacity of the NSW hardwood mills was 3,785 m3 per mill in 2016-17.

Table 11: NSW hardwood mill characteristics 2016-17

	No of mills	Total input ('000 m3)	Average input (m3/mill)	Recovery rate (%)	Average output (m3/mill)	Total output ('000 m3)
NSW hardwood sawmill	68	620	9,121	41.5	3,785	257

Source: Downham, R, Gavran, M & Frakes, I 2019, ABARES National Wood Processing Survey: 2016–17, ABARES technical report 19.3, Canberra, June, p. 6

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Independent Forestry Panel

Submission template

Your submission

1. Sustainability of current and future forestry operations in NSW

Native forest logging is neither an economically, socially nor environmentally sustainable.

The NSW government should rapidly exit public native forest logging through a fair and just rapid transition to a plantations-based timber and fibre sector. This transition must look after timber workers and regional communities. It should support private sector development into a circular bioeconomy that is based on low carbon, low embodied timber and fibre produced in sustainable certified plantations.

Publicly available estimates of the costs of transitional support packages range from $215m[1] to $244m.[2]

Native hardwood production continues to trend downwards, with total volumes falling by 43.8% in 13 years from 1,118,456 m^3 in 2010 to 627,971 m^3 in 2023.[3] Forestry Corporation NSW's data shows the failure to project sustainable yield (SY) accurately is demonstrated by the actual volume harvested in 2023 being just 54% of the projected SY (627,791 m^3 compared to SY of 1,147,110 m^3).[4]

Forestry Corporation NSW reported logging 11,709 hectares of native forest in 2022-23,[5] although undated public figures provided by FCNSW state it harvests around 30,000 hectares of forests annually.[6] The former figure represents an 85% decline in just over two decades, with 82,700 hectares harvested in 2000-01.[7] This shows the trajectory of native forest logging is one of decline, with an end point of zero logging.

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[1] Cross, D., Ouliaris, M., Williams, L., Poulton, C., Lubberink, J., *Branching Out: Exploring Alternate Land Use Options for the Native Forests of New South Wales*, Blueprint Institute, 2023, see Table 1 on page 13.

[2] Frontier Economics, 2022, *Transition support for the NSW native forest sector*, a report prepared for WWF-Australia, availabe at WWF-Australia | Transition support for the NSW native forest sector - Frontier Economics (frontier-economics.com.au). Note the transitional support cost excludes purchase of WSAs, and investment in plantations.

[3] Forestry Corporation NSW, *Sustainability Report 2022-23*, *'Sustainability of timber supply'*, see infographic on 'Harvesting' on p11

[4] *Ibid*

[5] Forestry Corporation NSW, *Sustainability Report 2022-23*, area logged was 11,709 hectares of public native forest (using a range of methods), see infographic on 'Harvesting' on p11. This apparently excludes areas also subject to roading.

[6] Forestry Corporation of NSW, undated, NSW State forests, available at Forestry Corporation - NSW State forest estate. WWF assumes this figure predates the 2019/20 bushfires and uplistings of koalas and greater gliders to endangered.

[7] State Forests of NSW, 2001, *Seeing: Social, Environmental and Economic Report 2000/01*, Forestry Commission of NSW, West Pennant Hills, see 'Table 11. Area and percentage of forest harvested', page 42

Critically, Wood Supply Agreements for the North Coast that sunset in 2028 must not be extended, but rather bought out through the transition, with immediate protection for habitat for endangered wildlife such as koalas and greater gliders.

The multiple pressures to exit logging are greatly reduced wood resource availability due to the 2019/20 bushfires, ambitious nature and climate goals necessitating forests are prioritised for wildlife conservation and carbon storage rather than timber production, impacts of sediment erosion on aquatic ecosystems, and strong community opposition to native forest logging.

Native forest logging lacks social licence across Australia. In research conducted on community perceptions of native forest logging in Australia, Schirmer *et al.* (2018) found that:

"*Native forest logging was considered unacceptable by 65% of rural/regional and 70% of urban residents across Australia, and acceptable by 17% of rural and 10% of urban residents. Eleven per cent of rural/regional and 9% of urban residents found this neither acceptable or unacceptable, and 8% and 11% respectively were unsure whether it was acceptable,*
Tree planting for wood/paper production on good agricultural land was considered unacceptable by 29% of both rural/regional and urban residents, and acceptable by 47% of rural/regional and 43% of urban residents, with the remainder (24% and 28% respectively) either neutral or unsure.'
.....
There are therefore much lower levels of social license for native forest logging than for producing timber using plantations." [8]

Protection and restoration of forests is a nature-based solution to both the nature and climate crises:

- Australia committed in the Kunming-Montreal Global Biodiversity Framework (GBF) at COP15, Montreal, to "*Ensure that all areas are under participatory, integrated and biodiversity inclusive spatial planning and/or effective management processes addressing land- and sea use- change, to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030,*

8 Schirmer, J,, Dare, L., and Mylek, K, (2018), *Community perceptions of Australia's forest, wood and paper industries: implications for social license to operate,* University of Canberra, report commissioned by Forest & Wood Products Australia, see page vi.

while respecting the rights of indigenous peoples and local communities."[9] Note also that Targets 2 and 3 of the GBF commit Australia to both restoring 30% of degraded ecosystems and protecting 30% of lands in ecologically representative networks by 2030;

- Australia also committed in the First Global Stocktake at COP28, Dubai, to "*Further emphasizes the importance of conserving, protecting and restoring nature and ecosystems towards achieving the Paris Agreement temperature goal, including through enhanced efforts towards halting and reversing deforestation and* ***forest degradation*** *by 2030, and other terrestrial and marine ecosystems acting as sinks and reservoirs of greenhouse gases and by conserving biodiversity, while ensuring social and environmental safeguards, in line with the Kunming-Montreal Global Biodiversity Framework*;" (emphasis added)."[10] Industrial logging causes 'forest degradation'.

Forestry operations have a range of serious impacts:

- removes and damages habitat for flora and fauna, including for threatened species;
- kills some wildlife species that are in trees when felled;
- increases carbon emissions when felled trees are burnt and decay, and reduces sequestration;
- causes sediment erosion that can pollute creeks, estuaries and marine ecosystems;
- makes forests more flammable by opening the canopy, increasing light penetration to the forest floor, reducing air and soil humidity, increasing wind speeds, and leading to laddering that spreads forest-floor fires that can become crown forest by burning upwards through lateral branches and shrubs;

Ongoing logging of NSW forests is impacting upon 150 threatened species.[11]

The NSW Threatened Species Scientific Committee has identified native forest logging as contributing to the declining conservation status of a range of threatened species under

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[9] United Nations Convention on Biological Diversity, 19 December 2022, *DECISION ADOPTED BY THE CONFERENCE OF THE PARTIES TO THE CONVENTION ON BIOLOGICAL DIVERSITY 15/4. Kunming-Montreal Global Biodiversity Framework*, CBD/COP/DEC/15/4, see Target 1, available at https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf

[10] United Nations Framework Convention on Climate Change, 13 December 2023, *First global stocktake, Proposal by the President Draft decision -/CMA.5*, FCCC/PA/CMA/2023/L.17, Conference of the Parties serving as the meeting of the Parties to the Paris Agreement Fifth session, see para 33, available at https://unfccc.int/event/cma-5?item_4

[11] Ward, M, Lindenmayer, D, and Watson, J, 5 August 2024, *More than half of NSW's forests and woodlands are gone as ongoing logging increases extinction risks, study shows*, The Conversation, available at https://theconversation.com/more-than-half-of-nsws-forests-and-woodlands-are-gone-as-ongoing-logging-increases-extinction-risks-study-shows-235416

the *Biodiversity Conservation Act 2016* (NSW), including koala,[12] greater glider,[13] south-eastern glossy-black cockatoo,[14] spotted-tail quoll,[15] regent honeyeater[16] and forest owls.[17,18]

Loss of hollow-bearing trees, which occurs routinely through native forest logging, is listed as a key threatening process in NSW. When listed in 2007, the NSW Scientific Committee stated that "terrestrial vertebrate species that are reliant on tree hollows for shelter and nests include at least 46 mammals, 81 birds, 31 reptiles and 16 frogs".[19]

Data and reporting regarding the environmental impacts, greenhouse emissions and impacts upon Indigenous cultural heritage from Private Native Forestry (PNF) is not publicly available.[20] There is minimal reporting, monitoring and compliance around PNF, and publicly available information is scant. Yet WWF understands that PNF permits cover

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[12] NSW Threatened Species Scientific Committee, 20 May 2022, *Phascolarctos cinereus* (Koala) Goldfuss 1817 - Endangered Species listing 1817, available at https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2022/phascolarctos-cinereus-endangered-species-listing

[13] NSW Threatened Species Scientific Committee, 25 November 2022, *Petauroides volans* (Southern Greater Glider) Kerr 1972 – Endangered Species listing, available at https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2022/petauroides-volans-southern-greater-glider

[14] NSW Threatened Species Scientific Committee, 30 June 2023, *Calyptorhynchus lathami lathami* (South-eastern Glossy Black-Cockatoo) Temminck 1807 – Vulnerable Species listing, available at https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2023/calyptorhynchus-lathami-lathami

[15] Environment and Heritage, NSW Government, 6 June 2024, *Spotted-tail quoll*, available at https://www.environment.nsw.gov.au/topics/animals-and-plants/native-animals/native-animal-facts/spotted-tail-quoll#:~:text=The%20spotted%2Dtailed%20quoll%20is%20listed%20as%20a,species%20in%20New%20South%20Wales.

[16] NSW Scientific Committee, 2011, Regent honeyeater (*Anthochaera phrygia*) - critically endangered species listing, available at https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2008-2010/regent-honeyeater-anthochaera-phrygia-critically-endangered-species-listing

[17] Office of Environment & Heritage, NSW Government, 13 March 2024, Powerful Owl – profile, available at https://threatenedspecies.bionet.nsw.gov.au/profile?id=10562

[18] Office of Environment & Heritage, NSW Government, 13 March 2024, Masked Owl – profile, available at https://threatenedspecies.bionet.nsw.gov.au/profile?id=10820

[19] NSW Scientific Committee, 2007, Loss of hollow-bearing trees - key threatening process listing. Available at https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2004-2007/loss-of-hollow-bearing-trees-key-threatening-process-listing

[20] Lindenmayer, D, *et al*, undated, *Bushfire Recovery Project, Bushfire Science Report No. 3: What are the relationships between native forest logging and bushfires*?, Fenner School of Environment & Society, The Australian National University; and Griffith Climate Change Response Program, Griffith University, available at https://www.bushfirefacts.org/uploads/1/3/2/1/132188020/f_bushfire_science_report_no._3_-_bushfires_and_logging.pdf

c. 700,000 ha of forests on private land in NSW, equivalent to c. 70% of the area of forests available for logging (c. 1 million hectares ha) on public lands.

NSW's forests face tipping points that likely make commercial logging unfeasible in coming decades. Historic logging has opened canopies to increased sunlight penetration, wind and laddering (excessive lateral branches, lower story shrubs, regrowth) that dry out forests which makes them more prone to bushfires. Global heating will further amplify extreme weather that threaten forest ecosystems and reduce wood resource availability, notably extreme and catastrophic bushfires, reduced humidity and soil moisture, and higher temperatures. Recurrent wildfires have major impacts on timber stocks[21], thereby disrupting timber supply chains.

This highlights the need to grow timber faster to increase the chances of producing a crop of merchantable trees before they are destroyed by wildfire.[22] The best places to do this are in plantations, which are less fire prone than logged forests, can be more easily defended from bushfire, and are a more efficient use of land.

The 2019/20 bushfires burnt 44% (830, 000 ha) of public native forests statewide, rising to 49% of net harvestable area on the north coast[23] which accounts for most native forest logging in NSW. This substantially reduced long term wood resource availability across the NSW public native forest estate. Given the contracted volumes of timber FCNSW is required to provide to timber mills under Wood Supply Agreements, and the statutory function of supplying timber under the *Forestry Act 2012* (NSW),[24] the corporation continued logging forests and plantations that it had long avoided due to environmental constraints and community opposition. And it continues to return a loss to taxpayers, despite its statutory objective to "maximise the net worth of the State's investment in the Corporation".[25]

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[21] Bousfield, C., D. B. Lindenmayer, and D. Edwards. 2023. Major and increasing wildfire-driven losses of timber stocks globally. Nature Geoscience 16:1145–1150

[22] Cary, G., W. Blanchard, C. N. Foster, and D. B. Lindenmayer. 2021. Effects of altered fire regimes on critical timber production and conservation rotations. International Journal of Wildland Fire 30:322-328.

[23] Forestry Corporation of NSW, December 2020, *2019–20 Wildfires: NSW Coastal Hardwood Forests Sustainable Yield Review*, see page 6, available at https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0004/1299388/fcnsw-sustainable-yield-report-2019-20-wildfires.pdf

[24] *Forestry Act 2012* (NSW), see s11 *Functions of Forestry Corporation,* available at https://legislation.nsw.gov.au/view/whole/html/inforce/current/act-2012-096#sec.11

[25] *Forestry Act 2012* (NSW), see s10(1)(a)(ii) *Objectives of Forestry Corporation, available at https://legislation.nsw.gov.au/view/whole/html/inforce/current/act-2012-096#sec.10*

This is a picture of a state owned corporation in crisis, unable to meet antipathetical statutory objectives and functions, with no long-term future and insufficient funding to expand plantations, while killing endangered wildlife and emitting carbon from logging, all the while being financially bailed out by taxpayers as it competes with profitable private plantation operators.

Analyses across the fire footprint of the 2019/20 bushfires showed that logged forests always burn at higher severity than intact forests.[26]

The rapid increase in the frequency of high severity wildfire in parts of south-eastern Australia clearly indicates that the probability of forests remaining unburnt for long enough to produce a viable crop of timber (before being burnt) are small (typically > 20% for an 80-year rotation)[27]. This was highlighted by the impacts of the Black Summer wildfire season, not only for NSW but also for north-eastern Victoria.[28] Finally, native forest logging is unsustainable because it can only continue to operate through major subsidies from government – it is therefore a major (and increasing) burden on taxpayers.[29] As an example, it was estimated that for the year 2019-2020, Forestry Corporation NSW received $249 million in subsidies and grants and still made a loss of $28m. These losses are increasingly typical for the native logging industry in NSW and for the native forest logging industry in other states of Australia.

2. Environmental and cultural values of forests, including threatened species and Aboriginal cultural heritage values

State forests are stolen forests that have not been ceded by First Nations.

First Nations communities have significant cultural connection to trees and forested areas. From a physical resource standpoint, to use in ceremony and healing. There are many examples of trees and tree species that hold significant cultural value, such as:

[26] Lindenmayer, D. B., P. Zylstra, R. Kooyman, C. Taylor, M. Ward, and J. E. M. Watson. 2022. Logging elevated the probability of high-severity fire in the 2019–20 Australian forest fires. Nature Ecology & Evolution 6:533-535

[27] Cary, G., W. Blanchard, C. N. Foster, and D. B. Lindenmayer. 2021. Effects of altered fire regimes on critical timber production and conservation rotations. International Journal of Wildland Fire 30:322-328.

[28] Lindenmayer, D. B., and C. Taylor. 2020. New spatial analyses of Australian wildfires highlight the need for new fire, resource and conservation policies. Proceedings of the National Academy of Sciences 117:12481-12485

[29] Nature Conservation Council of NSW, 2023, *Public native forest logging: a large and growing taxpayer burden*, available at: https://assets.nationbuilder.com/natureorg/pages/2713/attachments/original/1699421741/23-11-02_Public_native_forestry_a_growing_taxpayer_burden_Final_report_STC_%281%29.pdf?1699421741.

- A campaign to stop destruction of a sacred birthing tree[30] in western Victoria for road construction, with vandalism and hate-crime from non-Indigenous peoples;
- Revitalisation of the Bunya Dreaming in Queensland;[31]
- As a core part of burial for some Indigenous communities, with specific species being key to this ceremony and an intrinsic part of culture and spirit;[32]
- Community campaign to stop logging along the Corn Trail, an old trade route for Indigenous people;

Indigenous people have been engaged in campaigns, blockades and court action to halt logging:

- Indigenous people and conservation groups campaign to end logging in Victoria's Central Highlands and Gippsland;[33]
- Successful blockade by Githabul of logging on their Country, NE NSW;[34] and,
- Court challenges and blockade of logging by Gumbaynggirr on their Country in mid north coast NSW.[35,36]

3. Demand for timber products, particularly as relates to NSW housing, construction, mining, transport and retail

Increasing demand for timber and fibre products cannot realistically be met from public native forests. Residential housing construction uses pine for trusses and frames, not native eucalypt forest. Appearance grade timber sourced form native forests, such as for blackbutt floors or spotted gum kitchens, are a luxury and expensive.

[30] Australian Broadcasting Corporation, 14 August 2023, *Sacred birthing tree vandalised as highway duplication route dispute ramps up*, available at Sacred birthing tree vandalised as highway duplication route dispute ramps up - ABC News

[31] Australian Broadcasting Corporation, 29 May 2020, *Bunya Dreaming*, available at Bunya Dreaming - Gardening Australia (abc.net.au)

[32] Yidaki Story, 2017, *How Is a Yiḍaki Made?,* available at How is a Yiḍaki Made? • Yidaki Story

[33] Australian Broadcasting Corporation, 10 June 2020, *Traditional owners, environmental protesters disrupt logging in Gippsland and Central Highlands*, available at Traditional owners, environmental protesters disrupt logging in Gippsland and Central Highlands - ABC News

[34] North East Forest Alliance, undated, *Githabul - Return of Country*, available at Githabul - Return of Country - North East Forest Alliance (nefa.org.au)

[35] Maurice Blackburn Lawyers, undated, *Renewed concerns over logging in Newry State Forest following end of court action for traditional owners*, available at Renewed concerns over logging in Newry State Forest following end of court action for traditional owners | Maurice Blackburn

[36] CityHub, 14 August 2023, *Fight to protect koala habitats in northern NSW heats up*, available at Fight to protect koala habitats in northern NSW heats up (cityhub.com.au)

Growing demand for timber and fibre products can only realistically be met through a combination of:

- adopting a highest and best use policy for existing plantations by prioritising high-value wood manufacturing over low-value uses such as for wood chips and combustion for energy production;
- expanding the area of softwood and hardwood plantations – to help offset loss of access to public native forests – that are conversion-free, certified by third party independent certification bodies, integrated into farming landscapes, managed sustainably to conserve biodiversity and aquatic ecosystems prior to harvest, and selectively logged, not clear-felled
- government funding, R&D and government procurement are needed to leverage private sector investment in engineered wood manufacturing (e.g., cross laminated timber, glue laminated timber) innovative alternatives to wood (e.g., 3RT, industrial hemp, bamboo), and reuse and recycling of timber (e.g., from house and infrastructure demolitions);
- use of composites and wood alternatives, as demonstrated by Essential Energy's decision to replace timber power poles with fibreglass composites;
- investment in the medium-long term in green steel and aluminium.

The future of the timber and fibre sector is plantations not native forest logging. Some key corporates in the NSW timber supply chain are exploring options to complete their transition to plantation-only sourcing.

Alternatives exist for many existing uses of trees logged in native forests, and innovation and investment is needed to surface and grow the commerciality of additional alternatives.

4. The future of softwood and hardwood plantations and the continuation of Private Native Forestry in helping meet timber supply needs

Plantations are the future of NSW's timber and fibre sector. Just as plantations replaced native forest logging in SA, ACT, WA and Victoria, plantations must replace native forest logging in NSW.

There are opportunities to expand the area of plantations in NSW. Plantation expansion should

- be conversion-free and target cleared lands that have low conservation values;
- include a range of types of plantations to deliver multiple benefits, such as large areas of pine to cost-effectively produce trusses and frames for residential home construction, species diverse eucalypt plantations that provide habitat for wildlife pre-

harvest, and agroforestry that benefits farming systems and produces firewood for local use;

- be catalysed by substantial financial support from the NSW government through procurement processes that ensure plantation developers, operators and harvesters generate the greatest economic, social and environmental benefits to the state;
- integrated into farming landscapes, such as farm forestry that complements livestock grazing;
- be certified to the highest standards by independent third-party certification schemes;
- attract natural capital investments such as high-integrity, non-offset carbon and biodiversity credits that address the commerciality gaps prior to harvest that make plantations financially viable for landholders and investors;
- pilot innovative plantation management practices, including sensitively and selectively harvesting plantation stock, which minimises ecological and employment impacts associated with clear-felling; and,
- provide sustainable and secure employment in plantation forestry regions.

Hardwood plantations are highly contested, particularly on the north coast. There is lack of transparency and accountability regarding classification of "hardwood plantations" which have previously been mapped as natural forest. Many thousands of hectares of hardwood plantations managed under the *Plantations and Reafforestation Act 1999* (NSW) contain natural forest that can legally be harvested without any regulatory oversight by the EPA under the Coastal Integrated Forestry Operations Approval. Addressing this matter is critical to ensure the integrity and reputability of the plantation industry.

The future of the forest and timber industries in NSW is in plantations. The plantation industry is far more profitable, employs far more people, generates fewer GHG emissions, and is significantly less fire-prone. Moreover, plantations produce wood crops faster and, as a result, are less likely to be lost to wildfire than long rotation native wood production forests (see analysis by Cary et al. 2021). Plantations do need to be well managed, including for reducing fire risks. However, there are design principles, management strategies and new technologies that can be employed to reduce the risks of plantation timber stock losses although these strategies are not always implemented. A further issue is that an increase focus on plantation forestry must not involve conversion of even limited areas of native forest to plantations – a practice that is currently occurring in some parts of NSW and it an inappropriate form of land management

Expanding transparently classified and sustainably certified plantation estates is necessary, though plantations should also be managed well and carefully, including to

reduce fire risks. There are design principles, management strategies and new technologies that can be employed to reduce the risks of plantation timber stock losses, though they are often not implemented in conventional plantation development. [37,38]

Expanding plantation estates throughout Australia has been projected to create 18,000 jobs over 10 years within the Australia's forestry industry,[39] enough to address Australia's critical wood supply deficit. New South Wales has a large opportunity to invest in plantation expansions that native forest logging workers could transition towards while creating a surplus of jobs in the state's regions.

Private native forestry is neither regulated nor monitored sufficiently to ensure climate, biodiversity and wildlife impact risk mitigation. While private forestry in the form of plantations or agroforestry can encourage positive economic, social and environmental outcomes, this is not the case with private native forestry. Private native forestry can lead to negative environmental and economic outcomes with little to no capacity for regulatory management and monitoring, due to the lack of government capacity to address such outcomes with private landholders. Private landholders should be incentivised to manage their native forests to provide the carbon, ecosystem and thus social and economic benefits NSW needs, with forest products coming from plantations and timber-alternatives. An end to native forest logging should be implemented in both public and privately-owned landscapes.

It is very clear that timber supply needs can be met by timber plantation output, engineered wood products and from timber alternatives, which are an untapped market opportunity for Australia. Investing in the expansions of such industries will allow for NSW to meet its Nature Positive Goals while addressing the timber industry supply gap.

5. The role of State Forests in maximising the delivery of a range of environmental, economic and social outcomes and options for diverse management, including Aboriginal forest management models

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[37] Lindenmayer, D., P. Zylstra, and M. Yebra. 2022. Adaptive wildfire mitigation approaches. *Science* 377:1163-116

[38] Lindenmayer, D. B., M. Yebra, and G. Cary. 2023. Better managing fire in flammable tree plantations. *Forest Ecology and Management* 528:120641.

[39] GROWING A BETTER AUSTRALIA A billion trees for jobs and growth An Australian Government Plan Wood -the ultimate renewable. (n.d.). Available at: https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/forestry/national-forest-industries-plan.pdf.

There is a pressing need for the development of high-quality, high-integrity restoration programs for NSW's forests that are environmentally and economically sustainable and scalable, developed in collaboration with Traditional Owners. Such programs would improve the state's environmental and cultural heritage assets while achieving the best outcome for communities, the environment, and local economy.

In the first instance, acknowledging and supporting Aboriginal custodianship is needed which could be implemented in practice by establishing land back rights for Traditional Owners, co-managed areas, and well-funded Indigenous Protected Areas. In addition, there is a need for building capacity of First Nations organisations and supporting First Nations roles in land management and restoration activities on Country that support biodiversity, environmental and cultural values.

Restoration of State Forests can have positive and social outcomes, particularly for residents of regional communities that suffer from employment insecurity and unsustainable livelihood outcomes. In Brazil, restoration activities have been projected to generate 0.42 jobs per hectare, which could potentially create 1–2.5 million direct jobs to restore 12 million hectares of Brazil's landscapes.[40] While Australia does not have country-specific estimates of jobs generated for restoration activities, this should serve as a strong reference point, particularly in the interest of restoring livelihood and regional development outcomes.

6. Opportunities to realise carbon and biodiversity benefits and support carbon and biodiversity markets, and mitigate and adapt to climate change risks, including the greenhouse gas emission impacts of different uses of forests and assessment of climate change risks to forests

WWF estimates that exiting public native forest logging in NSW would abate the state's emissions by an estimated 3-5 $MtCO_2$-e p.a through on avoiding emissions and enhancing

[40] Brancalion, P.H.S., de Siqueira, L.P., Amazonas, N.T., Rizek, M.B., Mendes, A.F., Santiami, E.L., Rodrigues, R.R., Calmon, M., Benini, R., Tymus, J.R.C., Holl, K.D. and Chaves, R.B. (2022). Ecosystem restoration job creation potential in Brazil. People and Nature. doi:https://doi.org/10.1002/pan3.10370.

sequestration. This estimate is based on a range of sources and expert advice.[41,42,43,44,45] Detailed research and modelling by independent forest ecologists and carbon experts is required to authoritatively project emissions reductions from exiting logging.

Industrial logging reduces forests' resilience to global heating. NSW forests are approaching climate tipping points, if they have not already exceeded them. The catastrophic 2019/20 bushfires clearly demonstrated the risks a rapidly warming climate pose to forests. Research into climate tipping points for NSW forests is needed.

Lindenmayer *et al* (2021) observed that "*Native forest logging increases the severity at which forests burn. This is likely because such operations increase the volume of coarse woody debris, and the density of elevated and vertically oriented live fuels. In addition, by opening up the forest canopy, logging operations probably alter microclimate conditions, causing drying of soils and fuel.*"[46]

Carbon and biodiversity markets that are high integrity for both supply and demand holds promise to augment, but not replace, government funding required to protect and restore forests. Supply side challenges around carbon leakage and additionality, and reliable baselines and meaningful projections in the face of worsening climate impacts, pose significant challenges. On the demand side, carbon credits and biodiversity certificates/credits generated from reducing or ending logging should only be sold to entities that have meaningfully implemented the mitigation hierarchy, and engaged with independent third party-target setting processes (e.g., Science Based Targets initiative) aligned with global commitments (e.g., Paris Agreement and Global Biodiversity Framework).

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[41] Brendan Mackey, Heather Keith, Sandra L. Berry, David B. Lindenmayer (2008), *Green Carbon Part 1 The role of natural forests in carbon storage*, ANU Press.

[42] Heather Keith, Brendan G. Mackey, and David B. Lindenmayer (2009), Re-evaluation of forest biomass carbon stocks and lessons from the world's most carbon-dense forests, *Proceedings of the National Academy of Sciences*, 106 (28) 11635-11640, https://doi.org/10.1073/pnas.0901970106

[43] Heather Keith, Brendan G. Mackey, and David B. Lindenmayer (2009), Re-evaluation of forest biomass carbon stocks and lessons from the world's most carbon-dense forests, *Proceedings of the National Academy of Sciences*, 106 (28) 11635-11640, https://doi.org/10.1073/pnas.0901970106

Keith H, Lindenmayer DB, Mackey BG, Blair D, Carter L, McBurney L, et al. (2014) Accounting for Biomass Carbon Stock Change Due to Wildfire in Temperate Forest Landscapes in Australia. PLoS ONE 9(9): e107126. https://doi.org/10.1371/journal.pone.0107126

[44] Frontier Economics and Prof. Andrew Macintosh, 2021, *Comparing the value of alternative uses of native forests in Southern NSW*, ANU and Frontier Economics.

[45] Brendan Mackey et al 2022 *Environ. Res. Lett.* 17 054028

[46] Lindenmayer D., Mackey, B., Gould S., Norman P. and Taylor C. (2021) *How does climate affect bushfire risks in the native forests of south-eastern Australia*? Bushfire Recovery Project Report No.1. Griffith University and The Australian National University, https://www.bushfirefacts.org/'