AFPA NSW

SUBMISSION ON THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION AMENDMENT (SAVE THE KOALA) BILL 2021

Senate Standing Committee on Environment & Communications Legislation

30 September 2022

About AFPA NSW

The Australian Forest Products Association NSW (AFPA NSW) welcomes the opportunity to provide a submission to the Senate Environment and Communications Legislation Committee Inquiry (the Inquiry) into the Environment Protection and Biodiversity Conservation Amendment (Save the Koala) Bill 2021 (the Bill).

AFPA NSW is the peak industry body representing NSW's forestry, timber processing, and paper manufacturing sector.

AFPA NSW represents all elements of the value chain from the sustainable harvesting of plantations and multiple use natural forest resource including forest establishment and management, harvesting and haulage, processing of timber resources and manufacture of pulp, paper and bioproducts. NSW's forest industries contribute over $7 billion in economic turnover each year, and employing more than 21,000 people.

Introduction

AFPA NSW does not support the passage of this Bill. The Bill seeks to amend the *Environment and Biodiversity Conservation Act 1999* to prevent the Minister from approving an action which involves the clearing of koala habitat and removes the exemption of regional forest agreements from requirements of the Act where there is, may, or is likely to have significant impacts on koala habitats.

This Bill is poorly conceived, poorly drafted and will do nothing to mitigate against the real threats that are impacting koalas in Australia. Furthermore, this Bill fails to differentiate between the threatened koala populations in NSW and the vastly different scenario facing the over-abundant koala populations in western Victoria and South Australia.

This Bill, as currently drafted, would have a significant, detrimental impact on sustainable timber harvesting operations in both the native forest and plantation estates, and undermine the very robust, sophisticated regulatory frameworks in place in these estates to mitigate the impact on the respective koala populations.

This Bill ignores the significant body of scientific evidence, including studies since the 2019-20 bushfires, which have shown that timber harvesting has no impact on koala prevalence.

It is disappointing that this Bill fails to acknowledge the scientific evidence that shows that the biggest causes of koala population decline are loss of habitat from urban expansion, bushfires, car strikes, wild dogs, and disease. It is incumbent on the Federal Government to work with the states and territory governments to address these real threats to koalas rather than to pass this Bill.

Sustainable management of NSW's multi-use state forests

There are more than 22 million hectares of native forest in NSW. Around a quarter of this land, 5.6 million hectares, is set aside in the formal reserve network, close to two thirds (14.6 million hectares) is private land or leasehold forest and 9.1 per cent (1.9 million hectares) is multiple-use native forest, meaning State Forest managed by the State Government-owned agency the Forestry Corporation of NSW.

Around a million hectares of State Forest is managed for conservation, through a network of permanently protected formal and informal reserves, with around a million hectares of native forest available to be harvested and regrown for renewable timber production in line with strict

regulations in perpetuity.
Each year, timber harvesting takes place in less than one per cent of the area set aside for timber production, equating to 0.24 per cent of the total area of public native forest in NSW.[1]

The same forests have been managed for timber production for more than 100 years on a long-term cycle that ensures less than one per cent of the State Forest estate is harvested each year, trees with habitat and conservation value are protected throughout harvest areas and new trees are regrown to replace each harvested tree.

On the NSW north coast, recent habitat mapping model developed by the Department of Primary Industries' Forest Science Centre indicates that there are 1.6 million hectares of high suitability koala habitat. More than half of this (53 per cent) is on private lands, with 25 per cent on national park and 22 per cent (375,440 hectares) on State Forest. Of the habitat on State Forest, nearly 40 per cent is in forest zoned for conservation and 14 per cent is available for harvesting, with strict prescriptions in place to protect koala populations in these areas.

The scientific evidence shows timber harvesting has no impact on koala prevalence

Timber harvesting is very different from land clearing and multiple studies have demonstrated that sustainable timber harvesting is not a significant threat to koalas (Kavanagh et al 1995[2], Kavanagh et al 2007[3], Law et al 2018[4]).

Research in NSW has also demonstrated that koalas occupy harvested forests at the same rate as unharvested forests, including after the 2019-20 bushfires (Law et al 2018, Law et al 2021[5]). Key reasons for this are the small scale of timber harvesting in the landscape context, the regulations around forestry activities that ensure trees are retained in each operation and the fact that forests are continually regrown after each operation, with new trees growing for every tree that was removed.

Dr Brad Law's 2018 paper found:

Between 2015 and 2017, the NSW Department of Primary Industries forest scientists undertook a large-scale study on Koala occupancy in the forests of north-east NSW, including the response of Koala to timber harvesting. Koala occupancy was not influenced by timber harvesting intensity, time since harvesting, land tenure, landscape harvesting extent, or old-growth forest extent (Law et

[1] ABARES, Australia's State of the Forests Report 2018 (agriculture.gov.au)

[2] Kavanagh RP, Debus S, Tweedie T, Webster R. Distribution of nocturnal forest birds and mammals in north-eastern New South Wales: relationships with environmental variables and management history. Wildl Res. 1995; 22: 359–377. https://doi.org/10.1071/WR9950359

[3] Kavanagh RP, Stanton MA, Brassil TE. Koalas continue to occupy their previous home-ranges after selective logging in *Callitris–Eucalyptus* forest. Wildl Res. 2007; 34: 94–107. https://doi.org/10.1071/WR06126

[4] Law BS, Brassil T, Gonsalves L, Roe P, Truskinger A, McConville A. Passive acoustics and sound recognition provide new insights on status and resilience of an iconic endangered marsupial (koala *Phascolarctos cinereus*) to timber harvesting. PLoS ONE. 2018; 13(10): e0205075. https://doi.org/10.1371/journal.pone.0205075

[5] Law BS, Brassil T, Gonsalves L, Roe P, Burgar J, Kerr I, O'Loughlin C, Eichinksi P, *Regulated timber harvesting does not reduce koala density in north-east forests of New South Wales,* 2021

al 2018).[3]

That study also found up to 10 times the rate of koala occupancy than previously estimated. The study found:

"… past timber harvesting did not influence koala occupancy. There was no difference in results between heavily harvested, lightly harvested and old growth sites.

"Time since harvesting and the amount of harvesting in the local area did not influence occupancy. There was also no difference between National Park and state forest sites."[6]

The habitat models in Dr Law's 2018 study were validated using sound recording devices known as song meters, which were installed throughout the forest for more than seven days to record animal calls. The recordings were then analysed to determine koala presence within a range of approximately 500 metres. This survey provided a dramatically extended survey duration and area coverage when compared with other available techniques for surveying koalas.

Using the new habitat model and occupancy survey results, Law et al (2018) identified that the north coast had a substantially higher koala population than previously estimated from expert elicitation and in the Chief Scientist report (2016). Using a very conservative approach, it was estimated that there is a minimum of 14,000 Koalas in high quality habitat on public lands alone, (Law et al 2018).

In 2018, following the Chief Scientist's report and strategy, Forestry Corporation partnered with DPI Forest Research to examine koala occupation of high-quality habitat in areas of forest that had been harvested for timber. The study compared occupancy in areas that were harvested recently, less recently and areas that had not been harvested for decades. The areas had been harvested using different techniques, with fewer trees harvested in selective harvesting operations and more trees harvested in intensive harvesting operations. The results found no difference in koala occupancy between sites, regardless of time since harvest, harvest intensity or amount of harvesting in the local landscape (Law et al 2018) as shown in Figure 1 below.

[6] https://www.dpi.nsw.gov.au/about-us/media-centre/releases/2018/acoustics-provide-new-insights-on- koalas-in-hinterland-forests

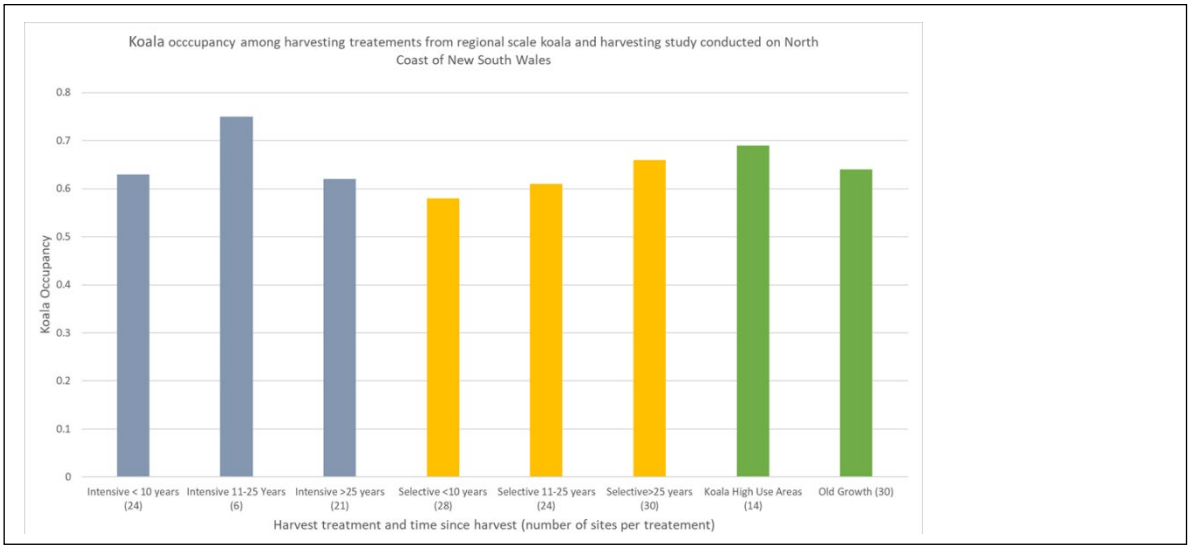

Figure 1: Koala occupancy among harvesting treatments from regional scale koala and harvesting study conducted on north coast of NSW (modified from Law et al 2018).

A recent study by the NSW Department of Primary Industries, *Regulated timber harvesting does not reduce koala density in north-east forests of New South Wales*[7] and led by Dr Brad Law, further supports Dr Law's 2018 research.

This is the first study to directly assess the effects of native forest harvesting on koala density. The study said:

We used a BACIPS (before-after-control-impact-paired series) experimental design to assess the short-term change in koala density from selective harvesting. We also included additional sites that were heavily harvested 5-10 years previously to provide context for the early stages of regeneration after harvesting. Timber harvesting took place in 2020 and paired sites in nearby National Parks served as controls before and after harvesting. We used arrays of passive acoustic sensors spanning ~ 400 ha and spatial count modelling of male bellowing activity to estimate male koala density.

Occupancy was close to 100% before and after harvesting at all sites, indicating koalas were widespread across our nine arrays. Average male koala density was higher than expected for forests in NSW, varying between arrays from 0.03-0.08 males ha-1. There was no significant effect of selective harvesting on male koala density with little change evident from pre to post harvest periods in either control national parks or harvested state forests, nor little difference between state forests and national parks.

Detection rates for koalas were very high across all sites before and after harvesting (Table 3). As part of the main experiment, koalas were detected at 97 % of the 153 pre-harvest sensors set in 2019. In 2020, detection rates decreased slightly to 92 % of the sensors set immediately post-harvest and 89 % of the sensors set at control sites in National Parks. A 100 % detection rate was recorded at the 77 sensors set at previously harvested sites.

[7] Law BS, Brassil T, Gonsalves L, Roe P, Burgar J, Kerr I, O'Loughlin C, Eichinksi P, *Regulated timber harvesting does not reduce koala density in north-east forests of New South Wales,* 2021

There was also little change in koala density from pre to post harvest periods in either control national parks or harvested state forests, though there was a slight decrease at Cowarra and Lower Bucca and slight increase at Ulidarra and Kumbatine. Statistical analysis following the BACIPS design confirmed there was no significant effect of selective harvesting on male koala density (mean difference control-harvested = 0.0099 male koalas ha-1; paired t = -2.67, p = 0.12).

When the spatial variation in density was overlayed at each site with different forest age classes, areas that were recently selectively harvested displayed only minor changes compared to pre-harvest density and density in these areas was generally comparable to density in areas classified as old growth, riparian-ridge headwaters, other prescriptions or older regrowth (Fig 11). A similar pattern was evident at sites heavily harvested 5-10 years previously, except old growth consistently supported the lowest density of male koalas and areas of young regeneration (< 7-9 years) supported among the highest density in two of three sites (Fig 12).

Timber harvesting and koalas under the RFA and IFOA in NSW

It is important to note that native forestry operations are not exempt from environmental laws. Rather, the Commonwealth delegates this function to the states through bilateral agreements known as Regional Forest Agreements, and in turn the states have developed robust regulatory frameworks which are often more onerous than the EPBC Act but designed to be responsive to how forestry operations work. RFAs are given statutory effect by the Regional Forest Agreements Act 2002 (Cth).

Forestry on public lands in NSW takes place in a framework set by the three RFAs that are in place across NSW – the North East, Eden, and Southern RFAs. The RFAs set up the comprehensive, adequate and representative (CAR) reserve system in the coastal areas of NSW that led to the transfer of the best quality habitat on State forest to the formal reserve system and helped ensure delivery of NSW's current world-class forest landscape reserve system.

A central objective of the RFA framework and s38 provision that delegates the regulation of forestry operations to the states is to reduce uncertainty, duplication and fragmentation in government decision-making by producing a durable agreement on the management and use of forests. This not only facilitates timely land use planning and development approval decisions; it also protects environmental, heritage and cultural values and provide industry with secure access to forest resources.

The rationale for the s38 EPBC Act provision was recognition 'that in each RFA region a comprehensive assessment … has been undertaken to address the environmental, economic and social impacts of forestry operations.' (Explanatory Memorandum, Environment Protection and Biodiversity Conservation Bill 1999, para [113][8].)

The RFA framework is such that the Commonwealth accredits the State Government's regulatory framework to ensure there is independent oversight of forestry operations and robust powers to conduct audits and impose sanctions if forestry operations breach regulations. All the RFAs

[8] Environment Protection and Biodiversity Conservation Bill 1999 – Parliament of Australia (aph.gov.au)

include accreditation of systems for achieving ecologically sustainable forest management.

The RFAs also set up requirements to implement Ecologically Sustainable Forest Management (ESFM), a key principle of which is to only harvest as much as is grown and to always grow back whatever trees are harvested. They prescribe that timber can only be harvested from regrowth forests, that is forests that have previously been harvested for timber and regrown and have ongoing monitoring and reporting requirements.

The requirements for ESFM set up in the RFAs are implemented through rules established under the Integrated Forestry Operations Approvals (IFOA). In November 2018, a new Coastal IFOA was introduced to improve upon and replace four existing IFOAs for the Upper North East, Lower North East, South Coast and Eden regions of NSW.

The key management practices that apply under both the previous and updated Coastal IFOA to manage koalas were developed by expert panels based on research. The principles are:

- maintaining patches of undisturbed habitat in the landscape
- identifying and retaining adequate feed trees
- setting appropriate limits on the size of harvest areas
- dispersing harvesting across the landscape over time
- ensuring forests are regrown after harvesting.

The Environment Protection Authority (EPA) and NRC were engaged in the process of developing the new Coastal IFOA to deliver better and more reliable outcomes for koalas. Key changes applied were:

- replacing ineffective surveys conditions with new, verified, habitat models to implement koala browse tree retention even where no koalas are detected, resolving the difficulty of finding koalas in field surveys
- implementing new wildlife habitat clump protections, which substantially increases the area of koala habitat strictly and permanently protected compared to previous IFOAs
- doubling tree retention rates in the highest quality habitat
- requiring ongoing assessment of koala trends and the effectiveness of the conditions in supporting koalas.

The combined results of these changes more than triple the number of koala browse trees retained compared to the previous settings. This is an important improvement given research has found that the availability of preferred koala tree species is a fundamental component of koala habitat regardless of landscape context (McAlpine et al 2006[9]).

The IFOAs set out a range of detailed environmental protection measures that must be adhered to in timber harvesting operations in native State forests. Forestry Corporation spends many months

[9] McAlpine CA, Rhodes JR, Callaghan JG, Bowen ME, Lunney D, Mitchell DL, et al. The importance of forest area and configuration relative to local habitat factors for conserving forest mammals: a case study of koalas in Queensland, Australia. Biol Cons. 2006; 132: 153–165. https://doi.org/10.1016/j. biocon.2006.03.021

before every operation carrying out detailed planning, including ecological surveys, and sets aside large areas for protection and conservation of native flora and fauna and forest biodiversity in line with these regulations. Additional exclusion zones are set aside for threatened species in line with prescriptions developed by expert scientific panels. These are all marked on electronic maps installed in equipment, which is then electronically tracked as part of ongoing compliance auditing. The entire area is then regrown after each operation.

The key points are:

- the RFAs set up the comprehensive, adequate and representative (CAR) reserve system in the coastal areas of NSW that led to the transfer of the best quality habitat on State forest to the formal reserve system
- significant investment has already been made in identifying and protecting koala habitat on public land, in the development of the CAR reserve system as part of the RFA process
- existing research and monitoring conducted on public forests showing koala occupancy is unaffected by harvesting (Law et al 2017, Law et al 2018)
- the new Coastal IFOA represents an improvement on previous regulations, with more than triple the number of koala browse trees retained compared to the previous settings
- the substantial increase in protections afforded by the new Coastal IFOA ensure State forests continue to provide a high level of protection where timber harvesting is permitted.
- a number of research projects in NSW have identified that timber harvesting is not a significant threat to koala populations and ongoing research continues to demonstrate that koalas use harvested forests at the same rate as unharvested forests.

Timber harvesting on NSW private land under the Private Native Forestry Codes

A large proportion of forests in NSW (39.7 per cent) are on private lands, however, timber harvesting is only conducted on a small sub-set of these forests. Forestry operations are conducted under the Private Native Forestry codes of practice.

Updated PNF Codes of Practice came into force in May 2022, which introduced a number of changes. These included stricter reporting requirements, strengthened regeneration monitoring and management requirements, and more protections for threatened species.[10]

Sustainable timber harvesting is not deforestation

Timber harvesting operations do not result in deforestation, as all areas harvested for timber are regenerated to ensure there is no net loss over time in forested area.

There is no credible, internationally recognised definition of deforestation that includes sustainable forest management for timber production. Sustainable, regenerative forest management, as is practiced in Australia, is when the forest is regenerated after harvest to ensure no net loss of forest area over time.

The Food and Agriculture Organization of the United Nations (FAO) defines ‘deforestation’ as:

[10] Private native forestry codes of practice - Local Land Services (nsw.gov.au)

The conversion of forest to another land use or the long-term reduction of the tree canopy cover below the minimum 10 percent threshold.

Explanatory note:

1. Deforestation implies the long-term or permanent loss of forest cover and implies transformation into another land use. Such a loss can only be caused and maintained by a continued human-induced or natural perturbation.

2. It includes areas of forest converted to agriculture, pasture, water reservoirs and urban areas.

3. ***The term specifically excludes areas where the trees have been removed as a result of harvesting or logging, and where the forest is expected to regenerate naturally or with the aid of silvicultural measures.*** [11]

Timber harvesting does not increase bushfire severity

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

Meanwhile, there is a breadth of scientific research which refutes any link between timber harvesting and bushfire severity. Put simply, the scientific consensus is that there is no link between timber harvesting in Australia and increased bushfire severity. Suggestions to the contrary are based on flawed science.

A landmark study published in July 2021 found that forestry operations and timber harvesting were not to blame for the devastating 2019-20 Black Summer Bushfires in NSW and Victoria. The research team was led by globally recognised leaders in forest science Professor Rod Keenan from the University of Melbourne and Professor Peter Kanowski from ANU, who served on the COAG Inquiry on Bushfire Mitigation and Management. The study, *No evidence that timber harvesting increased the scale or severity of the 2019/20 bushfires in south east Australia*[12], published in *Australian Forestry* journal, reviewed the evidence of the relationship between harvesting and fire extent and severity from these fires, and found that:

"The proportion of forested conservation reserves burnt in these fires was similar to that for public forests where timber harvesting is permitted, and the proportion of forest burnt with different levels of fire severity was similar across tenures and over time since timber harvest."

This was not the first study to refute the claims by activists. Perhaps the best dissection of the inaccuracies underpinning this claim is by the University of Melbourne's Professor Peter Attiwill in 2014, who wrote for a scientific journal:

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

"The evidence we have presented here gives little support for the argument that logging in the wet

[11] http://www.fao.org/3/y0900e/y0900e11.htm
[12] https://www.tandfonline.com/doi/abs/10.1080/00049158.2021.1953741?src=&journalCode=tfor20

eucalypt forests across southern Australia results in forests that are drier and more fire-prone."[13]

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

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

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

Fire severity does change with time after timber harvesting (both up and down), but if the whole harvested landscape is considered rather than isolated local areas, the conclusion that harvesting increases bushfire risk and severity cannot be supported.[14]

The NSW Bushfire Inquiry Research Hub[15] and a separate study recently completed by NSW Department of Primary Industries[16] found that at the landscape scale, fire severity was much the same regardless of tenure and in State forests fire severity does not appear to have been influenced by harvesting.

It appears during the 2019/20 Black Summer fires in NSW there was no significant difference between harvested and unharvested areas in the probability of elevated fire severity and inconsistent and minor effects of time since harvest on probability of elevated fire severity.

Sustainably managed forests for timber production produce the best climate change mitigation outcome

Climate change is also identified as a threat to koalas. Environmental groups wrongly claim that reduced harvesting in native forests will increase carbon sequestration. This is at odds with the international and Australian scientific evidence.

The significant potential for the forestry and forest products industry to contribute to climate change mitigation was acknowledged in the 4th assessment report of the Intergovernmental Panel on Climate Change (IPCC), which stated:

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

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

[15] https://www.dpc.nsw.gov.au/assets/dpc-nsw-gov-au/publications/NSW-Bushfire-Inquiry-1630/Final-Report- of-the-NSW-Bushfire-Inquiry.pdf

[16] https://www.dpi.nsw.gov.au/ data/assets/pdf_file/0020/1222391/fire-severity-in-harvested-areas.pdf

A sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit.[17]

This is achieved by storing carbon in wood products which both minimises carbon losses from future bushfires and produces renewable, low emissions materials.

Trees in forests and plantations typically sequester carbon at a maximum rate between 10 to 30 years old. After this age, if the trees are not harvested, the sequestration rate slows until maturity at about 80 to 100 years of age.

Claims that a reduction in timber harvesting sequesters more carbon also ignores the stored carbon from the timber and paper products produced, and the substitution that would occur with imported wood and paper products from countries that do not have the stringent environmental protections and sophisticated forest managements practices that are in place in Australia.

Conclusion

AFPA NSW urges the Parliament to reject this Bill, and instead prioritise policies that will address the real threats to Australia's precious koalas. AFPA NSW would welcome an opportunity to give evidence in person to the Committee if required.

[17] https://www.ipcc.ch/site/assets/uploads/2018/03/ar4_wg3_full_report-1.pdf