Independent Forestry Panel

Public submission

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Topic 1. Sustainability of current and future forestry operations in NSW

The native forest logging industry is not sustainable. Native forest logging occurs in areas of high conservation value for threatened species (Ward et al. 2024). Indeed, recent analyses have shown that 43 species identified as being impacted by historical deforestation and degradation continue to be impacted by logging (Ward et al. 2024). Logging not only significantly reduces critical habitat for species such as large old hollow-bearing trees, it also changes the composition of forests that make them unsuitable for leaf-feeding specialist animals like the Koala and Southern Greater Glider (Au et al. 2019).

The native forest logging industry is not sustainable because areas that are logged and then regenerated are more flammable, thereby contributing significantly to fire risks (Lindenmayer and Zylstra 2024). An analysis across the fire footprint of the Black Summer fires showed that logged forests always burn at higher severity than intact forests (Lindenmayer et al. 2022b). Moreover, logged forests burning under moderate fire weather conditions still burn at higher severity than intact forests burning under extreme fire weather conditions (Lindenmayer et al. 2022b). The additional fire burden created by logging forests can last for 40-70 years after cutover forests have been regenerated (Taylor et al. 2014, Wilson et al. 2022).

Recurrent wildfires have major impacts on timber stocks (Bousfield et al. 2023), thereby disrupting industry supplies. 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 (Cary et al. 2021, Bousfield et al. 2023). The best places to do this is in plantations (Lindenmayer et al. 2023b). In addition, new research has indicated that logged and regenerated native forests are 4 times more likely to burn than plantations " further underscoring the importance of plantations for future timber production (Bousfield et al., in re-review). Finally, the rapid increase in the frequency of high-severity wildfire in parts of south-eastern Australia (Lindenmayer et al. 2023a) 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) (see Cary et al. 2021). This was highlighted by the impacts of the Black Summer wildfire season, not only for NSW but also for north-eastern Victoria (Lindenmayer and Taylor 2020).

Native forest logging is also unsustainable because it can only continue to operate through major subsidies from government " it is therefore a major (and increasing) burden on taxpayers (Frontier Economics 2023). As an example, it was estimated that for the year 2019-2020, Forestry Corp of NSW received $249 million in subsidies and grants and still made a loss of $28m (Frontier Economics 2023). These losses are not atypical for the native logging industry in NSW nor for the native forest logging industry in other States of Australia (reviewed by Lindenmayer 2024).

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

Native forests have significant environmental values, values for threatened species (Ward et al. 2024), and substantial cultural heritage values for First Nations peoples (Gott 2005). Many of

these values can be degraded by logging operations. One of the straight-forward ways to maintain these values and not degrade them is by not logging native forests (Murray et al. 2024).

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

The native forest logging industry has long been overwhelmingly dominated by high volume, low value products (Lindenmayer and Taylor 2022) such as woodchips, paper pulp, and feedstock for packaging (Australia and and National Forest Inventory Steering Committee 2018, ABARES 2021, Department of Agriculture Fisheries and Forestry 2023). Conversely, the vast majority of sawn timber (90%) comes from plantations (ABARES 2021, Department of Agriculture Fisheries and Forestry 2023). Demands for timber can largely be met from plantations and have been increasingly so for many years. This highlights the fact that a transition to a plantation-only industry can meet timber requirements " as has been the case in New Zealand (for more than 20 years) and has been the case in South Australia for many decades (Lindenmayer and Taylor 2022). The predominance of sawn timber from plantations, and of woodchips and paper pulp from native forests, is one of the key reasons why the former is profitable and has high levels of employment, whereas the latter is unprofitable and has dwindling levels of employment (Keith et al. 2016, see also Keith et al. 2017). This is as indicated by economic analyses conducted in the southern region of NSW (Frontier Economics and ANU 2021).

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

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 (Lindenmayer et al. 2022a, Lindenmayer et al. 2023b) " 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 (Lindenmayer and Hobbs 2004).

Topic 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

As indicated above, native forests have significant environmental values, values for threatened species (Ward et al. 2024), and substantial cultural heritage values for First Nations peoples (Gott 2005). Many of these values can be degraded by logging operations. There has been advocacy from the native forest logging industry and lobby groups such as Forestry Australia that native forests should be subject to Active Management. that includes thinning and other forms logging operations (Bennett et al. 2024, Keenan 2024). It is claimed that these operations will make forests more resilient to wildfires. There is no empirical evidence for this proposition. Conversely, there is evidence that there is no effect of thinning on fire severity, or in some cases, forests that are thinned subsequently burn at higher severity " outcomes documented following wildfires in Victoria in 2009 (Taylor et al. 2020) and following the 2019-2020 Black Summer wildfires (Taylor et al. 2021). Notably, foresters have written extensively about the elevated wildfire risks associated

with thinning operations in native forests (Buckley and Cornish 1991, Sebire and Fagg 1997, Fagg 2006).

Another form of logging that is being promoted by forest industry advocates is so-called Forest Gardening. " which is a new name given to conventional logging of First Nations Country (see Murray et al. 2024). Forest Gardening entails removing significant amounts of the stand basal area of a forest using conventional logging machinery (Murray et al. 2024). Formal strategies for Forest Gardening encompass western industrial forestry practices. However, there is no evidence that such operations heal. Country; rather, like conventional logging, forests and forest biodiversity are likely to be significantly negatively impacted by Forest Gardening (Murray et al. 2024) (Lindenmayer 2024). Some First Nations people has labelled Forest Gardening as: recent invention practice. and cultural genocide. (Murray et al. 2024). One of the straight-forward ways to maintain environmental values and cultural values of native forests and not degrade them is by not logging them, including the application of Forest Gardening (Murray et al. 2024).

One of the reasons that Forest Gardening has been promoted by forest industry advocates is that populist literature claims that forests were open and park-like. at the time of British invasion (e.g. Gammage 2011, Pascoe and Gammage 2021). Such conditions were claimed to have been created by widespread and frequent burning of forests as well as farming by Indigenous communities (Gammage 2011, Pascoe 2018, Pascoe and Gammage 2021). A detailed examination of historical, cultural and ecological evidence for tall, wet forests has uncovered no evidence of widespread farming or extensive and recurrent (repeated) fire (Lindenmayer et al. 2024). There is similarly no evidence that tall, wet forests were open and park-like at the time of British invasion (Lindenmayer et al. 2024). There is therefore no current scientific basis to apply Forest Gardening or widespread thinning as part of Active Management in these (and indeed many other) native forest ecosystems (Lindenmayer et al. 2024).

Topic 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

Intact native forests store significantly more carbon than logged and regenerated native forests (Keith et al. 2014). Native forest logging generates large amounts of emissions. Indeed, a key way to reach Australia's 2030 GHG reduction targets will be to stop native forest logging (https://www.canberratimes.com.au/story/8740433/ending-native-forest-logging-key-to-emissions-reduction-experts/). In fact, a major step down in native forest logging in Tasmania had major positive benefits on the carbon accounts in that State (Mackey et al. 2022). Increased carbon storage in intact native forests can be include in State and National carbon accounts. Carbon does not have to be traded to show benefits " and this will avoid the gaming that has characterized substantial parts of the carbon trading industry in Australia (e.g. Macintosh et al. 2024).

The biodiversity benefits of intact native forests have been well documents (Mackey et al. 2015, Watson et al. 2018). The best way to maintain the biodiversity values of native forests is to stop logging them, including in NSW (Ward et al. 2024).

Submission to the Independent Forestry Panel

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Background

I am a Professor of Forest Ecology and Management at The Australian National University. I have worked in Australia's forests for more than 42 years and published more than 950 peer-reviewed scientific papers in international journals and 49 scholarly books. I am one of the most highly cited ecologists in the world. I am a member of four academies and societies and have won numerous awards nationally and internationally for my research. My citations record can be found on Google Scholar at https://scholar.google.com.au/citations?user=4a2XbLwAAAAJ&hl=en.

Past submissions and this submission

I have made submissions to, or appeared before, 29 inquiries into the native forest logging industry over the past 30 years. My preliminary assessment indicates there have been, on average, one inquiry in Australia every year since the end of WWII. This highlights deep systemic problems in the native forest logging industry and underlying issues with a lack of sustainability, major impacts on biodiversity, fire regimes and carbon emissions. I have written extensively on these problems (including in a recently accessible book; Lindenmayer 2024) and will provide only a brief summary in the remainder of this submission. I am more than happy to provide copies of peer reviewed publications and other materials.

Brief overview of some key themes

The native forest logging industry is not sustainable in NSW (or indeed anywhere in Australia). The Government of NSW should transition rapidly out of native forest logging to a plantation-only industry within 2 years.

Sustainability of current and future forestry operations in NSW

The native forest logging industry is not sustainable. Native forest logging occurs in areas of high conservation value for threatened species (Ward et al. 2024). Indeed, recent analyses have shown that 43 species identified as being impacted by historical deforestation and degradation continue to

be impacted by logging (Ward et al. 2024). Logging not only significantly reduces critical habitat for species such as large old hollow-bearing trees, it also changes the composition of forests that make them unsuitable for leaf-feeding specialist animals like the Koala and Southern Greater Glider (Au et al. 2019).

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

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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.

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Summary/overview

The native forest logging industry is not ecologically nor financially sustainable in NSW. It has significant negative impacts on biodiversity, increases fire risks, and generates large amounts of carbon emissions. It is also loss making and employs very few people. Our recent economic analysis (Chapman et al. 2024) show that the transition out of native forest logging should be rapid (within two years) and supported by exit packages for effected workers. This will have benefits for the environment and biodiversity, for cultural values for First Nations peoples, for climate change mitigation, for fire management, and for the taxpayers of NSW.

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