Submission No 162

INQUIRY INTO LONG TERM SUSTAINABILITY AND FUTURE OF THE TIMBER AND FOREST PRODUCTS INDUSTRY

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Date Received: 28 May 2021

Submission to the NSW Parliamentary Inquiry into the long-term sustainability and future of the timber and forest products industry

State forests are more valuable standing

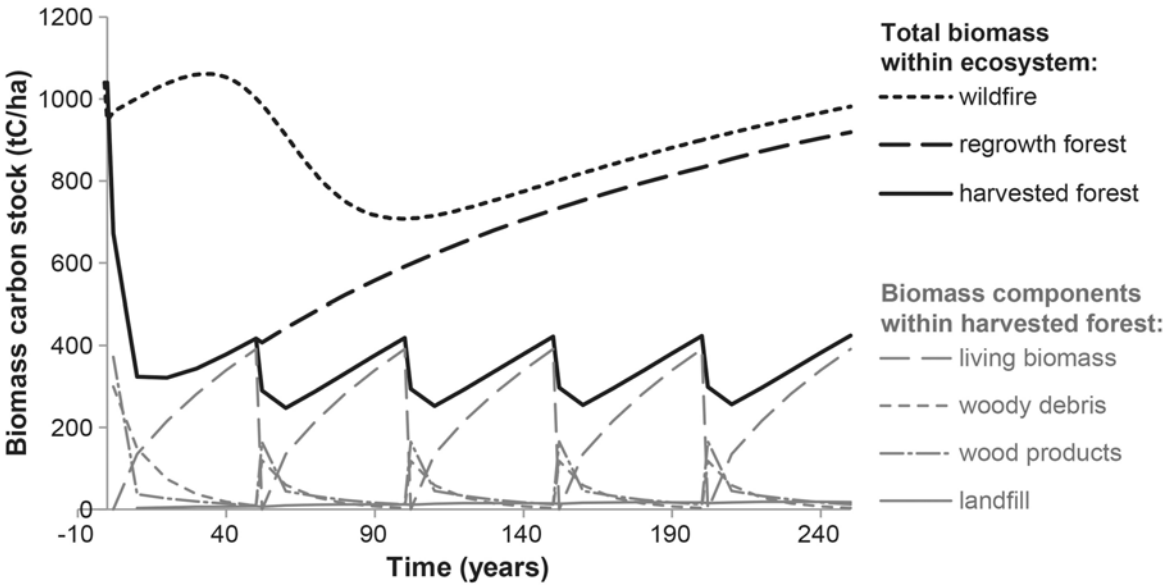
Though I am aware of all the main reasons for moving hardwood logging from native forests onto plantations, the committee will be receiving detailed submissions on most of these from others. So, I will confine this submission to short discussion of four matters:

1. the carbon sequestration on which I have personally worked calculations through for the Southern Forests Region (SFR) of NSW;
2. the two-way links between climate change and biodiversity;
3. how logging makes bushfires worse; and
4. explaining the project *ZeroSE – A Beyond Zero Future for South East NSW* of which I am co-convenor and representatives of which would be pleased to appear at a public hearing.

Carbon Sequestration

In summary, the calculations below show that an extra two million tonnes per year of CO_2 can be sequestered long term in the SFR if logging of its native forest ceases.

Below is Figure 10 from Keith and Lindenmeyer et al.[1]



[1] Keith H, Lindenmeyer D et al. June 2014
Managing temperate forests for carbon storage: impacts of logging versus forest protection on carbon stocks in Ecosphere, vol 25, issue. 6, pp. 1-34.
https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/ES14-00051.1

The Figure shows the carbon sequestration achievable in two scenarios. The saw-tooth 'harvested forest' line shows carbon stock under a 50-year rotation logging scenario. The heavy dotted 'regrowth forest' line shows carbon stock under a ceased logging scenario.

Fitting a straight line to the 'regrowth forest' dotted line, between the end points of 50 years and 250 years, the biomass carbon stock increase per year is (900-400)/200 = 2.5 tC/ha.

Taking the SFR net harvestable area of 227,864 ha, the total carbon accumulation for that area would be 2.5 x 227,864 = 569,660 tC.[2]

569,660 tC is equivalent to 44/12 x 569,660 = 2.09 mtCO_2, using the molecular weights of carbon (12 g/mol) and carbon dioxide (44 g/mol).

Let us assume that the federal Climate Solutions Fund (CSF), formally the Emissions Reduction Fund, was open to the SFR. Then at the latest (April 2021) CSF CO_2 auction price of $16/t the CSF value of ceasing to log the SFR is 2.09 x 16 = $33.4 million per year.[3]

A year-on-year income of this size going into the public purse would more than pay for any costs incurred in ceasing logging in the SFR.

When added to the eco-tourism and biodiversity benefits, both of which need enhanced support following the Black Summer fires, the economic benefits of ceasing logging in the Southern Forest Region will likely outweigh the benefits of continuing logging and should be examined further by the Inquiry.

Corroboration of the above calculations

Perkins and Macintosh have written,

> Stopping harvesting and using the native forests of the SFR to generate carbon credits offers a viable alternative to commercial forestry. In the core no-harvest scenario … it was estimated that the New South Wales government could earn 33.8 million ACCUs over the period 2014-2033 (an average of 1.7 million per year).[4]

An ACCU is an Australian Carbon Credit Unit. One ACCU is generated per tonne of CO_2 sequestered. Taking the 1.7 million ACCU per year, at the CSF CO_2 auction price of $16/t, the CSF value of ceasing to log the SFR is 1.7 m x 16 = $27.2 million/yr

This is close to the $33.4 million/yr calculated above. We could split the difference and think in terms of a $30 million/yr CSF benefit.

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[2] The net harvestable area is sourced to *Forests NSW* in Frances Perkins and Andrew Macintosh. June 2013 *Logging or Carbon Credits: Comparing the financial returns from forest-based activities in NSW's Southern Forestry Region*. Technical Brief No. 23 June 2013. https://australiainstitute.org.au/wp-content/uploads/2020/12/TB-23-Logging-or-Carbon-Credits.pdf

[3] http://www.cleanenergyregulator.gov.au/Reduction Fund /auctions-results/april-2021

[4] ibid

Perkins and Macintosh conclude their own extensive analysis,

> Overall, the analysis supports two general conclusions:
>
> (1) under current and likely future market conditions, the harvesting and processing of native logs in the SFR is likely to generate substantial losses; and
>
> (2) the aggregate net financial benefits are likely to be significantly higher if commercial harvesting is stopped and the native forests of the SFR are used to generate carbon credits.[5]

Climate Change and Biodiversity

The loud and clear message at *The Fires Changed Everything* conference of the NSW Nature Conservation Council in Batemans Bay in May 2021 was that climate change and biodiversity are linked in two directions.

The first link is that climate change damages biodiversity. That we know. Species decline if forced to move habitat and they can go locally extinct.

The second link, one that is less often recognised, is that healthy biodiversity lessens the damage from climate change.

The logic is this:

1. The healthier and more diverse an ecosystem, the better it will withstand the effects of climate change including bushfires.
2. The healthiest most biodiverse ecosystems are in primary forests which include old-growth forests and logged forests allowed to regenerate over periods far longer than logging rotations.
3. So, primary forests better withstand climate change in addition to limiting climate change by drawing down more carbon out of the atmosphere for really long-term storage than logged forests or plantations.

The *NEXUS Report*, authored by two eminent Australians amongst others, puts it like this,

> Primary forests and coastal ecosystems are the highest priority. These ecosystems play the largest potential role in climate mitigation and adaptation, slowing biodiversity loss, and reducing risk of future zoonotic pandemics. They are also the ecosystems facing the fastest rates of degradation and loss. If we lose these battles, we lose the war.[6]

The forests of South East Australia have had their native flora and fauna drastically damaged by the climate change driven Black Summer fires. In recognition of the bi-directional links explained above we need to let the native forests of the SFR recover undisturbed by continued logging.

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[5] ibid

[6] Barber, C.V., R. Petersen, V. Young, B. Mackey, C. Kormos. 2020. *The Nexus Report: Nature Based Solutions to the Biodiversity and Climate Crisis.* F20 Foundations, Campaign for Nature and SEE Foundation.
https://www foundations-20.org/wp-content/uploads/2020/11/The-Nexus-Report.pdf

Logging makes fires worse

The fact sheet image below, authored by me to educate the public, explains this causation.

Logging makes fires more frequent and more severe!

Did you know?

Fire moves quicker and burns hotter in a logged forest. It's because:

- Large quantities of debris are left on the ground (up to 450 tonnes per hectare).
- Regenerating areas have young, short, even-aged and densely packed trees.
- Logged forests lack the moist parts of older forests like tree ferns.
- Logged forests are fragmented, by logging coupes and logging roads making them drier.

Has this really happened?

Yes. Of the one million hectares burnt over 2019-20 in East Gippsland, 36% had burnt at least once before in the last 25 years. However, the moist forests native to this area should only burn once every 50-150 years.

What to do?

- Stop logging areas of native forests especially near human settlements.
- Reduce fragmentation to build resilience to future fire events.
- Protect undisturbed or lightly disturbed areas as these are fire refuges for many species.
- No post-fire 'salvage' logging that can impair recovery and make regenerating forests more prone to further fires. Repeated fires risk ecosystem collapse as young trees die and older trees fail to re-sprout or produce seed.
- To maintain employment and timber supply focus forest industries on plantations.

Forests and Climate Change

Now is the time for policy makers to look after the critical values of intact native forests. In these forests:

- Fire severity is lowest
- Species persistence during fires is greatest
- Rates of recovery after fires are highest.

Unlogged forests are more resilient to the higher temperatures and worsening droughts brought by climate change. They store more carbon and are proper homes for the nature we love.

Sources:

Lindenmayer, David B. et al. Recent Australian wildfires made worse by logging and associated forest management. *Nature Ecology and Evolution*. 2020 July;(4):898–900
Watson, J.E.M. et al. The exceptional value of intact forest ecosystems. *Nature Ecology and Evolution* 2, 599–610 (2018)
Taylor, C. et al. Nonlinear Effects of Stand Age on Fire Severity. *Conservation Letters*, July/August 2014, 7(4), 355–370

Logging makes fires worse.docx

ZeroSE – A Beyond Zero Future for South East NSW

Moving our hardwood logging industry into plantations will be a win-win-win - a win for climate - a win for biodiversity – and a win for jobs and economies – because there are more jobs and business opportunities in eco-tourism than logging.

The *ZeroSE* project, explained on the next page, aims to quantify each of these benefits and the team undertaking the research would be pleased to appear in person at a hearing of your committee should that be possible.

Thank you for the opportunity to make this submission.

Jack Egan
ZeroSE – A Beyond Zero Future for South East NSW

28 May 2021

ZeroSE - A Beyond Zero Future for South East NSW: good jobs and a low carbon economy for Eden-Monaro and Gilmore

Who are we?

We're an alliance of community groups and individuals who are working to identify realistic net zero emission industry and employment opportunities for our region. Climate Action Monaro is coordinating this project currently supported by Southcoast Health and Sustainability Alliance, LEAN, National Trust, and National Parks Association. We're seeking collaboration with other like-minded groups in the two electorates.

Why this project?

The impacts of climate change require a rapid transition away from fossil fuels to zero emission energy sources and major changes in land management. This transition must be just and equitable, providing good employment opportunities for all. Some inspiring national plans map opportunities for transitioning to a zero net emission economy including Beyond Zero Emissions' *Million Jobs Plan*, the Climate Council's *Clean Jobs* Plan and the Australian Energy Market Operator's *2020 Integrated System Plan*. However, as yet little work has been done at regional level. This project will seek to fill this gap for our region.

What is the project?

This project will identify economic activities that will enable a measured and supported transition to a net zero emission economy. It will attempt to estimate the approximate employment, economic, social and environmental benefits and the key elements of the policy environment needed to enable this transition.

We want our shires to have a piece of the pie as we transition nationally to a low carbon future

Case studies include clean energy development and use, carbon sequestration in forestry and farming, regenerative agriculture, biodiversity restoration and conservation projects.

Data and information with connecting narratives and with some shire-specific material will be web-published for each electorate and summarised in hard-copy. These publications will be launched in each electorate and include:

- Fact sheets for citizens and media
- Evidence for planners, policymakers, investors, community campaigners and advocates
- Social media videos

At this stage we have identified the following opportunities:

- Clean energy generation
- Carbon sequestration in forests and soils
- Mosaic / prescribed / cultural burning
- Flora and fauna habitat protection
- Financial returns to farmers from carbon farming and biodiversity protection
- Seaweed production and use by livestock farmers
- Tourism benefits from protecting our spectacular environment
- New industries using abundant clean energy
- Associated community projects.

When?

The first fact sheets and explainers should be available by the end of July 2021 in time to contribute to the policy debate in the September local government elections and the 2021 federal general election. We anticipate the evidence base and information distribution will continue to grow after that date. We have applied for a small grant to help fund design, social and print media distribution of our findings.

What next? ... Some questions:

1. Have you got skills, knowledge or time to contribute?
2. Have you a case-study to include?
3. Can you identify other opportunities?
4. What pathways/obstacles to transition are there?
5. What support (e.g. retraining, jobseeker-type payments, business compensation) could help the transition?
6. Will the results be useful for you?

To get involved contact:

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Climate Action Monaro

REPOWER SHOALHAVEN

Coastwatchers Eurobodalla's voice for nature

SHASA Southcoast Health and Sustainability Alliance

350 Eurobodalla

Bushfire Survivors for Climate Action