

Your details

Dr

Title

First name Rosemary

Last name Beaumont

Submission details

I am making this submission as A resident in a bushfire-affected area

Submission type I am making a personal submission

Consent to make submission public I give my consent for this submission to be made public

Share your experience or tell your story

Your story Fire, Forests and Risk

Personal experience and perspective

Living between Cobargo and Quaama on the NSW south coast my property was severely impacted by the mega-fire on New Year's Eve 2019. A house, sheds, water systems, fences and forests were destroyed. Much of the property is a conservation area – the forests and wild-life were devastated with not a single square centimetre of forest unburnt.

The on-going drought made the region ripe for a huge wild-fire. Underpinning the drier environmental conditions are direct contributing causes which are much overlooked or dismissed by governments. The causes I am focussing on are the cumulative effects of decades of logging of the region's native forests and the greater context of a heating planet.

The research is clear that logging, which in SE NSW predominantly means woodchipping, breaks the forest canopy, dries the forest floor, diminishes water retention and creates a highly fire-vulnerable environment. The extraction mentality of logging native forests is wildly out-dated and the risk to life and livelihood is negligently ignored.

The research is also clear that due to increasing atmospheric carbon levels, the planet's climate systems are being disrupted with raised temperatures. The impacts of planetary heating accelerates the destructive effects of on-going felling of native forests and increasing conditions for mega fires.

Recommendations

1 Frame all decisions and policy within the context of climate changes with detailed factors shaped by this frame of reference.

2 End native forest logging in south eastern Australia.

3 Consider and implement the deeply researched plan for these forests outlined in the Great Southern Forests proposal (which details of phased and increased sector re-employment, increased profitability spread throughout the community, increased social cohesion and increased long-term environmental benefits which flow through to the regional landscape – www.greatsouthernforest.org.au)

Forests, native forest logging and fire risk

David Lindenmayer from the Australian National University stated, "logging makes forests more prone to high severity fire and it is a real risk to communities adjacent to these areas" (2018). His research is based on detailed longitudinal data.

Christopher Taylor at the University of Melbourne studied forest areas that burned on Black Saturday in 2009 in Victoria (2014). He found that the most severe fires, which consume the crowns of the trees, were most prominent in Mountain Ash trees aged between seven and 36 years of age, with a peak age around 15 years ie post-logging regrowth forests. Crown fires were infrequent in older trees. Hence the nature of the forest related to the ferocity of the fires. Logging native forests makes them more prone to severe fires.

In short, logged landscapes are at increased risk of bushfire and the fires' severity are increased. Logging opens the canopy causing the forest floor to dry out and huge loss of transpired water. Logging adds to the fuel load and fuel ladder, leaving an entire stand of young, highly fire-vulnerable trees. Young forests burn at a much higher severity than old forests. 98% of the forest estate is now young and will carry an extra fire burden for 50 years each time it is logged with the increasing risk of catastrophic fire events. The effects are cumulative.

In this region we have now experienced such apocalyptic events. These events were predicted – and the information was ignored. And now the logging blindly continues, and governments, so far, do not change their out-dated thinking.

Forests and water

Forests play a significant role in water cycles, and hence water security at the local, regional and continental scales. Forests attract rain and contribute to atmospheric micro-particle seeding to precipitate rain. Forests absorb water, retain moisture and release it slowly to feed springs, creeks and estuaries. Hence mature forests produce water. Conversely, logging reduces the capacity of forests to perform these important functions.

Logging increases the proportion of young forest to artificially high levels. Regrowth forests soak up water and through transpiration the moisture ends up in the atmosphere, not the ground. This causes drier forests causing the ground to dry, reducing water release and emptying the creeks. In south eastern Australia, an artificially high proportion of young trees has resulted in a 96% decrease in 'wet plants', like tree ferns, that need ground moisture (Lindenmayer 2018).

Young trees take up most available water. Old trees produce most water. Management for water catchment needs forests to be as old as possible. In the Victorian Central Highlands forests, for each hectare logged there is a loss of 12million litres of water per year, enough water for 330,000 people (Keith et al 2017).

As water yield from forests go down due to logging, so too does fire risk go up. These effects are increasing with climate change.

Forests, Climate and Carbon

In Australia the climate patterns are being disrupted with widespread increased drought over much

of the continent and floods in some parts. Forests are generally overlooked in climate discussions. Yet there is a strong and critical relationship between forests and planetary, regional and local climate systems. Forests significantly contribute to stabilising the equilibrium of atmospheric and terrestrial carbon, water cycles, temperature and fire behaviour – and hence the conditions for Life.

Earth has lost 88% (7/8ths) of its forests since the Industrial Revolution (Jehne 2006). Of what forests have been left, since 2000 a further 50% has been lost. With this loss, a major natural system which stabilises climate dynamics is in peril.

Two dynamics effecting atmospheric carbon are the output of carbon emissions and also the drawing down of atmospheric carbon. With the important emphasis on emissions reduction, natural systems which draw down carbon emissions are somewhat overlooked. Oceans and forests are major natural systems drawing down atmospheric carbon and ensuring homeostasis. However, oceans are heating and acidifying thereby reducing their capacity to absorb gaseous carbon. In contrast, and as recognised at the Marrakesh Climate Talks, the role forests play in macro planetary systems by drawing down atmospheric carbon can be actively protected, supported and expanded.

Trees draw down atmospheric carbon dioxide, sequester it as terrestrial carbon and release oxygen into the atmosphere. This activity plays a vital role stabilising the composition of the atmosphere to lower carbon dioxide levels and hence planetary temperature. Forests absorb around 40% of global anthropogenic carbon emissions (The Nature Conservancy 2017; Eisenstein 2018). The state of forests is predominantly in human hands and decisions – we can protect and manage forests to thrive and so enable them to naturally play their major role in planetary temperature stabilisation. However, while forests by their nature contribute to the stability of temperature ranges, deforestation contributes to climate disruption.

Cycles of cutting and regrowing forests depreciates sequestered carbon stocks and releases these as carbon emissions. Logged forests hold 40 – 70% less carbon than unlogged forests. The emission release from stabilised carbon is compounded and added to by the common practice of burning following logging further drying the forests. Logging operations collapse and compact the soil leaving arid, less fertile, more erode-able and more fire- prone forests. The corollary to this dysfunctional practice is that there is enormous potential in managing previously logged forest to return to their carbon sequestering capacity and safer conditions. This is a relatively easy action governments can take to restore balance.

Ecosystem values of forests

Forests have far wider and more intrinsic values than the felling of trees. These values are being quantified as 'eco-system services'. The economic value of the natural resources produced by the Victorian Central Highlands public forest, the ecosystem services, was calculated by an Australian National University team using an internationally accepted accounting tool. For these forests, the figures indicate the dollar values of services provided by the public native forests' ecosystems. The value of agriculture (\$312m), water supply (\$310m), tourism (\$260m) and carbon (\$49m) with a combined value of \$981m pa vastly overshadows that of native forest logging at \$12m pa.

As native forest logging in south east NSW between 2009 and 2014 was cross-subsidised to the order of \$79m by the profitable Softwood Plantations Division of Forestry Corporation, (formerly ForestsNSW), the values of different uses of native forests rather than logging, would be even more stark in this region (Campbell and Keon 2016).

Australian Governments' obligations

The primary responsibility of any democratic government is to safeguard the well-being of its citizens. The apocalyptic fires of this summer, together with recent devastating droughts and floods, show the interconnectedness of human actions and our environment. Governments need to fundamentally change, expand and align their foundational ideological thinking with stark scientific reality, with common-sense, with wisdom and compassion. The expanded context is now clearer and the stakes are high.

Additionally, Australia is a signatory to the United Nations' Sustainability Development Goals (SDGs). In addressing Goal 15 pertaining to forests, the Australian interpretation lauds the Regional Forest Agreement (RFA) processes. This is nonsense in the terms of the intention of the SDGs. In the drafting of the RFAs there was no government recognition of climate disruption and the role of forests in climate stabilisation and carbon sequestration (Lindenmeyer et al 2015). The RFAs do not recognise research linking native forest logging and increased fire risk. Ceasing native forest logging makes a significant contribution to meeting our international agreements on climate action – however Australia's target is very low. Ceasing native forest logging leads to safer adjacent communities.

Recommendations

1 Frame all decisions and policy within the context of climate changes with detailed factors shaped by this frame of reference.

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3 Consider and implement the deeply researched plan for these forests outlined in the Great Southern Forests proposal (which details of phased and increased sector re-employment, increased profitability spread throughout the community, increased social cohesion and increased long-term environmental benefits which flow through to the regional landscape – www.greatsouthernforest.org.au)

Dr Rosemary Beaumont



References

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The Nature Conservancy, 'Lands of opportunity: unleashing the full potential of natural solutions', *Nature4Climate*, UK, 2017

Terms of Reference (optional)

The Inquiry welcomes submissions that address the particular matters identified in its [Terms of Reference](#).

1.1 Causes and contributing factors	Ignoring and not acting on clear predictions about climate change causing drier conditions Ignoring evidence that decades of native forest logging in SE NSW has led to drier, more fire prone forests - and so danger to adjacent communities
1.2 Preparation and planning	Heed advice about climate change and take action to reduce carbon emissions Recognise that logging of native forests causes drier more fire prone forests and cease this practice
1.3 Response to bushfires	Cease the on-going logging of native forests
1.4 Any other matters	Please read my submission in full - in the personal story box - as I go into my position in full and substantiate it with references Thank you

Supporting documents or images

