Your details

Title
Ms

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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
My partner and I lived through a harrowing 2019/2020 summer fire season in the Blue Mountains. Fortunately the fire did not affect us. But we were aware that all around us, the fires burned out of effective control; and day after day, night after night, the wildlife was being incinerated. A precious healthy and genetically diverse colony of koalas in the Capertee area was completely destroyed but for the dozen that were saved. Eighty percept of our cherished world heritage bushland was burned. Some areas will take decades to regenerate, if ever.
Our local businesses were hammered. The business activity that they depend on in the holiday tourism season was virtually non-existent. Even before the Covid 19 times, many businesses were ready to fold up.
It is utterly deplorable and unforgiveable that the fires were allowed to rage on relentlessly, such that millions of hectares of bushland were burned. This is preventable and in this submission I argue for the means to achieve this.

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
Climate change and fuel loads.

The intensity and scale of the bushfires of 2019-2020 were by many accounts unprecedented. We saw millions of hectares of our bushland estate destroyed in NSW and over a billion mammals, birds and reptiles groups were killed across the nation. With the toll of insects and other animals, the record of carnage is increased by orders of magnitude. We also saw the tragic loss of human lives, with many farms and businesses destroyed by fire. Further impacts are still reverberating with regional businesses. In the Blue Mountains, our much loved village businesses have been hammered by the down-turn in business activity as people stayed away in droves during the peak tourism period.

Primary among the causes of the bushfires is climate change. While ground fuel loads are part of the explanation, this factor does not go to a full explanation of the scale and intensity of the fires. This was made clear by the public statements of fire fighters, and those of the expert group of ex-fire and rescue commissioners headed by Greg Mullins. They recorded their encounters with intensely hot fires where there had been recent hazard reduction burn operations in bushlands. They also gave accounts of fires on lawns, fires burning on bare soil, and fires burning on drought depleted pastures. In all these cases, the presence of ground fuel loads was minimal, yet the fires burned hot.

An explanation of these unusual circumstances can be found in climate change. Frequent and extended drought, caused by climate change, has caused extended dehydration of trees, pasture plants and soil profiles. The addition of exceptionally hot summer temperatures produces heightened ignition conditions. In bushland areas, the ignition of dehydrated tree canopies, independent of recently reduced ground fuel loads, was observed widely by fire-fighters. They also observed that ignition of tree canopies caused the rapid and wide scale transmission of fire across canopies, at canopy height, again, independently of ground fuel conditions.

In the Blue Mountains (where we live) long-standing drought conditions caused canopy dehydration and in this last hot summer season we lost over half a million hectares of our world heritage bushland, along with a precious disease-free and genetically diverse koalas colony in the Capertee area near Lithgow. When we first came to live in the mountains in 2015, people we knew had no need of air conditioners for summer cooling, but now, five years later, almost everyone we speak to has installed a unit or electric fans. Our summers have become noticeably hotter in the last five years. We saw the effects of dehydration all around and now we see vast stretches of burned bushland all around. According to some reports, in some areas of the Blue Mountains, the trees have died and we will not see the regeneration of bushland for decades to come, if ever. The capacity of Australian bushland ecosystems to regenerate with epicormic regrowth, seed dispersal responses and other regenerative strategies has, in some areas been obliterated.

This obliteration of ecosystem survival strategies is evidence of an entirely new regime. Fire has never before had this level of destructive force as a generalised phenomenon, on such a wide scale. Until now, we saw the continual survival and renewal of our bushlands after fire. But now climate change has meant that we can no longer rely on the capacity of Australian ecosystems to maintain that resilience.

Another line of evidence supporting the proposition that fire conditions have been substantially changed due to climate change comes from the behaviour of koalas in response to fire. Their evolved instinctive response to fire is to climb upwards. This is because until recent times, most fires burned cool (relative to contemporary fires), along the underbrush. So their upward climb gave them a chance of safety and they could wait out the fire in the upper canopy. Now that instinct ensures their death because in the new conditions of climate change, fire is ignited and transmitted though the upper canopies, independently of ground fuel conditions.

Section summary

1. Climate change has introduced new causative factors to Australian fire regimes. Fires burn hotter and at larger

scales because drought-induced dehydration, together with increased air temperatures exacerbate ignition conditions.
2. These processes are independent of ground fuel levels, which do not account for the increased intensity and scale of the fires.
3. This new regime has had devastating impacts at species and ecosystem levels, because the fire responses that were relevant in past eras of cooler burning bushlands no longer confer the protections that used to support long-term resilience and survival.
4. If all we do in response to the 2019/2020 fire season is to respond to the call for increased ground fuel reduction, and ignore the reality that climate change has brought substantially changed fire conditions, we will fail to improve our outcomes. We need to frame our responses beyond the call for ground fuel reduction. We need increased fire-fighting capacity (see Section 3) and a systematic application of Indigenous fire management practices (see Section 6).

1.2 Preparation and planning

Note: The terms of reference sections (which I used to work off-line) do not match the sections provided here. My section 1.2 should come after the next section, hence the awkward chronology. I have re-named the sections throughout the text in each box, but the arguments remain reversed in their positions in this document. I ask you to bear this in mind.

Section 1.2

In Section 1.3, I argue that the Australian Government and at least some state governments (including NSW) were shown by the 2019/2020 fire season to be deficient in air tanker fire-fighting capacity. Further in Section 1.3, we see that the Australian Government eventually recognised the need for extra capacity, but at a time when overseas tankers were unavailable; and when the fire season had already progressed to a point of mega destruction.

The question is then posed in Section 1.3: given that the Australian Government finally did recognise the need for increased capacity, what has the government learned from this realisation and what preparations are being made now by the NSW and federal governments?

It is clear that we need the Australian Government to purchase a fleet of CL415s, which are the air tankers used by the Canadian authorities to deal with their huge fires. We cannot rely on being able to lease them from overseas into the future, because climate change will become worse and fire seasons across the world will be extended. Within the coming decade, the northern hemisphere and southern hemisphere fire seasons will be overlapping and we will be unable to lease air tankers from overseas. I repeat that we need to purchase a national fleet of CL415s, which will be available for use around the nation as the need arises.

Until we make these national purchases, NSW should increase its capacity, or decide not to lend its capacity out.

Two questions arise:
1. Cost.
The purchase of a small CL415 fleet will be a considerable expenditure. But this must be seen in comparison with other expenditures. The Australian Government is currently purchasing (or has purchased in the last year) a fleet of high technology military strike fighter planes. A small fleet of CL415s would cost about the same as just one of these military craft. The CL415 is relatively low cost, being low technology. It has a low cruising speed, which is essential for fire-fighting.
2. Water volume and quality.
The objection usually raised concerning the CL415 in Australian conditions is that we do not have the vast lakes that Canada has. But we do have an ocean. The problem here is that the CL415s will deteriorate if too much salt water is used. Further, we would prefer not to dump salt water on bushlands.

These questions clearly did not prevent the Australian Government from trying to source the CL415s from Canada in January 2020. Maybe their advisers intended a usage pattern in which the tankers would be refreshed with fresh water after a number of salt water scoops. We also have desalination plants across the nation. Perhaps water could be piped from the NSW plant to the CL415s.

We can, and must, develop innovative ways to increase our fire-fighting capacity by orders of magnitude. It is utterly and completely unacceptable to allow vast tracts of our precious bushlands to be destroyed for decades to come, and in some cases, for ever. We do not want future generations to be left with none of our legendarily beautiful bushland estates. The Covid 19 crisis has shown that given the political will power, federal, state and territory governments can successfully respond to natural disasters. We need that kind of political will to be applied to the bush fire crisis, which from now on, will be effectively ongoing, with ever diminishing periods of respite between them. It is simply fanciful to think that large scale ground fuel reduction will ensure us against bushfire risk. It will not. As argued in Section 1, climate change has brought new and powerful fire dynamics that operate independently of ground fuel conditions. If we do not increase our fire-fighting capacity, mega-bushfires will be repeated year after year, until we have no remaining bushland left.

Summary of Section
1. As argued in Section 1.1, the reduction of ground fuel loads is not a sufficient answer because climate change dynamics mean that extremely hot fires ignite in, and transfer across canopies. Indeed Section 6 will argue that fuel load reduction should be applied with caution.
2. In less than a decade we will find that southern and northern hemisphere fire seasons are overlapping.
3. What we need in this time of climate change is massively increased fire-fighting capacity. We need the federal government to purchase a fleet of CL415s.
4. With sufficient political will, together with the necessary institutional and financial resources dedicated to innovative research, we can overcome the problems of water volume and quality.

1.3 Response to bushfires
This section deals with responses to the 2019/1010 fires, specifically the lack of equipment, and in particular the dearth of fire fighting air tankers across state, territory and federal governments.

The Australian nation, across federal, state and territory governments, is critically deficient in fire-fighting air tankers. There is no doubt that we are in need of extra air tankers, either by lease from overseas, or by purchase. This is evidenced by the short history of government responses to this deficit in the past twelve months.

One year ago, in April 2019, the expert group of ex-fire and rescue commissioners called for the Australian Government to start preparations for the fire season of 2019/2020, which was predicted by climate experts to be one of new extremes. This call was ignored.

In January 2020, after the fires had been burning across the nation since October 2019, the one air tanker then owned by the NSW Government was fighting a fire in WA. At this time a fire broke on the Bells Line of Road in the Blue Mountains. There was no air tanker in NSW to fight this fire and it remained uncontained. It then merged with one of the huge conflagrations in the Blue Mountains. If the NSW government had owned a second tanker, or if the WA was not deficient in air tanker capacity, the destructive force of this fire might have been avoided.

Similarly, the Mount Gosper fire began with a spread of 52 hectares. By the time it ended, it was burning thousands of hectares and had merged with a mega fire of 500,000 hectares. Like the extended Bells Line of Road fire, this was preventable and the lack of planning for fire had devastating results.

Later in January 2020, the Australian Government decided belatedly to lease air tankers from OS. However the preferred Canadian CL415 air tankers with 6,000 litre capacity could not be sourced. By then they were snow-bound in Ontario. The second choice air tankers could not be sourced at that time either because the volcano erupting in the Philippines interfered with air navigation. At this late stage in the bushfire season, the damage was already immense and there was still no available remedy for the yet ongoing destruction. Eventually the second choice tankers found their way to Australia. By this time it was far too late to have averted the colossal scale of damage. If the Australian Government had leased the CL415s as an early preparation strategy, as suggested by the expert ex-fire and rescue commissioners, the immensely traumatic and destructive power of these fires could have been reduced or possibly minimised.

From this short history we can discern that:
1. The NSW, WA and Australian governments were deficient in their air tanker fire fighting capacity.

2. The Australian Government, having ignored the advice of fire experts to make timely preparations, eventually recognised the need for increased capacity and tried unsuccessfully to source air tankers from overseas. By this time it was far too late to save regional communities and vast expanses of bushlands from the merging mega-fires. This was preventable and the lack of planning for fire was utterly deplorable.
3. Given that the Australian government finally recognised the need for extra air tanker capacity, we now face the question: what will the government do in preparation for the 2020/2021 fire season, due to begin in six months time?

1.4 Any other matters

Indigenous land and fire management

We should immediately commence the development and scaling up of Indigenous fire management. As a matter of urgency, over the next five years, we should roll out a program in which Indigenous fire experts train Indigenous fire managers. We are advised by Indigenous fire expert Victor Steffensen in his book Fire Country: how Indigenous fire management could save Australia, that traditional methods involved the use of soft burning techniques. This meant that when fire did erupt it burned relatively cool. As argued in Section 1.1, the koala response to fire, to climb upwards, suggests that they evolved in a relatively cool burning fire regime.

Soft burning is substantially different to conventional cool-burn hazard reduction, both in methodology and outcomes. Conventional "cool" burning applications address the landscape scale. These do not account systematically for wildlife behaviour or the need to provide escape routes and proximal refuge areas.

Soft burning, on the other hand, produces a mosaic of areas in different stages of succession from recently burned to more established vegetation. It involves detailed locality fire applications that take account of the ways in which local (indeed micro-) topographies will influence the behaviour of the fire. An important objective is to ensure that wildlife is provided with escape routes and refuge areas, minimising interruptions to their life cycles. The locality and micro-scale is the scale at which we need to work if we are to manage for wildlife resilience, at the same time as reducing on-ground fuel loads.

This system of soft burning methodologies is a labour intensive strategy. We need to establish a large army of Indigenous fire experts who live in the areas that they manage. This way they will apply and develop traditional on-ground locality knowledge of topography and fire behaviour. There is a considerable body of Indigenous knowledge of wildlife life cycles and responses to fire. For example Francis Bodkin's book D'harawal: Seasons and Climate Cycles provides an account of the life cycles of numerous animal and plant species and of the traditional fire management strategies that supported these species. Indigenous fire managers will be able to collaborate with biologists so that these two knowledge systems can inform each other. The groundwork for such land management collaborations has been laid already by geographers and others, working with Indigenous peoples on research projects in northern Australia.

While I concentrate in this section on the need to employ Indigenous methods of fuel load reduction, the management of ground fuel loads is just part of the story, not the full story. As argued in Section 1.1, climate change brings new conditions of soil and canopy dehydration; and of extreme temperatures, which together, mean that fire is ignited in, and transmitted through the canopy level. So we need to address that change also. Therefore we need a mix of strategies, one of which is the purchase of a national fleet of fire-fighting air tankers to defeat hot burning canopy fires. And as this section argues, we also need the systematic training, development and deployment of Indigenous fire management methodologies. These strategies are costly and they require political and institutional will. However, this mix of strategies is both possible and essential if we are to navigate the future of climate change.

Land Clearing

Like the call for large-scale ground fuel burning, the call for large-scale clearing of bushland is naïve, counter-productive and fails to address the fundamental problems. Excessive clearing denudes protective layers and dehydrates the soil. As discussed in Section 1, soil dehydration encourages fire in a variety of systems, from forest to pastoral usage. Under the new regime of climate change, our interests lay in maintaining moist landscapes rather than to accelerate dehydration.

Land releases adjoining bushland areas

The NSW Government should put an immediate end to the release of Crown Land that adjoins bushland, for the purposes of residential or other development.

Supporting documents or images