

18/5/2020

Submission to the Inquiry into Lessons to be Learned from the Bushfires

Bushfires are a serious threat in the Australian landscape. I commend the Commonwealth and State governments for their work in managing the bushfires in the last season. There could be many lessons about how we can better manage and respond to the bushfire threat. With the recent devastation of the 2019-2020 “Black Summer” bushfire season, there needs to be serious consideration of how best to manage our natural landscape and prepare for bushfires. The threat of bushfires is worsening under climate change, requiring plans for adaptation and mitigation. I appreciate the incredible work that volunteer and career firefighters are doing to fight bushfires and protect Australian communities and the environment. I believe they should be given every possible assistance by various levels of governments to safely and effectively manage bushfires and the land. I also appreciate the work of community volunteers and other people involved in the bushfire efforts (including providing food or managing emergency shelters). The attention of the public has moved to the COVID-19 pandemic, but it will not be long before the fire season begins again.

Bushfires are a common feature of the Australian landscape, south-eastern Australia particularly prone to bushfires.¹ Periodic natural bushfires should be expected and welcomed, so far as they do not adversely threaten the natural environment or human life and property. Bushfires that occur naturally should generally be allowed to run their course. Moreover, “much of the Australian landscape has evolved with fire” with fire events essential for “fire dependent species and ecosystems.”² This includes killing off invasive species and allowing periods of rejuvenation. There are many ecological benefits from bushfires, including breaking down organic materials into nutrients and tree germination.³ The landscape can recover very quickly

¹ Legislative Council Environment and Planning Committee, Parliament of Victoria, *Inquiry into fire season preparedness: Final Report* (June 2017) 1-2; State of Victoria, *Royal Commission into the Victorian Bushfires* (2009), vii, 13.

² *Inquiry into fire season preparedness: Final Report* (June 2017), 2.

³ Commissioner for Environmental Sustainability Victoria, *State of Environment 2018: Fire (Fi) - Scientific Assessments III* (2018), 3, 25.

from “low intensity, patchy fires.”⁴ Environments have a minimum and maximum threshold for fire, meaning they need some fire but too much fire can pressure the system.⁵ However, severe fires can have a negative impact on the ecosystem, including killing native plants and animals.⁶ Unburnt areas can also have benefits in providing habitat to species.⁷ While fire has an important and natural place in the Australian landscape, several developments have altered the impact of fire. Firstly, humans, particularly since European settlement in the past couple of centuries, has impacted on the environment, including the “isolation of habitats.”⁸ Urban development has caused the landscape to become “highly fragmented,” impacting on animals’ ability to survive or adapt to fire events.⁹ Secondly, climate change is increasing the regularity and intensity of fires (evidenced most spectacularly in the 2019-2020 bushfire season). Some species can adapt to changes, others may move habitats, though others still may be pressured into extinction.¹⁰

The threat of climate change has pushed the Doomsday Clock to the closest to midnight in history, 100 seconds away (midnight representing civilizational collapse).¹¹ There is scientific consensus that “climate change that could devastate the planet is undeniably happening.”¹² The temperature in Australia has already increased by 1 degree, leading to an “increase in extreme fire weather” across Australia.¹³ Reports recognise that climate change is already impacting on

⁴ *Royal Commission into the Victorian Bushfires* (2009), 296.

⁵ *State of Environment 2018: Fire* (2018), 13.

⁶ *State of Environment 2018: Fire* (2018), 13.

⁷ *State of Environment 2018: Fire* (2018), 15; *Royal Commission into the Victorian Bushfires* (2009), 313.

⁸ Cambridge University Press, *The Garnaut Climate Change Review: Final Report* (2008), 141.

⁹ *Royal Commission into the Victorian Bushfires* (2009), 297.

¹⁰ *Garnaut Climate Change Review* (2008), 141.

¹¹ Bulletin of Atomic Scientists, *It is 100 seconds to midnight: 2020 Doomsday Clock Statement* (2020), 1-4.

¹² *2020 Doomsday Clock Statement* (2020), 4.

¹³ CSIRO and Bureau of Meteorology *State of the Climate 2018* (2018), 2.

Australia, including with bushfires.¹⁴ There is a “trend towards more dangerous weather conditions for bushfires” under the “intensifying impacts of climate change.”¹⁵ Climate change leading to a “much higher bushfire risk.”¹⁶ With south-eastern Australia already prone to bushfires, climate change “increases the risk of ignition” and “facilitates rapid and uncontrolled spreading of bushfires.”¹⁷ Bushfire conditions can be worsened during drought, which itself will become worse under climate change.¹⁸

The impact of climate change on bushfires has been discussed for several decades. The Black Saturday Royal Commission in 2008 stated “climate change has ... significantly raised the risk of bushfire threat.”¹⁹ Even in 2003, reports noted “recent extreme conditions cannot be ignored in the context of global warming.”²⁰ Scientists were warning “Increased incidence of bushfires of considerable intensity in future years as a result of ... climate change.”²¹ Concerning, climate change was predicted in 2003 to “even make rainforests more susceptible,” which we have seen beginning in some Queensland rainforests in the 2019-2020 bushfire season.²² Garnaut wrote in 2008 that “fire seasons will start earlier, end ... later, and ... be more intense,” the effects of which “should be directly observable by 2020.”²³ Garnaut’s prediction was made clear with the severity of the devastating 2019-2020 “Black Summer” season across Australia. Even in 2018,

¹⁴ Foreign Affairs, Defence and Trade References Committee, Parliament of Australia, *Implications of climate change for Australia’s national security* (May 2018), 10-12; Select Committee into the Resilience of Electricity Infrastructure in a Warming World, Parliament of Australia, *Stability and Affordability: Forging a path to Australia’s renewable energy future* (2017), 14-15.

¹⁵ *State of Environment 2018: Fire* (2018), 22-23.

¹⁶ *Garnaut Climate Change Review* (2008), 262; *Inquiry into fire season preparedness: Final Report* (June 2017), 72; *State of the Climate 2018* (2018), 22.

¹⁷ Select Committee into the recent Australian bushfires, Parliament of Australia, *A Nation Charred: Report on the inquiry into bushfires* (2003), 327-8.

¹⁸ *A Nation Charred* (2003), 307; *Garnaut Climate Change Review* (2008), 106.

¹⁹ *Royal Commission into the Victorian Bushfires* (2009), 292.

²⁰ *A Nation Charred* (2003), 308.

²¹ *A Nation Charred* (2003), 348.

²² *A Nation Charred* (2003), 308.

²³ *Garnaut Climate Change Review* (2008), 106.

there were “four states under extreme pressure from severe fire weather ... simultaneously.”²⁴ Impacts of climate change have been successively predicted and fulfilled.

The danger of climate change exacerbating drought and bushfires, and the resulting need for reducing emissions, has been raised at least since 2003.²⁵ The Blue Mountains Conservation Society advocated for the government to “address ... climate change in a more meaningful way.”

²⁶ The “global recognition of the catastrophic effects” of climate change underpinned the Paris Agreement (COP 21), creating a “global action plan to limit global warming to below 2 degrees.”²⁷ The degree to which Australia will be impacted by climate change, including the severity of drought and bushfires, will be determined by the amount of global emissions and the effectiveness of emissions reduction.²⁸ Our interests on land management and managing bushfires are strongly linked to action on climate change, which requires personal and diplomatic action to gain global cooperation on mitigation and emissions reduction. We also need to adapt to the projected impacts of climate change, to prepare the community and the economy to best withstand natural disasters such as bushfires. There is a clear need to “plan for and adapt to ... climate change.”²⁹ There is a serious urgency to adapt to the conditions projected under climate change, and to contribute action on mitigating climate change to the greatest extent possible. As teenage climate change action advocate Greta Thunberg called, “I want you to act as if our house is on fire. Because it is.”³⁰ The Glasgow Conference in 2021 will be an opportunity for Australia to show leadership in taking ambitious action on climate mitigation.

Hazard reduction or prescribed burning is one policy to reduce the risk of bushfires. These burns

²⁴ *Implications of climate change for Australia’s national security* (May 2018), 12.

²⁵ *A Nation Charred* (2003), 313.

²⁶ *A Nation Charred* (2003), 307.

²⁷ *Forging a path to Australia’s renewable energy future* (2017), 16.

²⁸ *State of the Climate 2018* (2018), 22.

²⁹ *State of the Climate 2018* (2018), 2.

³⁰ The Lancet Commissions, *A future for the world’s children? A WHO–UNICEF–Lancet Commission* (2020), 3.

aim to “reduce fuel loads at target locations to hinder fire intensity and spread rate.”³¹ This includes reducing combustible material such as “leaf litter and twigs, bark and undergrowth.”³² Prescribed burns “reduces the rate of spread, flame height and intensity of a fire.”³³ The build-up of fuel loads can increase the “risk of a catastrophic bushfire” occurring.³⁴ Properly managed, prescribed burning can be good for the environment in reducing the outbreak of devastating, high intensity fires that kill flora and fauna.³⁵ Prescribed burning cannot eliminate the incidence of bushfires, but it can make the conditions easier and safer to manage for firefighters.³⁶ Prescribed burns can also provide fire breaks or secure roads for firefighters and others to access the bushfire front or safely escape.³⁷ An effective range for prescribed burns includes 1000 hectares across 3-kilometre-long and wide, which can then catch bushfire embers.³⁸ There are perennial calls for greater prescribed burning.³⁹ Though, while prescribed burning is an important option, there are limitations that prevent it from being a panacea to the bushfire problem.

However, there are limitations to the use of hazard reduction burns. Factors include “weather, topography, and fuel loading.”⁴⁰ Prescribed burns are “always dependent on weather and fuel conditions” and cannot be done “when conditions are too hot and dry ... [or] too wet.”⁴¹

³¹ *State of Environment 2018: Fire* (2018), 20; *Royal Commission into the Victorian Bushfires* (2009), 15, 284.

³² *Inquiry into fire season preparedness: Final Report* (June 2017), 19.

³³ *Royal Commission into the Victorian Bushfires* (2009), 281-2.

³⁴ *Inquiry into fire season preparedness: Final Report* (June 2017), 19.

³⁵ *Royal Commission into the Victorian Bushfires* (2009), 15.

³⁶ *A Nation Charred* (2003), 47, 52; *Inquiry into fire season preparedness: Final Report* (June 2017), 19; *Royal Commission into the Victorian Bushfire* (2009), 281, 284.

³⁷ *Royal Commission into the Victorian Bushfires* (2009), 278.

³⁸ *Royal Commission into the Victorian Bushfires* (2009), 301.

³⁹ *Inquiry into fire season preparedness: Final Report* (June 2017), 23; *Royal Commission into the Victorian Bushfires* (2009), 15.

⁴⁰ *Royal Commission into the Victorian Bushfires* (2009), 292.

⁴¹ *State of Environment 2018: Fire* (2018), 5; *A Nation Charred* (2003), 304; *Royal Commission into the Victorian Bushfires* (2009), 292.

Estimates for suitable burning days range between 40 or even 10 days in a year.⁴² Climate change is restricting windows for prescribed burns by “increasing the length of fire seasons and ... number of days that have severe or extreme fire danger ratings.”⁴³ The Doomsday Clock warned that increasing “frequency, intensity, extent, and duration” of wildfires has made the “notion of a limited ‘fire season’ increasingly a thing of the past.”⁴⁴ Moreover, in extreme conditions such as Black Saturday 2009, the level of prescribed burning and fuel loads may not have a recognisable difference.⁴⁵ High intensity bushfires can sometimes burn through the landscape, including through the tops of trees, regardless of hazard reduction preparations. It is not clear whether greater hazard reduction burning would have been effective leading up to the 2019-2020 “Black Summer” season, particularly where much of Australia was experiencing Code Red conditions. Certainly, hazard reduction policies were not responsible for the near unprecedented extreme weather conditions, attributable to climate change.

It is important to “understand fire better” and manage the local environment, rather than simply “burn more.”⁴⁶ In some areas such as around Sydney, “fuel accumulates more rapidly than hazard reduction can reasonably remove it” by regenerating every three years or so.⁴⁷ In some circumstances, prescribed burning can be counterproductive by making the vegetation types more flammable.⁴⁸ There is a “mutually beneficial” relationship between weeds and feed, with weeds seizing “open ground following high intensity fire” and thus “dramatically increase fuel loads” for future fires.⁴⁹ Prescribed burns can be damaging to biodiversity and local flora and fauna, which needs to be considered.⁵⁰ There also needs to be consideration of what prescribed burning is aiming to do. Prescribed burns are mainly effective “within one kilometre of urban

⁴² *A Nation Charred* (2003), 304; *Royal Commission into the Victorian Bushfires* (2009), 15, 292.

⁴³ *Inquiry into fire season preparedness: Final Report* (June 2017), 74.

⁴⁴ *2020 Doomsday Clock Statement* (2020), 6.

⁴⁵ *Royal Commission into the Victorian Bushfires* (2009), 283.

⁴⁶ *A Nation Charred* (2003), 296.

⁴⁷ *A Nation Charred* (2003), 305.

⁴⁸ *A Nation Charred* (2003), 60-63.

⁴⁹ *A Nation Charred* (2003), 63.

⁵⁰ *Royal Commission into the Victorian Bushfires* (2009), 278; *Inquiry into fire season preparedness: Final Report* (June 2017), 15-16.

areas, and especially within 300 metres.”⁵¹ Burning in wilderness and bush is ineffective and unnecessary in protecting urban property.⁵² In Victoria, targets for hazard reduction burning were increased based on bushfire inquiries, such as the 2009 Black Saturday Royal Commission.⁵³ In Victoria, hectare targets were replaced with a “risk-reduction target” to provide a more targeted approach.⁵⁴ This focuses on securing “strategic areas near housing and infrastructure” with a “high chance of fire impacting on people and property.”⁵⁵ By focusing on local objective (i.e. protecting a certain property), you can potentially avoid unnecessary burning that comes from an arbitrary, state-wide target. There are other methods such as slashing, mowing and chemical herbicides, which can also reduce fuel loads.⁵⁶ These are more expensive but less dependent on weather conditions. There may need to be greater consideration and funding of these methods in the future. The costs of undertaken prescribed burning or other methods should be compared with the costs of suppressing bushfires, since early preparation can be cheaper than reacting to severe bushfires.⁵⁷ Thus, there should be funding where necessary and requested by emergency services and firefighters to manage the landscape. Hazard reduction is not limited to burning, but can include other preparation measures, including clearing flammable items off property. Fire preparation should include the community as well, managing fire is everyone’s responsibility.

Recently there has been much more welcome attention on Indigenous fire practices. There are benefits to utilising the traditional cultural and scientific knowledge of the Indigenous people about the landscape and managing the threat of bushfires. Indigenous peoples have practiced burning for some 40,000 years for various reasons.⁵⁸ This provides a tremendous source of

⁵¹ *A Nation Charred* (2003), 305.

⁵² *A Nation Charred* (2003), 298-305.

⁵³ *State of Environment 2018: Fire* (2018), 5.

⁵⁴ *State of Environment 2018: Fire* (2018), 5.

⁵⁵ *State of Environment 2018: Fire* (2018), 20.

⁵⁶ *Inquiry into fire season preparedness: Final Report* (June 2017), 51.

⁵⁷ *Royal Commission into the Victorian Bushfires* (2009), 295.

⁵⁸ *Royal Commission into the Victorian Bushfires* (2009), 289.

knowledge about land management and burning practices that we can draw on.⁵⁹ The nature of “Indigenous mosaic ‘cool’ burns” means they can be done when other prescribed burning would be unsafe. Hence, they could give greater flexibility to fire managers to reduce fuel loads, in a way that benefits both human and environmental demands.⁶⁰ Indigenous burning practices are done for “biodiversity” and to “look after that country and make it rich so that everything benefits.”⁶¹ It is worth drawing on Indigenous knowledge and expertise as to how we can best implement prescribed burning according to the conditions of each local environment. Traditional burning practices are already being used in some places, and these programs should be expanded upon and shared across Australia.⁶²

The threat of bushfires to humans has been exacerbated by the expansion of human development into the bush.⁶³ Where before firefighters could let bushfires run their natural course without intervention, now they are compelled to intervene to protect human life and property. This could include having to do more prescribed burning to protect residences, which may conflict with local environmental needs. Even prescribed burns have the potential to get out of control and threaten forest properties, making such development unsafe.⁶⁴ Residential development in bushfire hazard areas has thus been described as “neither economically, socially nor ecologically sustainable.”⁶⁵ Eventually, the growing threat from severe bushfires may make some regions uninhabitable and compel “communities and industries to relocate.”⁶⁶ Rather than waiting for this to eventuate, there have been calls for the government to be proactive in regulating

⁵⁹ *A Nation Charred* (2003), 50; *Inquiry into fire season preparedness: Final Report* (June 2017), 74.

⁶⁰ *Inquiry into fire season preparedness: Final Report* (June 2017), 74.

⁶¹ *Inquiry into fire season preparedness: Final Report* (June 2017), 30.

⁶² *Inquiry into fire season preparedness: Final Report* (June 2017), 109.

⁶³ *Inquiry into fire season preparedness: Final Report* (June 2017), 1; *State of Environment 2018: Fire* (2018), 3; *A Nation Charred* (2003), 302; *Royal Commission into the Victorian Bushfires* (2009), 1, 13.

⁶⁴ *Royal Commission into the Victorian Bushfires* (2009), 292.

⁶⁵ *A Nation Charred* (2003), 302

⁶⁶ *Garnaut Climate Change Review* (2008), 400

development, including restricting access to areas with high bushfire risk.⁶⁷ Recommendation 39 of the Black Saturday Royal Commission called for “substantially restricting development in the areas of highest bushfire risk.”⁶⁸ Given increasing threat of bushfires and subsequent pressure on our emergency services, we need to be sensible about how we relate to the landscape. Reducing high risk development would help protect the community while also relieving pressure on emergency services and the natural ecosystem.

Severe bushfires have a serious impact on the economy. Bushfires can have a direct impact by destroying infrastructure, crops and livestock. The flow on effect is the loss of tourism. Many people have been cancelling their trips, even at the height of the tourist season. This has a devastating effect on tourist operations and rural communities. Tourists may err on the side of caution, declining to visit areas that are safe to visit. The air pollution from bushfires has also flowed on to urban areas. This has health problems, which will place a burden on the economy and the healthcare system. It also discourages tourism and related activities, as people are compelled to stay away or at least only do indoor activities. This can impact areas well away from the immediate bush fire zone. Even camping in Wilson’s Promontory on the southern tip of Victoria in January, we were still affected by bush fire smoke. I have been heartened by the solidarity of the Australian community considering the recent bushfires. The generous spirit of the community has led to many charitable donations, including from charity events at the Australian Open tennis. There was also the campaign to show that “Australia is open” for tourism. Unfortunately, the COVID-19 pandemic has compounded the economic struggles of bushfire affected communities, keeping tourists away and delaying their recovery. It is important that we do not forget these communities.

These issues may be explored in greater depth in the Royal Commission on National Natural Disaster Management (RCNNDM) and other Parliamentary Inquiries happening concurrently. The work of this inquiry will be a good contribution to the public conversation about how we can better manage and adapt to changing bushfire conditions.

⁶⁷ *Royal Commission into the Victorian Bushfires* (2009), 13-14, 31; *A Nation Charred* (2003), 302.

⁶⁸ *Royal Commission into the Victorian Bushfires* (2009), 31.

Benjamin Cronshaw

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Thank you for considering my submission.


Kind Regards,

Benjamin.

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