Scott Wyatt - submission to the NSW independent expert inquiry into the 2019-20 bushfire season

General comments

Though I reside in the ACT, I have a valid, serious interest in the 2019-20 bushfire season and NSW bushfires in general for the following reasons:

- I am an Australian citizen.
- Almost all of my recreational activities are in NSW. Many of these activities are in highly forested / bush areas, including national parks and other protected areas.
- Fires in NSW can readily move into the ACT.
- Smoke from unplanned and planned fires in NSW can reach the ACT. Clearly the 2019-20 season provided stark evidence of this.
- The ACT is a very small jurisdiction surrounded by NSW.

Informed by the testimonials and submissions, the inquiry's deliberations, analyses, findings and recommendations should be primarily guided by expert, evidenced-based input. In determining its recommendations to mitigate risk for future bushfire seasons, the inquiry will need to reconcile sometimes competing objectives. The inquiry should carefully review past recent inquiries into major bushfire events, for example the 2009 Victorian Bushfires Royal Commission (notwithstanding my later comments on blanket hazard reduction burning targets). Clearly, many important lessons can be drawn from these reviews. However, this inquiry should take account of the fact that our scientific understanding of aspects of bushfire will have evolved since these past events (e.g. the effects of climate change). Some findings pertaining to these past fires could be less relevant going forward, but an appraisal of what lessons can be drawn from previous inquiries could still be a very useful exercise. Finally, the 2019-20 fires may well be without precedent in terms of scale and duration, and in other respects, such as their prolonged effects on air quality impacting millions of people for weeks on end.

Causes and contributing factors

While determining the direct causes of the 2019-20 fires might be relatively straightforward (lightning, arson, accidental ignition by equipment / infrastructure), the indirect contributing factors may prove more contentious. It seems the prolonged drought, coupled with a run of high / extreme fire danger days created a dangerous, perhaps hitherto unprecedented, confluence of conditions. The question of to what extent anthropogenic climate change played a part in this tragic fire season should be addressed by climate scientists, meteorologists, forest ecologists and relevant professionals.

The comments in this submission pertain to bushfire planning and preparedness in general – now and into the future, rather than specifically in regards to the 2019-20 season. In particular, I would like to address the key issue of prescribed burns / hazard reduction burning and hazard reduction activities in general.

The built environment

This inquiry presents an opportunity to undertake a serious, honest appraisal of residential and commercial building codes, in relation to fire risk in bushfire-prone areas. Furthermore, the state government should consider educational campaigns or other measures to inform and encourage the public to improve the bushfire resilience of the existing building stock (e.g. renovating guttering systems to prevent the build-up of leaves or their ingress into roof cavities). The potential merits of carefully designed rebate schemes to further incentivise these sorts of measures for low income

households could be evaluated by the NSW Government and could have particular currency given the desire to stimulate the economy to counter the covid 19 impost.

Planning instruments that apply in bushfire prone areas should also be re-evaluated in light of the increasing threat to ensure that new dwellings are not built in areas that are especially vulnerable to fire and difficult to defend.

Hazard reduction burning

Though burning to reduce fuel loads is one risk mitigation tool, it's not the only one. The maintenance of better buffer zones at the bush-suburban interface should be considered and should be guided by scientifically valid advice. Similarly, encouraging the planting of less fire-promoting / less flammable species in bushfire-prone suburbs could play a part, albeit a small one, in overall risk reduction strategies. Apparently, there are both exotic and native plant species which meet this criterion. The removal of dead wood, fallen branches, leaf litter etc in bushfire prone areas near suburbs or infrastructure should be encouraged in a systematic way with possible public campaigns in the lead up to the fire season. Where necessary, regulatory barriers to the sensible removal of such fuel sources in these particular areas may need to be addressed.

Prescribed burning / hazard reduction burning will no doubt have a valid and important place in risk mitigation going forward, as it does now. However, I fear popular calls to simply increase such burning may be misguided and do not properly account for the complexities, costs, risks or limitations as a bushfire risk reduction tool. Hazard reduction burning is no panacea. Having reviewed much expert commentary on this issue and coming from a background in ecology, I am deeply sceptical that setting arbitrary hazard reduction burning targets constitutes informed public policy (e.g. 'X percentage of public land per year should be burnt'). However, strategic, carefully targeted burning, for example, within a certain buffer of suburbs or infrastructure may be justified. I am certainly not opposed to more widespread planned burns *per se*, but only implore that they be done in a carefully planned, targeted and strategic manner – taking full account of the risks, costs, and air quality and biodiversity impacts. In general, with respect to hazard reduction burning, one needs to consider:

- What fire regime / fire frequency and timing needs to be maintained in order to genuinely provide sufficient risk reduction, when weighed against costs such as impacts on air quality and biodiversity, or the possibility the hazard reduction burn might get out of control and damage property or threaten lives?
- Air quality is a very important consideration. How many people are likely to affected by more frequent planned burning and for how long?
- What will be the impacts on biodiversity? This is an extremely important, complex question and will have many location-specific considerations. Depending on the proposed prescribed burning timing, frequency etc. some native species may actually benefit, for example, through 'mosaic burning'. Others could be threatened. The answers will likely very much depend on the location and the ecosystem in question.
- How are the windows for hazard reduction burning changing as Australian climatic variables continue to shift under climate change? Further research may be required to adequately answer this question.

Even from a strict fuel reduction point of view, hazard reduction and hazard reduction burning in particular have limits, particularly under extreme / catastrophic conditions, where fires can propagate and pose serious risks to life and property, even in landscapes with seemingly greatly

reduced combustible material. It is important the public understands the latest scientific advice on this and that under some conditions dangerous fires can develop even where hazard reduction burns take place.

It is imperative to understand the possible effects of hazard reduction burns in specific locations in potentially encouraging the proliferation of fire *promoting* plant assemblages i.e. what are the chances we will inadvertently create an environment which actually favours even more flammable species, than under less frequent fire regimes?

Greater hazard reduction burning may have implications for the management, and potential increasing burden, of many taxa of alien invasive species. In some cases, this needs to be adequately understood before new fire regimes are introduced.

Electricity infrastructure risks

Regardless of whether electricity infrastructure failings ignited any fires in NSW during the 2019-20 season, it has clearly been a major issue in the past in some jurisdictions. The NSW Government should therefore urgently review standards, safeguards, and investment requirements for electricity networks in high risk areas. There may be elements of the 2009 Victorian Bushfires Royal Commission which could be relevant for NSW.

Land clearing

It's reasonable to review land clearing / vegetation management legislation to ensure that they are not an impediment to minimising bushfire risks to property, especially in rural settings. However, this should not open the door to landholders and land managers clearing native vegetation on the pretext of fire mitigation, when it imperils biodiversity and public amenity values.

Indigenous burning

Calls to revert to indigenous past practices in respect to planned burns may have merit, in some specific locations. However, policy makers need to consider issues such as:

- What actually were the practices in that specific area?
- How has the biodiversity likely changed since previous burning practices ceased?
- Are past fire regimes still appropriate in a given area, given the changing climate, other pressures on biodiversity, and land-use changes in adjacent areas?

Cooperation with other jurisdictions, the Commonwealth and international partners

How to improve state-state, state-Commonwealth cooperation and coordination should be considered, as should the usefulness of international offers of assistance and how best to plan for and make use of these. Robust, clear systems need to be established well ahead of the next fire season.

Protection of high value natural assets / endangered species / ecosystems

Consideration should be given to the balance in fire-fighting efforts to saving private property, which is of course crucial, and saving natural assets of great significance. It was heartening to see that, due to the tremendous efforts that the National Parks Service and others, the Wollemi Pine's habitat was saved. However, there may be other examples of habitats of endangered species that should also be prioritised in fire-fighting efforts, where possible.