

Submission Number: NND.001.01114

Submission Of:

Your Details

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What is your submission based on? I am making this submission based on my professional knowledge, qualifications or experience or on behalf of a group or organisation

What is your area of professional expertise?

If you are lodging your submission on behalf of a group or organisation, what is the name of the group or organisation?

Your Submission

In your experience, what areas of the bushfire emergency response worked well?

In your experience, what areas of the bushfire emergency response didn't work well?

In your experience, what needs to change to improve arrangements for preparation, mitigation, response and recovery coordination for national natural disaster arrangements in Australia?

Is there anything else you would like to tell the Royal Commission?

Do you agree to your submission being published? Yes I agree to my submission being published anonymously

Supporting material provided:

Submission Bushfires Royal Commission 2020.pdf

Submission Bushfires Royal Commission 2020

The bushfires that devastated forests along the eastern coast of Australia have left ecological damage that will take decades to recover. These fires occurred at a time when many species had already been pushed close to extinction. Australia already faced an extinction crisis before the fires but the situation is now much more perilous. It is hoped that the Royal Commission will recognise the desperate plight of so many species and make sure that biodiversity conservation remains a key goal of the Royal Commission.

I also hope that Royal Commission will recognise that the combination of drought and increased temperatures in recent years has been driven largely by climate change and there is a need to adapt firefighting to cope with these conditions which will become more prevalent.

Management of bushfires

Since the fires, there has been increased pressure applied to Governments to increase forest fuel reduction burning. Many of these advocates believe that the only tool available to fight fires is controlled burning.(1)

All these fires start as small fires often started by increasingly prevalent dry lightning strikes. Unfortunately, for reasons that are not at all clear, these fires are often not quickly attacked but are allowed to grow into large conflagrations. This point was made by ██████████ in a comment to a recent article by ██████████ in the Conversation (2). ██████████ supports controlled burning but stated:

I am glad you have raised this because it should be a major issue that is examined in the upcoming Royal Commission, but has not yet been mentioned anywhere. It is becoming clearer that changed fire-fighting strategies, protocols and practices that have departed from the former 'whatever-it-takes' approach is responsible for much of the increasing area being burnt in recent seasons.

Aside from the Deddick Trail-Goongerah fire, there have been other documented failures of first attack at Wye River 2015, Harrietville 2013, and Geeveston in Tas 2019. Collectively these fires burnt 300,000 ha, when they would have burnt maybe 50 ha if they had been more urgently attacked at the start.

Like you I am concerned that the discussion so far has largely been about doing more hazard reduction burning, because the benefit of this will be wasted if our fire-fighting systems are incapable of taking advantage of the opportunities for quick containment of small fires that it provides.

The Deddick Trail-Goongerah is a particularly instructive case study in the failure to tackle fires early and resulted in a special investigation in to why resources were not made available to attack the fire (3)

Despite the assurances made in this report, the Goongerah community was again severely burnt in the 2020 fires and again there was no attempt to tackle the initial fire.

After the extensive fire in 2014 which burnt over 160,000Ha, some of this forest was burnt again in the 2020 fires demonstrating once again that in the face of extreme fire weather, fuel reduction is of little use in stopping bushfires.

Please make a full investigation into the reasons the small communities around Goongerah were again let down with no initial attack on the 2020 fires.

I appreciate that some fires in remote areas are very difficult logistically to fight. Nevertheless, the 2020 fires showed that given sufficient resources, difficult terrain such as the area around the Wollemi tree reserve was defended from intense fire.

I believe the Royal Commission must reject the idea that the only tool we have to control bushfires is fuel reduction burning and ensure fire fighters have all the equipment and training needed to attack fires early and effectively.

As ██████████ stated, there needs to be a shift to a much more aggressive initial attack so that the small initial fires are no longer allowed to develop into major conflagrations.

Some suggestions to meet this objective are:

a) Night firefighting capability

██████████ has pointed out (4) that in recent years small fires have started when it is dark and developed into major conflagrations overnight. This was one of the major complaints from Goongerah residents in 2014 when firefighting the initial outbreak was suspended overnight.(3)

I would hope that the Royal Commission will look at the provision of suitable equipment such as night vision equipment and thermal cameras so that crews can locate initial fire outbreaks as early as possible and continue fighting fires through the night

b) Early detection of fires

Many fires are now being started as a result of dry lightning strikes. Indeed some parts of the country such as northern Tasmania are now starting to see this type of event for the first time.

In Victoria, Forest Fire Management Victoria uses the Australian lightning detection network to identify parts of the forest hit by lightning strikes. Following lightning strikes, they have access to a small fleet of light aircraft that have equipment to verify that a lightning strike has started a fire.

Due to the small number of aircraft and their limitations, it appears that there can be a considerable delay in locating a fire.

Although the current lightning network can report the size of the current generated by a lightning strike, it currently has no capability of reporting the continuing current produced by a lightning strike.

████████████████████ at the Victorian Department of Environment, Land Water and Planning told me (5)

This data [from the lightning detection network] cannot tell us which strikes have started fires ,so we use a range of resources and services to detect fires as a result of lightning. Across Victoria after a lightning storm, several fixed wing and helicopter "spotter" aircraft are deployed to detect new starts.

When lightning strikes, the current may be applied for only a short time. However, in about 11% lightning strikes , current can be sustained for hundreds of times longer than usual strikes and it is these types of strikes which are most likely to produce a fire

However, last year a lightning network company that does not operate in Australia (Vaisala) announced that they would begin using data from Geostationary Lightning Mapper satellites to provide this crucial data.(6)

Clearly, having access to this type of data could greatly assist fire fighters in identifying lightning strikes most likely to trigger fires and I hope the Royal

Commission will investigate the usefulness of this improvement to the current lightning detection system.

c) Remote area specialists

Fires are sometimes started in remote areas that are difficult to access. I would ask that the Royal Commission look at the expansion of specialist teams that can access remote areas faster and tackle fires early. This may need to include the development of new equipment to enable accessing difficult terrain.

- 1) ██████████ “There’s only one way to make bushfires less powerful: take out the stuff that burns”, The Conversation 6/1/2020
- 2) ██████████ “The burn legacy: why the science on hazard reduction is contested”, The Conversation 20/2/2020
- 3) Emergency Management Victoria, “Goongerah Deddick Trail Fire Community Report” July 2014
- 4) “Major fire changes needed:Lapsely”, The Age 28/4/2020
- 5) ██████████ personal letter 7/2/2020 DEWLP Ref MIN 068773
- 6) ██████████ “What is hot lightning? These strikes are more likely to start wildfires”, IEEE Spectrum 2/8/2019