

To: NSW INDEPENDENT BUSHFIRE INQUIRY

22 May 2020

I wish to contribute the following comments to the Bushfire Inquiry.

I have daughter who participated as a volunteer with an RFS team battling bushfires, notably the mega fire spreading eastwards from Gospers Mountain.

### **Early Detection**

I would like to see the very early detection of fires, and innovative measures to target them at source, before the blaze has time to spread. The extinction or suppression of a fire while it is still small in size would be a challenging and difficult task, but far less daunting than attempting to fight the fire when it has developed into a major conflagration with an extensive fire front rapidly spreading across the landscape.

### **Technology**

The early detection of fires, especially in remote areas, may require more sophisticated technology and satellite data to detect infrared (heat) sources. Once a fire source is detected, innovative methods would be required to douse and contain the fire before it spreads.

Volunteer firefighters do their best to protect life and property and their efforts are admirable and praiseworthy. However, the size and intensity of some bushfires creates a dangerous environment that in many situations is beyond fire fighters to control. If effective, greater dependence on technology to target and suppress a bushfire before it gets out of control, would help to reduce the exposure of firefighters to dangerous situations at the front-line.

### **Task Force**

A new task force could be set up with scientists, technologists and ecologists to devise more sophisticated ways of managing and controlling bushfire that is a threat to the environment, life or property. With existing technology: drones may have a useful role in detecting the source of fires; remote controlled aircraft may have a role in dousing or suppressing the fire.

### **Communication**

Use of satellite technology for communication? Dependence on poles and wires is not reliable in a major bushfire event. Some rural and remote locations are out of range for mobile phone reception.

### **Mitigation Measures**

The vast extent of the bushfires has resulted in a devastating loss of native flora and fauna. The toll on our native wildlife is tragic and conserving remaining areas of habitat is important. In response to the bush fires, I would not like to see even more drastic measures imposed for hazard reduction, as this is likely to result in the further loss of habitat in surviving remnants.

### **Hazard Reduction**

Hazard reduction has a role in reducing bushfire risk, but it is not the solution. Initially, hazard reduction burns gave priority to the protection life and property, and the environment. Over the years, consideration of the environment has diminished, and possibly been allowed to drop off the list altogether. With too frequent burns I have observed formerly diverse habitats become almost lifeless with a changed ecology restricted to only a few plant species that can survive frequent fire. Hazard reduction that results in increased fire frequency will also favour fire prone vegetation.

## **Mosaic Burning**

Some years ago I attended a most interesting talk by an entomologist on bushfire management. National Parks and Wildlife Service officers were present also. The message stressed:

- 1) the importance of insects and the role they play in reducing fuel loads and
- 2) the preference for mosaic burning that allows for recolonisation of burnt areas.

Mosaic burning has a number of advantages:

- Avoids too frequent burning across a wide area.
- Allows for recolonisation of insects, flora and fauna from surrounding areas.
- Retains biodiversity and habitat specific to an area.

Insects have an important role in the ecology.

- As a food source: about 60-70% of birds are insectivores.
- Insects help to break down debris such as dead wood and leaves.
- Insects can help to reduce fuel load at ground level.

Managing the natural environment to sustain biodiversity will encourage the recovery and conservation of our native flora and fauna. This objective should be considered alongside mitigation measures adopted to reduce the risk of bushfire.

## **Low fire prone vegetation**

- Avoid burning natural areas with a relatively low bushfire risk.
- This includes riparian land, creek corridors, moist gullies and rainforest areas.
- Vegetation strata in these areas are adapted to a moist environment.

## **Trees**

- Good shade cover can prevent excessive drying of soils and vegetation underneath.
- Trees can also intercept embers
- Trees that are less fire prone would be more suitable for planting near to homes.

## **Reducing Bushfire Risk**

- We cannot eliminate the risk of bushfire.
- However, we can avoid building in high bush fire prone locations.
- We can also design and construct buildings that will better withstand bushfire.

## **Global Weather Pattern**

The prolonged dry weather was associated with the Indian Ocean Dipole:

- warmer sea surface temperatures in the western Indian Ocean relative to the east
- easterly wind anomalies across the Indian Ocean and less cloudiness to Australia's northwest
- less rainfall over southern Australia and the Top End. (Source: BOM)

**Climate Change** is associated with ocean temperatures and is a potential causal factor of the differential warming of the Indian Ocean. The importance of addressing Climate Change cannot be ignored if we are to reduce bush fire risk in the long term.

Yours sincerely

Ann Sharp