

**Submission Number: NND.001.01304**

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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?

The fact that so much country was burnt and so many peri-urban areas impacted, yet so few lives were lost is a testament to a vastly improved early warning system. Fortunately the early signs were obvious with this fire season and authorities were in the most part on the front foot with warning the public about the season as it unfolded. Fire agencies generally worked well as one throughout the emergency and what worked best was when divisions on the fire ground we clearly defined, a Divisional Commander was appointed who planned the strategy and managed all resources on a given division of the fire. On occasions when this did not occur things did not work well and strategies were either inappropriate or poorly implemented resulting in ultimate failure and wasted resources. When Divisional Commanders were experienced locals with good geographical knowledge, strategies were better, timely decisions were made with confidence and resources were managed more efficiently and effectively. I was a Divisional commander for weeks on end based out a Taree in NSW. With local knowledge, 20 years of fire experience, a skilled and adequate workforce and good intel on forecast weather I was able to successfully establish over 70km of containment lines on 3 separate fires between September and December. These containment lines were where these fires were ultimately halted causing no further damage. This was at the height of the bushfire crisis in Northern NSW at a time when very little successful containment was being undertaken elsewhere and homes were still being lost. What I found worked well;

- 1) Well defined and logical Divisional boundaries with adequate resourcing
- 2) An emphasis on placing planned containment lines in locations which have the greatest chance of success, such as sites out of the prevailing wind or in recently hazard reduced areas
- 3) Placing planned containment lines well ahead of the running fire so that adequate preparation could be conducted with heavy machinery (including dangerous tree removal)
- 4) Ensuring all proposed containment lines or extinguished fire edge is tracked with a mineral earth track at least 3m wide. This I have learnt is essential during drought conditions as anything less has proven unsuccessful on more than one occasion.
- 5) Ensuring what I term "Black to Track" meaning if a mineral earth track is constructed as a containment line then it must be either backburnt off or allowed to burn out completely to the edge otherwise the track will not be an effective containment line when the fire weather worsens. Water bombing, retardant lines and tracks expected to stop running fire as it approaches are all inferior strategies under the conditions we have just experienced.
- 6) Having dedicated backburning crews on swing shift whose only task was to help prepare containment lines and conduct backburning allowed dedicated resources to conduct this most critical task without being redeployed or re-tasked midstream. These crews were often out of area crews.
- 7) Commencing backburning at times of decreasing fire danger usually late in the day and only planning achievable chunks in one shift was key to my success. Commencing later in the day reduces the amount of mop up required, reduces spotting potential, and allows crews to changeover or depart the fire ground at less critical times in terms of fire potential generally. I saw others fail who commenced at start of shift in the morning who were overwhelmed by fatigue and increasing fire danger late in the day as shift changes were being attempted.
- 8) Having for the first time updated (usually twice daily) Linescan on a IPAD on the fire ground via Forestry Corporations map app was key to planning successful containment and warning the community of approaching fire. This map app was also a hugely handy tool in managing the vast information flows to and from the fire ground and into and out of the Incident Management Team
- 9) Utilising heavy plant and operators that are equipped and used to working in the bush is critical to successful and safe fire containment. It is essential that timber workers and their plant is kept operating in the forest otherwise our ability to contain fires safely and effectively in rugged forested terrain going forward will be greatly compromised.

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

Preparedness was the greatest human influenced contributing factor for this bushfire emergency. Humans cannot control the drought or the prevailing weather however we can have a profound influence on the fuel type and quantity and ultimately the behavior of fires under such conditions. There have been 58 enquiries, reviews and royal commissions into wildfires since 1939 and a common recommendation from the majority of these has been to increase the level of hazard reduction burning. It seems governments, agencies and landowners have dropped the ball in implementing regular landscape scale hazard reduction burns. The research and experience is there that shows hazard reduction burning is the most cost effective means to mitigating the tragic impacts we have just experienced. Spending vast amounts of money on suppression is not reducing the impacts of intense wildfires, we have just witnessed that. All fires start small and, if detected early, an adequate response launched and fuel loads at manageable levels where they break out they can be kept small and damage to the environment and human assets greatly reduced. I believe in at least some cases we failed on all 3 fronts.

- 1) Early detection- In NSW the only agency that mans strategic fire towers dotted amongst our rangelands is forestry corporation. These towers were built to facilitate early detection and accurate location of fires when they break out under high fire danger ratings. Whilst the technology is old and the resourcing of it is inadequate, manning these towers is one of the only effective ways we can detect fires and locate

them quickly in remote country yet only one agency utilizes this technique. Other agencies rely on air surveillance when it is available or 000 calls which is hit and miss at best especially in remote forested landscapes. NSW and other states would do well to invest in more of these towers in strategic places and man them on days of high fire danger.

2) Adequate response- to launch an initial response to a wildfire you need crews on the ground within 2 hours of detection with personnel, appliances and plant capable of finding potential containment lines and commencing containment line construction immediately. In most instances this will be possible and containment successful. Occasionally terrain and weather make this a bit more of a longer term strategy but even then containment should be able to keep fires relatively small. This fire season became serious when early season fires were not contained under mild conditions and grew to large complex fires which were impossible to manage under worsening conditions. Keeping early fires small is essential in mitigating the impact of such serious fire seasons. In many cases I could see crews sent out as initial attack were not suitable for the task at hand and quickly realized this themselves. There are 3 types of skill sets in fire fighting resources: urban, rural and forest. Decision makers need to realise that sending rural, or worse, urban firefighters to respond to forest fires is as stupid as sending a dentist to fix a car. Forest fire fighters, particularly locally based people, used to the terrain and strategies to contain forest fires are essential to contain fires that kick off in remote forested landscapes. These resources seem to be getting scarcer as time goes by particularly with the erosion of forest agency resources on the East Coast.

3) Fuel loads- As mentioned previously a major contributing factor to the size and ferocity of the fires we have just experienced is the amount of long unburnt fuel in our forested landscape on ALL tenures. There are few successful landscape scale hazard reduction programs being implemented in this country. This commission would do well to study these and what is working for them. In NSW, at least, if not the entire east coast hazard reduction burning has dropped away in the last 30 years to be nothing more than a token effort. I often hear ill-founded opposing views about hazard reduction burning being not effective at stopping fires therefore not saving lives or saving wildlife. My experience and training as a forester and ecologist tells me otherwise. Regular hazard reduction burning will not stop wildfires but it will facilitate safe and effective ground based control of fires when they break out. Regular low intensity burning at landscape scales is what our forests and forest dependent species are adapted to. Modification of this ancient human induced regime of fire has caused more habitat degradation than any other factor in our east coast forests and its no coincidence it is a major cause of our ever increasing wildfire impacts. Climate change will only make matters worse going forward.

This commission should investigate how and where these 3 factors failed us in keeping these fires small.

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

Australia needs a drastic rethink in how it manages its forested landscapes. People who own private forest need to be held accountable for the risk that they may be creating for others by not treating the fuel load on their property. If private property owners build assets in risk zones they should be responsible for the protection of them, not volunteers or professional fire fighters. Government owned land needs a tenure blind approach to fire management with a massive shift of expenditure from suppression to a spend on mitigation across the landscape not just at interface. Legislation around fire regimes needs to change to reflect what Australian bush is adapted to not the most conservative risk averse option. Deciding on a threshold should be easy. There are plenty of examples around and plenty of research to guide this. Studying traditional fire regimes applied by our indigenous people is a good place to start but thinking we can restore that regime across the landscape is flawed as our landscape is vastly different now what it was to pre 1788. However some science based regime around protecting biodiversity and built assets could be developed and a funding model built to ensure its long term implementation. RFS in NSW is funded by the fire levy on various insurance policies. Why can't a cross tenure forest fire preparation program be funded by a similar user based revenue stream? My experience has shown me a one off treatment of hazard reduction is not the silver bullet solution to wildfire woes, rather a pragmatic long term regular fire regime aimed at promoting grass understory and reducing mesic understory development across the landscape. These grass dominated fuel types allow fire fighters safe and effective close containment options and reduce spotting distances on days where close containment is not possible. Grass fuel types also widen the hazard reduction burning window. Narrowing burning windows is another issue the hazard reduction opponents often wave around. Australia needs many more dedicated professional forest fire managers who work full time at planning such mitigation works and educating the community about wildfire hazards among other things. These people would prove an effective fire fighting resource in times like we have just had because they would know their country and come "match fit" ready to fight fires. While it is amazing we have so many volunteer fire fighters in Australia, these people are not the resource to be making big decisions on the fire ground or fighting fires in the most difficult terrain and conditions. I don't believe we need to enhance our volunteer fire fighting brigades just yet. Perhaps fitting them out with more appliances to fight fires in forest environments could be looked at. I was quite surprised how inadequate and how quickly our volunteer resources became overwhelmed in this recent fire season. Forestry and to a lesser extent National Parks resources were far more resilient and versatile and in fact became the leaders on many of the most successful fire fighting campaigns.

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

Rural subdivision, illegal dwelling construction and peri-urban development in known fire paths over the last 20-30 years has created a massive obstacle for cross tenure forest management and fire fighting efforts on the east coast. Although difficult and somewhat a romantic notion, some reversal of these effects would have a great positive effect on future wildfire preparedness and suppression. We have a great opportunity to learn about wildfire paths and where we need to focus our future efforts. Let's learn from this disaster and use science and experience to inform future planning, resourcing and strategies. Thankyou for the opportunity to lodge a submission.

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