



Committee Secretary

**House Select Committee on the
Recent Australian Bushfires**

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HOW TO IMPROVE OUR FIRE SUPPRESSION CAPABILITY

Judge Stretton was appointed to conduct Royal Commissions in Victoria in 1939 and 1944 into the major forest and grass fires respectively. He recommended that the Forests Commission implement a widespread fuel reduction programme, still undertaken right through to this day.

In 1944 he recommended the formation of the Country Fire Authority. The Government of the day did so and that organisation is great credit to this day. Thus it is clear that Judge Stretton was a brilliant, independent person, capable of sound lateral thoughts.

On Ash Wednesday in 1983 the Victorian Cabinet met in Bendigo, travelling up and back by train. As the train passed through the Macedon fire area that night Premier John Cain announced to his Cabinet members that there would be no Royal Commission, but a series of coronial inquiries. So the opportunity for an independent person to make recommendations in regard to fire suppression improvement was passed up. Naturally the Coroner enquired into the cause of death of persons who died in the fires but it is not a Coroner's role to go much further than that.

So, correctly the Coroner will again set out to determine the cause of deaths by fire in 2003. But in addition we will have the benefit of the findings and recommendations of the Federal Government's Inquiry into the Recent Australian Bushfires. We must not pass up this opportunity to move forward.

BUSHFIRE SUPPRESSION – FIRST ATTACK

Success of the first attack on a bushfire is extremely important. Failure of the first attack may lead to disastrous losses of property and sometimes loss of life.

Thus the fire commander must call on and throw in every available fire-fighting facility. Should he lose the initial attack he will call in all available fire-fighting facilities and more anyway. When he wins the initial attack he must ignore the silly critics who may say 'why have we got all these men and equipment here to suppress this little fire?'

Police should also attend to keep an eye open for any strange behaviour in the cause of the fire.

When lightning causes numerous fires in remote, difficult access areas it is important that first attack be quickly undertaken by –

- (i) Ground crews in four-wheel drives or walking in
- (ii) Fire crews delivered by helicopter to helipads within the forest and walking in
- (iii) Specially trained crews flying in by helicopter and repelling down as near as possible to the fire, then walking in
- (iv) Aircraft discharging water etc, on the fire, followed by a ground crew to construct a control line.

I feel that the Armed Services could play a significant role in this situation.

USE OF THE ARMED FORCES IN FIRE EMERGENCY

There is a need for a complete review of the use of the Armed Forces to combat fire emergency in Australia. Some other countries do it better. The current policy in Australia is to utilise the Armed Forces when the situation has become very drastic. It is commonsense to change that policy. Selected brigades of the Armed Services should be properly trained and utilised much earlier in the fire combat. Wildfires are a threat to life and property of the Australian community. Surely this is an appropriate reason for the Armed Forces' involvement in reducing that threat.

Further, the Armed Forces have excellent equipment and infrastructure which would improve our capacity to fight wildfires. One aspect that needs attention is that the issue is a State matter while the Commonwealth responds when asked by the States. So we get into the old State/Commonwealth 'buck-passing' and fighting over who is footing the bill.

In the USA, a Fire Commander is appointed in charge of the total fire suppression forces. We looked at this after the 1983 fires, but decided not to take it up. Perhaps we should take a new look. It would help to deal with co-ordinating Federal, State, Armed Services, Local Government, volunteers and paid fire-fighters.

TOWN PLANNING

It is extremely important that this matter be properly addressed. Local Government has the responsibility for town planning.

- (a) Unfortunately Councils have authorised domestic residences etc., to be built in areas which are totally unsuitable from a fire protection viewpoint. This results in higher fire intensity and increased loss of life and property which makes it more difficult for the fire suppression agencies, frequently causing fire-fighters to put their lives in jeopardy.
- (b) After the devastating fires in 1939, Judge Stretton was appointed to conduct a Royal Commission. At that time many sawmills were located within the forests and many workers lived within the forests and they comprised a high percentage of the deaths that occurred in the 1939 fire area.

Judge Stretton recommended the removal of all sawmills and also the removal of all timber workers from within the forests. The Forests Commission of Victoria and the timber industry implemented Judge Stretton's recommendation over a short period. I am sure the Judge would have been pleased about that, yet, equally he would be devastated by the terrifying situation which has been allowed by Local Government, as referred to in (a) above.

FIRE INTENSITY

The principle factors affecting fire intensity are

- (i) Weather conditions

- (ii) Topography
- (iii) Fuel volume and moisture content
- (iv) Elapsed time since last useful rain

Since we have no control over (ii) and (iv) we will just look at fuel volume and condition.

- (iii) Fire intensity is dramatically affected by fuel volume and condition
 - (a) volume – if the volume of readily available fire fuel is doubled then it naturally follows that fire intensity doubles. But in fact it quadruples. Why is this so? Because flame height also doubles, causing the rate of fire-spread to double. This we have a quadrupling of fire intensity. So to keep fire intensity down it is extremely important to reduce fuel volumes by carrying out protective burning in the spring or autumn. It is regrettable that a high proportion of our population does not fully understand the above. We must address this shortcoming as our fire-fighters do a marvellous job but we should not put their lives at risk due to severe fire intensity. In addition to the loss of lives, property and the severe damage to the farming and bush environment are heightened by the quadrupling effect.
 - (b) Fuel condition – is affected by extended periods without rain and also by the moisture content of the fire fuel which rises and falls in line with the prevailing relative humidity at the time of the fire i.e. the fire fuel is hygroscopic.

Note: I am not an expert in this matter. Contact Phil Cheney – CSIRO Canberra. He is the Australian expert.

ARSONISTS

Arsonists cover a wide range of persons but all of them are psychologically/psychiatrically disturbed to some degree or another.

For the purpose of this note let us say there are ten categories.

1. Minor arsonists who light their fire in a spot where it is unlikely to become widespread, eg. a junction of two roads. Usually they report the fire and often help to put it out. Sometimes they are members of the fire brigade. Their purpose is self-gratification and enjoyment of the excitement. They have no intention of harming persons or property. In brief they are a damn nuisance.

2,3,4,5,6. Moving up the scale, causing more and more damage.

7. This arsonist is determined to damage property but not persons. For example, they may –

- (i) hate pine plantations
- (ii) wish to show the 'greenies' that they are not in sole control
- (iii) dislike farmer Bill and burn his hay stack
- (iv) etc.etc

8. This arsonist does not care what damage his fire causes whether it be to persons, property or animals.

9. This person is determined to cause a large fire. He always selects an ignition point where he will be lighting the fire and from which he can quickly depart. Always

selects high fire danger days, some of these arsonists only light on days of total fire bans.

10. These arsonists target a selected residential area and wait at the ignition point until the exact weather conditions are prevailing. This arsonist type is really a murderer. There was an example of this on Ash Wednesday. (It is not appropriate that I write in detail of this occurrence).

The 'copy cat' – if an arsonist lights a fire, at time a copycat will also light one in the same general area. I cannot explain this strange behaviour.

Kids – sometimes light fires, just for fun.

BUSHFIRE INQUIRY – TERMS OF REFERENCE SUMMARY OF SUBMISSION BY STAN DUNCAN

2. (b) The major factors contributing to the impact and severity of bushfires are:

- (i) topography of the fire area
- (ii) prevailing and forecast weather conditions
- (iii) lack of rainfall in recent weeks
- (iv) moisture content of flammable fuel
- (v) volume of flammable fuel

We have no influence over (i) to (iv) above but we can reduce fuel volume by carrying out fuel reduction programmes, (v) above.

- c) when hazard reduction is carried out in a competent, efficient manner the environmental impact is minimal, as the native Australian flora evolved and developed in our fire prone climate. Naturally there is an economic cost involved to carry out the work. Hazard reduction is the most important factor.
- 4. d) Mitigating the damage caused by the bushfires. We need to review and fund appropriate land management policies and practices to ensure that this is achieved. The reason for this is based on the scientific fact that if the fuel volume is allowed to double then the FIRE INTENSITY QUADRUPLES, brought about by the flame height and the rate of spread doubling. This leads to greatly increased damage to the environment, property and life.
- e) I believe that I have put forward tangible improvements that will result in an upgrade of our fire suppression capability. In regard to the appropriate direction of research into bushfire mitigation, please ensure that Phil Cheney CSIRO/ANU makes a submission.
- f) There needs to be a major review of existing planning and building codes. It is totally inappropriate that planning permits are issued for the construction of buildings in fire hazardous areas. Planning authorities must be required by law to consult the appropriate fire suppression authority. Currently we are expecting fire-fighters to save these properties, risking their lives in the process. This is wrong and must be corrected. Further, landholders should be free to or required to remove fire hazardous vegetation within close proximity to buildings. As well, dead-end streets should be made into through roads.

- g) Our current response to the outbreak of bushfire is quite good in low to moderate conditions. But we need to review the issue in regard to the upper end of the scale. The objective of our fire suppression organisations is to WIN THE FIRST ATTACK. We will never win every first attack, eg it is difficult for our fire-fighters to suppress over 80 lightning strikes on one day in mountain county, as we experienced last summer nor was it possible for our firemen to contain the fire at Cockatoo in 1983. This fire was lit by a demented arsonist in bushland a few hundred metres west of the town, with a very strong Westerly wind blowing. He achieved his intent to inflict major damage to life and property.
- h) Fire-fighting resources available for deployment are adequate in low to moderate conditions but we must review the issue in regard to the high end of the scale by-
- i) Greater police involvement. Police should attend every outbreak of fire. Fires are caused by lightning, spontaneous combustion or humans. By attending every fire at the time of initial attack, police will be able to assess the likely cause and then take further appropriate actions. Further, on days of high fire danger, the police air wing should be on patrol to examine the point of ignition from the air and report to their ground crews. Some really bad arsonists only light fires on days of total fire ban.
- (ii) the Armed Services have given very good support to the fire suppression agencies when fires have escaped from the initial attack and become large.
- I consider that special units of the Armed Services should be appropriately trained to bolster our initial attack and so increase our success rate and reduce the loss of life and property. They have the capacity and infrastructure to achieve this.
- (iii) Local Government also has capacity to contribute as per (ii) above.
- j) The Volunteer Fire-fighters have made a major contribution in the field of fire suppression over many years and no doubt will continue to do so. I have held them in high regard for nearly fifty years and also worked closely with them during that period.
- Note: I do not wish to comment on items a (i) nor (k).

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