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28th April 2003

Committee Secretary
House Select Committee on the recent Australian bushfires
Department of the House of Representatives
Parliament House
Canberra ACT 2600

Dear Committee,

Re: Submission to the House of Representatives Select Committee on the recent Australian bushfires.

My submission relates to the Terms of Reference (c) and (d), and is primarily concerned with the practice of 'prescribed burning' as a method of hazard reduction and ecological management.

I have been observing the interaction between fire and the Australian environment for over 40 years. I have studied and monitored the impact of fire on coastal heath/reed swamplands (Myall Lakes coast) and the effect of bushfires on pristine waterways in wilderness areas (Wollemi National Park). As well as my own observations I have collected a mass of reports, books, journals, conference papers, research data and news clips, on bushfires.

I was in Sydney during the December 2001-January 2002 bushfires and witnessed how the emotive cries for "more hazard reduction burning" started even before the fires were out, and again the National Parks and Wildlife Service was forced to defend itself against accusations that it was largely responsible for the fires because it had not done enough prescribed burning in national parks. This was in spite of the obvious fact that no amount of pre-burning would have stopped or even slowed the spread of the fires because it had little to do with fuel loads and was controlled by the extreme weather conditions. Bob Debus, Minister for Emergency services, said at the time, *"It is just not possible to do fuel reduction programs that will overcome that kind of power. It is futile to expect that hazard reduction is going to do very much at all to stop fires of the magnitude we have experienced"* (quote from Sydney newspapers).

More recently, the cattle farmers of the Kosciusko high country were blaming government agencies for the devastating fires in the area. The argument was that cattle grazing and frequent burning by the farmers in the past prevented wildfires but

since the National Parks took over the management of the area the fuel loads have built up resulting in the recent devastating fire.

It seems that the farmers have not considered the facts. Back in 1939 there was a major fire in what is now the Kosciusko National Park. At that time, thousands of sheep and cattle grazed the area and high frequency burns were carried out, but this did not stop the 1939 fires devastating the area (Brian Gilligan, Director-General NSW National Parks & Wildlife Service, on Earthbeat, Radio National, 1-2-03).

The evidence against the effectiveness of 'prescribed burning' in preventing wildfires is overwhelming, yet every time there is a major bushfire there is the demand for more pre-burning as though that was the solution. Unfortunately, deliberate burning is not only ineffective in reducing the risk of wildfires, it is a costly exercise in terms of human and financial resources. It is also a dangerous activity as these 'prescribed burns' can be the cause of wildfires.

Frequent burning also has major detrimental impacts on the environment. These impacts include the slow death of trees, the loss of natural fire retardant and buffering mechanisms, the unnecessary destruction of habitats and the death of many animals, the reduction of biodiversity, the impairment of nutrient cycling processes associated with soil micro-organisms, changes in the understorey composition and the insect balance, an increase in weeds; and frequent burning actually creates a more fire-prone environment! There is scientific evidence for all of the above.

I am going to quote just a few examples of the evidence, as I assume more evidence will be presented by others.

There is a common perception that if we don't burn the bush then the "fuel load" will continually increase so that the longer we leave an area of bush unburnt the more the "fuel load" will build up to "massive" levels leading to a catastrophic wildfire. This is a fallacy.

In an undisturbed forest under a natural fire regime (i.e. infrequent), the system has time to reach equilibrium where the amount of litter fall is balanced by the rate of decay. Consequently the fire risk does not continue to increase with time but rather reaches a constant level and the occasional fires burn with a similar intensity no matter how long the fire interval has been because the amount of fuel on the undisturbed forest floor remains the same.

In a typical eucalypt forest on sandstone near Sydney it was found that litter accumulation levelled off and started to reach a relatively steady-state after six years. The question has been posed – after six years why burn at all if accumulation starts to equal decomposition? The implication of this finding is that if prescribed burning is to be effective it has to happen frequently, which would require huge resources and would conflict with biodiversity conservation objectives if broad-scale burns are applied (CSIRO Division of Forest Research, 1985; John Benson, National Herbarium of New South Wales, 1994).

A recent study (May2001) of the effectiveness of broad-scale fuel reduction burning in assisting with wildfire control in parks and forests in Victoria, found that any effect was only noticeable for 2-4 years and that only 11% of fires on public land over the last decade had any influence from a previous fuel reduction burn (Department of Natural Resources and Environment, Victoria).

In 1988, over 60% of the Royal National Park south of Sydney was burnt in a major bushfire. In 1994, over 90% of the Park was burnt again, and in 2001, 60% of it was again burnt. This is a fire interval of only 6 years and 7 years. Clearly these major burns at short intervals did not have any effect on subsequent fires.

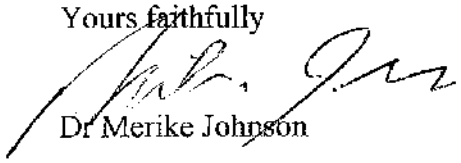
Bob Debus, Minister for Emergency Services NSW, commented on the 28th December 2001; "*Regardless of the fact that 80,000 hectares were burnt in the 1997 wildfires, greatly reducing the fuel loads, the Wollemi and Natti areas in the Greater Blue Mountains are alight again*".

The reason for this is that these major fires have little to do with "fuel loads" but are controlled by extreme weather conditions. Under extreme weather conditions fires have been seen to burn across ploughed paddocks and across land burnt only 24 hours before (Report on the Inquiry into the 2001/2002 Bushfires, June 2002).

A hazard reduction burn, often called a "slow burn", can do more damage in the long term than a rapid fire. During a "slow burn" the fire creeps along the forest floor and lingers around the base of the trees, lapping at the bark. The slow burn eventually penetrates into the trunk and damages the water conducting tissues at the base of the tree so that the tree can no longer function effectively. The tree is weakened and dies slowly. The trees with rough bark, such as ironbarks, seem to suffer the most because the fire eats into their bark longer and does more damage (M. Johnson).

The majority of bushfires are lit by people, up to 90% in some areas in NSW (Griffith, 1994; cited in 'Sustaining our Forests' by Kara Joss, 1994). Therefore we should be concentrating on preventing people lighting fires instead of promoting deliberate burning as a "management tool".

Yours faithfully



Dr Merike Johnson