



2nd May 2003.

National Bush Fire Enquiry
House of Representatives Select Committee
email: bushfires.reps@aph.gov.au

Submission No.81

Re: Submission to National Bush Fire Inquiry.

Qualifications: -

- Bachelor of Applied Science with Honours, Southern Cross University, 1999-2002.
- NSW Nature Conservation Council representative on Ballina Shire Bush Fire Management Committee.
- Founding member of Meerschaum Vale Rural Fire Brigade with 14 years experience as Captain and permit issuing officer, 6 years as Deputy Captain, remote area firefighting with NPWS.

Dear Sir or Madam,

I would like to make the following points regarding problems encountered in bush fire management and operations in NSW.

Incident Control Systems (ICS)

Incident Control formally consisted of an incident controller working from the foreground, liaising with landowners and ground crews directly and by radio and communicating logistical requirements by radio to a base station. This system had the advantage of direct knowledge of the fire situation and being able to plan based on the direct input of brigades and landowners. The disadvantage was the large workload placed on the controller, the lack of phones and office equipment and the large amount of tasks required to be covered by one person. Incident Control Systems were developed to cover the shortcomings of this system and are normally located at control centres remote from the fire ground. While this has improved logistics, there has been a loss in fire ground awareness and input of local knowledge. Although the use of divisional commanders has attempted to address these shortcomings, in some situations incident controllers are not responding to advice from divisional commanders resulting in ineffective and hazardous fire fighting efforts. Advice from divisional commanders must be acted upon as they are the ones at the scene. An alternate way to address this would be the use of a mobile command centre located at the fire ground for fire command with the remote centre used mainly for logistics. Further problems arise when old topographic maps are used. Maps used at the recent Tuckean fire were twenty-

three years out of date and completely inaccurate. The accuracy of old maps must therefore be checked using recent aerial photography and local knowledge.

Occupation Health and Safety (OH&S)

Occupation Health and Safety has replaced a system of safe working practices employed before. Safe working practices made firefighters responsible for their own safety and those around them. With OH&S, responsibility for a firefighters safety is passed to all supervisors above them resulting in the problems with litigation currently being experienced across the workforce and community as injured persons look for someone else to blame for their injury. In their efforts to guarantee the safety of firefighters and decrease their own exposure to recriminations, policy makers have tried to remove all hazards from fire fighting by adopting broad policies. Fire however varies considerably in nature and no one piece of written policy can cover all events. Therefore what may be fair and reasonable policy in one situation may be downright dangerous in another. For example local RFS OH&S policy states that fire vehicles should not be moved without at least two persons on board. In a situation where a driver is on board and crews are located further along a road and fire is heading towards them, the driver is not allowed to go and pick up the crew and evacuate. In another example under OH&S, first response vehicles are required to use lights and siren on route to an incident however in rural areas sirens can panic cattle and horses which may run through fences and on to roads potentially causing a traffic accident. Lights and sirens are only required under the motor traffic act if roads rules are broken, which is unlikely in rural areas.

The adoption of OH&S and knee jerk reactions to fatal fire events has resulted in firefighters being kept out of all situations that could involve possible entrapment regardless of the circumstances. This has made fire fighting very inefficient, maximising burn perimeters and threatening the safety of the public. Maximising burn perimeters risks the most life and property, uses maximum resources, takes the most time, absorbs the most money and causes the most damage to the environment. The OH&S act therefore needs to be adapted to move the onus of responsibility back to well trained and experienced firefighters allowing for decisions based on fire ground conditions for maximum efficiency and safety.

Hazard Reduction

Hazard reduction burning has been promoted by some as a way of preventing the occurrence of wildfire. In many places, regular hazard reduction burning changes the composition of the bush by replacing fire intolerant but fire resistant rainforest vegetation with fire tolerant and highly combustible sclerophyll vegetation. Fuel loads in rainforest rarely exceed five tons per hectare while this figure is achieved in sclerophyll forest one year after a fire and continues rising steeply for seven years before slowing. Restricted light, high surface moisture and large soft leaves are quickly broken down within rainforest whilst in sclerophyll forest, higher sunlight levels, low moisture levels and hard leaves, slow leaf breakdown. Sclerophyll forest fuel loads may not stabilise for twenty-five years or more at which time deposition matches decomposition resulting in no further fuel build-up. Based on climate and soil type, in many areas if fire is kept out, rainforest species invade and fire danger decreases naturally. Hazard reduction burning and burning for green pick by graziers has dramatically increased fire danger over much of NSW since colonisation.

For hazard reduction burning to be effective at preventing wildfire, burns need to be conducted yearly adjacent to all assets. This is impossible as large burns need to be planned

months prior and many reasons such as inappropriate weather on the day can prevent them being achieved. Hazard reduction burns are fires that are capable of getting out of control, destroying lives and property and producing large volumes of smoke, which can affect persons with reduced lung function such as asthmatics. Following a burn, leaves scorched by heat, fall and cover the ground leaving a fuel load capable of sustaining a wildfire. I have personally witnessed this in the Tuckean when a fire re-burnt through areas burnt by wildfire one week previous. It is for these reasons that hazard reduction burns should be regarded as a tool and not a solution.

State Forests

State forests in NSW, particularly exotic pine plantations have high fuel loads and high weed densities. Weeds such as lantana, cats claw and blackberry are out of control and greatly restrict access. Exotic pine plantations of one tree species create huge fuel loads due to the inability of native fungus to break down pine needles. A lack of diversity in native forest plantations also can increase fire spread and fuel loads. Grazing of state forests can reduce understorey plants however this simply lets in more light, decreasing moisture levels which slows leaf breakdown and increases fuel loads. Grazing also leads to erosion with sediment deposition in streams. State Forests therefore need to phase out exotic pine plantations, replacing them with diverse, weed free and ungrazed native forests.

NSW National Parks and Wildlife Service

The NSW National Parks and Wildlife Service (NPWS) is often blamed for lack of hazard reduction and preparedness. As previously discussed hazard reduction burning is not the solution. The NPWS must however respond quickly to reports of fire and in areas where rapid fire spread is highly likely, no expense must be spared in rapidly knocking down fire using all available means including helicopters. Changes to the OH&S Act may be necessary to increase both safety and efficiency. Better to initially spend money knocking down a small fire than spend large amounts fighting a large fire. Repair of neighbouring fences destroyed by NPWS during control burning and restoration of graded control lines must occur immediately the fire is extinguished. Fire management plans should also identify the habitat of threatened fauna species and identify strategies to protect those areas. A fire this year in Broadwater National Park killed five koalas and many more species within in a two-hectare area.

Rural Fire Service

The Rural Fire Service is slow to take up ideas based on scientific best practice. Even when advances appear to occur, the opportunity is often lost with procedures remaining the same. One example of this was the recent appointment of fire mitigation officers, which was a valuable opportunity for the Rural Fire Service to achieve some environmental balance into the system. Unfortunately there was no requirement for environmental qualifications for those seeking the positions even though they were potentially assessing threatened species for which qualifications would be required. It appears that for this position, the ability to wield a rubber stamp and tow the line was the main requirement. Fire control officers and group officers also have little understanding of environmental science and so consistently make the wrong decisions based on old outdated ideas. Qualifications and an understanding of environmental science should be a requirement for all paid staff required to make decisions on bush fire management. Environmental training needs to be provided to all current staff and

volunteers. At present we are required to attend classes on such things as the use of stop /go signs so why not devise some serious environment training that would be of great benefit to staff, volunteers, the community and the environment.

Adequacy of Fire Vehicles

Current fire vehicles are selected from the range of standard motor vehicles with cabins remaining unmodified for their new role. The level of protection from wildfire provided from standard vehicle cabins is quite inadequate. Vehicle sprays provide some protection from moderate fire overrun, however these rely on the pump operating and sufficient water being present in the tank. The requirements to retain a minimum amount of water within the tank for self-protection means less water for fire fighting with more frequent filling required resulting in very inefficient fire fighting. Smaller vehicles are unable to carry the minimum water requirement for self-protection and therefore cannot be used, resulting in loss of their unique access and response capability and further fire fighting inefficiency.

What is therefore required is the fitting of quickly installed steel heat shields to all windows and fitting of non-flammable covers on access points such as gear lever boots and cable entry holes, in all front line fire vehicles. This is not a difficult or expensive option with approximately twenty dollars of metal required to cover all the side windows in the average category one fire tanker. These shields could be quickly fitted to existing window tracks and simply lifted up in an emergency. A metal roller or concertina blind could be fitted to the windscreen and in after-market crew cabs, metal shutters could easily be fitted to windows. This would provide a high level of protection from even the most extreme fire overrun and would not rely on minimum water storage or operating pumps. Many lives could have been saved if this system had been adopted earlier. Fire overruns will continue to occur despite the best training and legislation and the lives of firefighters are worth a bit of sheet metal.

Canberra Fires

The loss of houses during the Canberra fires resulted from ember attack from pine and grass fires igniting garden mulch and garden plants. Further ignition occurred from house to house while adjacent native bushland remained unburnt. Plastic gas mains added to the fire while evacuation of able-bodied residents and lack of firefighting resources lead to the slow spread of structural fires. Lessons to be learnt include: -

- The need to educate, train and equip residents using community fireguard models.
- Provision of sufficient fire fighting capability.
- The need to reconsider the wisdom of evacuation of able-bodied home owners.
- The phasing out of exotic pine plantations particularly near towns.
- Addressing ember attack in development applications.
- Restriction of above ground plastic piping for water or gas.
- The failure by the Commonwealth Government and other governments to address the causes of the greenhouse effect will result in more frequent fires over wider areas.

Urban Planning

Urban planning is the best way of avoiding future loss of housing through bushfire. Buildings can be built to survive any fire and this should be a requirement for those wishing to reside in the bush. Present planning requires a low level of house protection coupled with assets protection zones. This however results in more land clearing at the time of construction and

the growth of vegetation over time can negate the effectiveness of this zone. For people wishing to live among the trees, reinforced concrete construction with metal window shutters and fire rated doors is the best solution and from personal experience can be as stylish and cheap as any other construction method.

Bush Fire Management

Bush fire management plans need to be followed during burns and where possible at wildfire. At present bush fire management plans are in many places being completely ignored. New scientific research needs to be adopted and acted on rather than just dragging out old environmental damaging and inefficient methods of fire management. Fire in areas of acid sulfate soils (ASS) is one such event, which requires a new approach. Control lines in ASS should not be graded as this exposes reduced sediments, which oxidise producing sulfuric acid and iron hydroxides. This can result in bare areas of acid scalds with water leaching into waterways killing fish from acidity, toxic metals, iron floc and low dissolved oxygen levels. Control lines in ASS can be achieved by compression of the soil, which compresses air spaces and forces moisture into the soil profile preventing peat-fires from crossing control lines. A protocol for the management of fire in ASS needs to be designed using best scientific advice.

The four principles of ecological sustainable development have been adopted across NSW planning legislation, however the fourth principle of improved valuation, pricing and incentive mechanisms of environment assets is never acted upon. Proper valuation of environmental assets in bush fire management would prevent the burning of a rainforest that will take one thousand years to regenerate simply to save pasture that would take two weeks to regenerate. It may be time for environmental assets to be finally allocated an economic value to signify their importance.

Yours Sincerely
Garry Owers