

The Senate

Select Committee on
Agricultural and Related Industries

The incidence and severity of bushfires across
Australia

August 2010

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List of the committee's recommendations

Recommendation 1

1.126 The Commonwealth Government examine potential new arrangements for Commonwealth involvement in the development and implementation of a national policy for bushfire management.

Recommendation 2

3.20 The Commonwealth co-ordinate a standing national arson forum between fire and law enforcement agencies to be held every two years.

Recommendation 3

3.24 The Productivity Commission undertake an examination of bushfire risk from ageing power infrastructure, including an assessment of replacement costs and likely suppression costs from bushfires caused by defective infrastructure.

Recommendation 4

3.25 Subject to the findings of the Productivity Commission, the Commonwealth examine options for the funding of replacement of power infrastructure that presents an unacceptable bushfire risk.

Recommendation 5

3.199 The Commonwealth seek agreement from the states and territories that would enable it to evaluate the adequacy of fuel reduction programs applied by public land management agencies in high bushfire risk areas, and audit their implementation against the program's stated objectives.

Recommendation 6

3.201 The Commonwealth publish all fuel reduction plans and related audit findings on a national database.

Recommendation 7

3.262 The Commonwealth consult with local, state and territory government planning authorities on the development and dissemination of a house loss risk index for households in Australia's highest risk bushfire areas.

Recommendation 8

3.264 The Commonwealth Government work with the states and their agencies to ensure consistent terminology is used when communicating with the public.

Recommendation 9

5.15 Further Commonwealth funding for bushfire suppression be made conditional on state fire agencies agreeing to the Commonwealth evaluating and auditing their fuel reduction programs.

Recommendation 10

5.53 The Commonwealth assist the states with bushfire training for land managers and volunteers by co-ordinating curriculum development and delivery of a national bushfire accreditation course, to be delivered by the relevant state agencies.

Recommendation 11

5.54 The Commonwealth organise the co-operation of state land management and fire agencies to provide the practical training aspect of the curriculum as part of a national bushfire accreditation course.

Recommendation 12

5.78 The Commonwealth encourages further research into prescribed burning and its effectiveness and into alternative bushfire mitigation approaches through improved bushfire risk understanding at the asset level.

Recommendation 13

5.80 At the conclusion of the current Bushfire CRC funding agreement the Commonwealth establish a new permanent bushfire research institute.

Recommendation 14

5.82 The Productivity Commission be tasked to assess the economic effects of recent major bushfires on the Australian economy to determine the cost effectiveness of prescribed burning as a mitigation strategy.

Recommendation 15

5.115 The committee recommends that the Commonwealth co-ordinate a national approach to the pooling of ground fire fighting resources across agencies and jurisdictions to maximise the efficiency of their use.

Chapter 1- Introduction

Conduct of the inquiry

1.1 On 12 May 2009 the Senate referred the following matter to the Senate Select Committee on Agricultural and Related Industries for report by 26 November 2009.

1.2 The incidence and severity of bushfires across Australia, including:

- (a) the impact of bushfires on human and animal life, agricultural land, the environment, public and private assets and local communities;
- (b) factors contributing to the causes and risks of bushfires across Australia, including natural resource management policies, hazard reduction and agricultural land maintenance;
- (c) the extent and effectiveness of bushfire mitigation strategies and practices, including application of resources for agricultural land, national parks, state forests, other Crown land, open space areas adjacent to development and private property and the impact of hazard reduction strategies;
- (d) the identification of measures that can be undertaken by government, industry and the community and the effectiveness of these measures in protecting agricultural industries;
- (e) any alternative or developmental bushfire prevention and mitigation approaches which can be implemented;
- (f) the appropriateness of planning and building codes with respect to land use in bushfire prone regions;
- (g) the adequacy and funding of fire-fighting resources both paid and voluntary and the usefulness of and impact on on-farm labour; and
- (h) the role of volunteers.

1.3 The committee subsequently sought and received an extension of the reporting date to 13 August 2010.

1.4 The committee advertised the inquiry in *The Australian* newspaper on 20 May 2009. The committee also invited submissions from a range of organisations and individuals including land management and fire agencies, government departments, forestry organisations, volunteer fire fighting organisations, conservation groups and research and technical bodies. The closing date for submissions was 31 July 2009, though the committee agreed to accept submissions throughout the inquiry. The

committee received 58 submissions, as well as a range of supporting material. A list of individuals and organisations that made submissions to the inquiry is at Appendix 1.

1.5 The committee held four public hearings, in Canberra (twice), Melbourne and Perth. A list of witnesses who provided evidence is included at Appendix 2. Responses to questions taken on notice at these hearings have been published in Appendix 3.

1.6 A list of material tabled during the inquiry or provided as additional information is at Appendix 4.

1.7 References to the Committee Hansard are to the proof transcript. Page numbers may vary between the proof and the official transcript.

1.8 The committee wishes to acknowledge and thank those who provided written submissions and gave evidence at public hearings. The committee also wishes to express its enormous appreciation for the time and effort thousands of people across Australia, the majority unpaid, devote to protecting Australians from the sometimes catastrophic effects of bushfires.

Scope and structure of the inquiry

1.9 The committee recognises that the Commonwealth has limited responsibility for bushfire management in Australia. In accordance with the distribution of powers under the Australian Constitution, the primary responsibility for the protection of life, property and the environment lies with the states and territories.¹ The most appropriate role for the Commonwealth in this field is to oversee and support the states' capacity to manage bushfire risks to limit the destruction bushfires cause.

1.10 The committee also acknowledges that there have been a number of previous inquiries into bushfires, which are outlined in further detail in chapter 2. It is not the committee's intention to re-examine the specific bushfire management failures these inquiries investigated, though the committee does recognise the frustration of many at the apparent lack of action taken by relevant state agencies in response to sensible reform proposals aimed at preventing similar occurrences. However, the committee has sought to avoid apportioning blame for past events, or directing its proposals for reform beyond what is achievable through initiatives taken at the Commonwealth level.

1.11 Instead, in this report the committee considers the underlying policy areas in which the Commonwealth can realistically take greater responsibility for bushfire management, to help responsible agencies and at-risk communities reduce the incidence and effects of catastrophic bushfires. The focus of this inquiry has therefore been on assisting with effective mitigation strategies and directing resources in a way that most effectively meets this objective, rather than seeking to impose

1 Attorney-General's Department, *Submission 38*, p. 1

Commonwealth Government involvement in the suppression and recovery measures implemented during the height of a bushfire crisis. The committee is of the view that the most effective influence the Commonwealth can have is on bushfire mitigation and preparedness, and this report broadly reflects this position.

1.12 The remainder of this chapter outlines the nature of bushfires in the Australian landscape; the different state-based organisations responsible for bushfire management in Australia; the Commonwealth's present bushfire management role; and the potential for the Commonwealth to pursue greater national direction of bushfire policy.

1.13 Chapter 2 outlines previous inquiries into bushfires, including their consistent themes and recommendations, with a particular emphasis on Commonwealth inquiries and the most recent state-based (Victorian) inquiries. This chapter also explores frustrations with an apparent cycle of disaster followed by inquiry followed by inaction that appears to characterise this area of public policy. Government responses to recent major bushfire inquiries are included in Appendix 5.

1.14 Chapter 3 reflects the primary focus of this inquiry, which was bushfire mitigation. In this chapter the committee briefly discusses the Commonwealth's role in addressing the preventable causes of fire, before considering the many complex issues pertaining to mitigating bushfire risks by reducing combustible fuels in the landscape. Finally, the chapter examines additional risk management approaches to enable communities to be more resilient to bushfires.

1.15 Chapter 4 discusses concerns about the co-ordination of fire suppression activities during a bushfire emergency, otherwise referred to as incident control. This includes co-ordinating the roles of multiple agencies during an emergency, and managing the division of decision-making responsibilities between local fire fighters and centralised incident control.

1.16 Finally, Chapter 5 considers the adequacy and priorities of resources for bushfire management. The chapter canvasses a number of issues including the prioritisation of resources for suppression over mitigation; available qualified personnel and volunteers for bushfire management tasks; the information and knowledge available to those responsible for bushfire management; and the adequacy of equipment, access, infrastructure and technology required for suppression and emergency management.

Fire in the Australian landscape

1.17 Fires in the Australian landscape may start from natural causes such as lightning strikes, or from human activity. Human causes can stem from careless acts such as poorly extinguishing cooking fires, throwing lit cigarette butts or children playing with matches; from sparks from equipment or machinery such as power tools or faulty electricity infrastructure; from fires deliberately lit with good intention that escape, such as prescribed burns that run out of control; and from fires deliberately lit with malicious intent.

1.18 The incidence of bushfires resulting from some of these human causes, such as arson and electricity infrastructure faults, may be reduced by preventative action. These are discussed in Chapter 3 dealing with bushfire mitigation issues. However, much of the focus of this inquiry is not on preventing the causes of fires, but on mitigating their intensity and effects on lives and property.

1.19 CSIRO noted that bushfires 'are an inevitable occurrence in Australia'. Their submission to the committee provided some detail of their incidence and effect:

About 50 million hectares of land are burned across Australia each year on average and about 80% of fire-affected areas are in northern savanna regions. Lightning is the cause of almost all naturally occurring bushfires. Human activities account for most of the rest with accidents associated with burning off, campfires and machinery being the most common sources of ignition. While it is difficult to assess the magnitude of maliciously lit fires, between 25 to 50% of bushfires are thought to be deliberately lit.

Bushfires account for about 10 percent of the cost of all major natural disasters in Australia, and are associated with the greatest loss of life.²

1.20 They described the different nature of fire regimes across Australia:

Fire regimes across Australia vary because of variation in the rate of vegetation (and hence fuel) production, the rate at which fuels dry out, the occurrence of suitable fire weather for the spread of fire across the landscape, and ignitions ... Regional fire regimes differ because of variation in one or more of these key drivers. As a consequence, fire regimes in some areas are constrained primarily by availability of fuel, in others by the occurrence of periods of suitable weather. For example, the tropical savannas of the north tend to burn mainly in the winter-spring period and experience high frequency and relatively low intensity fire regimes ... In contrast, the tall sclerophyll (eucalypt-dominated) forests of the cool, temperate south tend to burn in summer and generally have low frequency/high intensity fire regimes...³

1.21 It is the higher intensity and greater potential for harm that has meant the vast majority of evidence to this inquiry has related to the importance of mitigating the severity and effects of fires in Australia's southern areas.

1.22 The committee also considered the likelihood of some parts of Australia facing more serious fire conditions in the future. In their submission to the inquiry CSIRO outlined the potential consequences of climate change for fire risk:

While the impact of climate change is likely to be an increase in the frequency of 'Extreme' fire danger days, the impact of climate change on the structure of the forest, fuel availability and thus the behaviour of

2 CSIRO, *Submission 15*, p. v

3 CSIRO, *Submission 15*, p. 3. See also Dr Richard Williams, *Committee Hansard*, 14 May 2010, Canberra, p. 33

bushfires is not known. The severity of fire conditions or fire danger is calculated through combining measures of temperature, wind speed, humidity and drought into the Forest Fire Danger Index (FFDI), which has been used for many decades. With the likely onset of climate change effects, modifications to aspects of the FFDI, particularly the assumptions regarding the rate of fuel drying, should be considered to better reflect the change in drying conditions in future. Under climate change it is expected that current 'windows' for hazard reduction burning will change and possibly narrow, meaning less opportunity to conduct safe and effective hazard reduction burns.⁴

1.23 That is, more days will be conducive to catastrophic fires occurring and there will be fewer days in which to mitigate their effect through prescribed burning.

1.24 CSIRO's submission concluded that although fire will be more frequent, the implications for fire behaviour will be complex, with the effects on the landscape and fuel loads being uncertain and requiring further research.⁵

Bushfire management in Australia

1.25 Bushfire management refers to a variety of activities and measures taken to limit the destructive effects of uncontrolled bushfires on human and animal life, agricultural land, the environment, public and private assets and local communities. It includes bushfire mitigation and preparedness strategies such as fuel hazard reduction and fire trail maintenance across the landscape, in addition to fire suppression measures taken during bushfire emergencies. These land management activities are supported by bushfire-related knowledge, information-sharing and training.

1.26 At the landscape scale, the responsibility for bushfire management in Australia rests with the relevant land managers and fire agencies, the latter being state-based organisations whose jurisdiction is dependent on the land management arrangements in any given location. Australia's disparate land management responsibilities were described to the committee as a 'matrix of tenures in the landscape' and include national parks, state forests, other crown land and privately owned land such as farms.⁶

1.27 Bushfire preparedness and suppression tasks are performed by a range of people including land management agency staff, fire agency staff and volunteers, and private land owners, the latter group often being volunteer fire fighters.

4 CSIRO, *Submission 15*, p. v

5 CSIRO, *Submission 15*, p. 20

6 Professor Peter Kanowski, *Committee Hansard*, 12 March 2010, Canberra, p. 33

State and territory government responsibilities

1.28 This section outlines the distribution of bushfire management responsibilities by Australia's state and territory governments.

New South Wales

Department of Environment, Climate Change and Water

1.29 The NSW Department of Environment, Climate Change and Water (DECCW) is the department with primary responsibility for land management across the state.

Emergency Management NSW

1.30 Emergency Management NSW (EMNSW) was established in May 2009. In addition to the functions of the former Office for Emergency Services, ENNSW assumed responsibility for several additional services and provides support to:

- the State Emergency Management Committee: the principal committee for emergency management in NSW which is responsible for emergency planning at a state level;
- the State Emergency Operations Controller: coordinates support to combat agencies during emergency response operations and controls the response for specified events for which there is no designated combat agency;
- the State Emergency Recovery Controller: oversees the planning for, and management of, emergency recovery in NSW; and
- the State Rescue Board: established to ensure the maintenance of efficient and effective rescue services across the state.

1.31 EMNSW co-ordinates the state's input to Commonwealth emergency management programs and a range of research and awareness programs. It also administers emergency management grants.

1.32 A key responsibility of EMNSW is the provision of high level policy and executive support to the Minister for Emergency Services. This support includes policy advice and analysis, information and correspondence coordination and liaison with agencies, including the New South Wales Fire Brigades, New South Wales Rural Fire Service and State Emergency Service.

1.33 EMNSW provides policy, administrative and operational support to the State Emergency Management Committee and its various Functional Area committees, along with the State Rescue Board and its sub-committees. It also provides operational

support to the State Emergency Operations Controller and State Emergency Recovery Controller during emergency response and recovery respectively.⁷

National Parks and Wildlife Service

1.34 The National Parks and Wildlife Service (NPWS), which is part of DECCW, manage more than six million hectares of parks and reserves across the state. All parks and reserves are covered by fire management strategies, which are used to set out the fire management objectives for particular parks and reserves. Local communities, bushfire management committees, the Rural Fire Service, the Sydney Catchment Authority and other interested parties are consulted in the preparation of fire management strategies. The strategies are used to plan fire suppression, hazard reduction burning and other fire-related operations.

1.35 In addition, NPWS is also responsible for:

- wildlife conservation;
- maintenance of fire trails;
- statistical analysis of species in protected areas;
- mapping of protected zones; and
- combat of salinity and soil erosion.⁸

State Forests of New South Wales

1.36 State Forests of New South Wales is responsible for protecting state forests from bushfires and protecting life and property by minimising the spread of bushfires from state forests. It also has specific statutory obligations in relation to fire management under both the *Forestry Act 1916* and the *Rural Fires Act 1997*.⁹ Fuel management through hazard reduction burning is carried out according to a planning process determined in conjunction with District Bush Fire Management Committees and site-specific hazard reduction plans.

Rural Fire Service

1.37 The NSW Rural Fire Service (RFS) was established in September 1997 to replace the Bush Fire Brigades Organisation. RFS is the lead agency for providing coordinated bushfire fighting and mitigation services across over 90 per cent of the state's rural land area, which excludes land managed by (NPWS) and State Forests of

7 Emergency Management NSW website, accessed on 2 June 2010 at <http://www.emergency.nsw.gov.au/aboutus>

8 Department of Environment, Climate Change and Water website, accessed on 3 June 2010 at <http://www.environment.nsw.gov.au/fire/mngfireinnswnatpks.htm>

9 NSW Department of Primary Industries, Primefact 769, *Fire Management in State Forests*, May 2008, p. 1

NSW. RFS regularly assists with hazard reduction burns on land in NSW not under the authority of those two agencies.

1.38 RFA volunteers are also responsible for structure fires in rural fire districts, including over 1200 villages. In addition to bushfires, the RFS also supports other agencies in emergency situations such as transport accidents, flood, storm and search and rescue situations.¹⁰

NSW Fire Brigades

1.39 New South Wales Fire Brigades (NSWFB) is responsible for preventing and responding to fire emergencies and providing direct protection to populations in major cities, metropolitan areas and towns across in New South Wales. The NSWFB also respond to emergencies beyond their Fire Districts to provide assistance to the Rural Fire Service at structure fires.

1.40 NSWFB supports other government agencies such as the NSW Rural Fire Service, State Emergency Service, State Forests, NSW Police Force, Ambulance Service of NSW and the NSW Department of Environment, Climate Change and Water both during and after bushfires and other emergencies.¹¹

Bush Fire Coordinating Committee

1.41 The Bush Fire Coordinating Committee (BFCC) provides a forum for government and non-government organisations, with an interest in the prevention, mitigation and suppression of bushfires, to work together. It plays a key role co-ordinating the work of District Bush Fire Management Committees in preparing risk management plans. Under the *Rural Fires Act 1997*, the BFCC:

- is responsible for planning in relation to bush fire prevention and co-ordinated bush fire fighting;
- reviews major bush fire suppression operations to identify opportunities for improvement; and
- is responsible for advising the Commissioner (and the Minister) on bush fire prevention, mitigation and coordinated bush fire suppression.¹²

Fire Services Joint Standing Committee

1.42 The Fire Services Joint Standing Committee (FSJSC) was established under the *Fire Services Joint Standing Committee Act 1998*, and has the following functions:

10 Rural Fire Service website, accessed on 1 June 2010 at http://www.rfs.nsw.gov.au/dsp_content.cfm

11 The NSW Fire Brigades, *Annual Report 2008-09*, p. 6

12 Rural Fire Service, website accessed on 7 June 2010 at http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1197

- to develop and submit (to the Minister) strategic plans for the delivery of rural fire services at the interface of fire district boundaries and rural fire district boundaries;
- to review periodically the boundaries of fire districts and, where appropriate, make recommendations (to the Minister) regarding the boundaries; and
- to develop and submit (to the Minister) implementation strategies to minimise duplication and maximise compatibility between the services of New South Wales Fire Brigades and the services of the New South Wales Rural Fire Service, with particular reference to:
 - infrastructure planning;
 - training activities;
 - community education programs; and
 - equipment design.¹³

Victoria

Department of Sustainability and Environment (including Parks Victoria)

1.43 The Department of Sustainability and Environment (DSE) is one of the primary organisations responsible for bushfire management on public lands across Victoria. DSE is responsible for:

- the provision of advice on the prevention and suppression of wildfire;
- the use of planned burns;
- monitoring fire on public land across the state;
- coordinating appropriate incident response;
- developing specialist fire equipment; and
- managing fire-related training and research.¹⁴

1.44 Parks Victoria is a statutory authority responsible under the *Parks Victoria Act 1988* for providing land management services to the DSE.

1.45 DSE works with Parks Victoria in undertaking fire suppression, mitigation and prevention practices on Victoria's public land. The agencies are jointly responsible for managing bushfire incidents and using prescribed burns to meet land management goals and objectives.

13 Rural Fire Service website, accessed on 7 June 2010 at http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1201

14 Department of Sustainability and Environment website, accessed on 10 June 2010 at <http://www.dse.vic.gov.au/DSE/nrenfoe.nsf>

1.46 DSE also works with the Country Fire Authority (CFA) and both agencies frequently attend the same fires, with either DSE or CFA controlling the fire as the lead agency.¹⁵

Emergency Services Commissioner

1.47 The position of Emergency Services Commissioner was established under the *Emergency Management Act 1986* 'to provide independent advice to the Minister for Policy and Emergency Services, the Premier, or another Minister as required, on any issue in relation to emergency management.'¹⁶

1.48 The Office of the Emergency Services Commissioner (OESC) provides leadership in emergency management for Victoria and has specific responsibilities for delivering efficient, equitable and integrated fire and emergency services. The Office supports the role of the Commissioner by:

- facilitating cooperation across the emergency services;
- providing independent advice and leadership to government in relation to emergency management; and
- working with emergency services, government departments and the community to improve the safety of Victorians.¹⁷

Country Fire Authority

1.49 Under the *Country Fire Authority Act 1958* the Country Fire Authority (CFA) is responsible for '...the prevention and suppression of fires and for the protection of life and property in case of fire ... so far as relates to the country area of Victoria'. This includes bushfire suppression, structure fires, incidents involving hazardous materials and road rescue.¹⁸

1.50 CFA Volunteers provide state-wide fire and related emergency coordination including:

- community awareness, education and safety programs;
- bushfire suppression;
- structural fire suppression;
- transport-related fire suppression;

15 Department of Sustainability and Environment, accessed on 10 June 2010 at <http://www.dse.vic.gov.au/DSE/nrenfoe.nsf>

16 Office of the Emergency Services Commissioner, accessed on 10 June 2010 at <http://www/oesc.vic.gov.au/wps/wcm/connect/justlib/OESC/Home>

17 Office of the Emergency Services Commissioner, accessed on 10 June 2010 at <http://www/oesc.vic.gov.au/wps/wcm/connect/justlib/OESC/Home>

18 Country Fire Authority, *Annual Report 2009*, p. 12

- forestry industry brigades;
- industrial accident response;
- other emergency activities – including flood assistance;
- fire safety input planning for major community risks;
- fire prevention; and
- land use planning advice at municipal level.¹⁹

1.51 CFA also assists with prescribed burning activities.

Forestry Industry Brigades

1.52 There are approximately 24 Forestry Industry Brigades across Victoria with over 700 registered members. Forestry Industry Brigades responded to 465 fires in 2008-09 and had significant involvement in most major fires on Black Saturday and during the following weeks.²⁰ The brigades are operated by forestry companies but are under the control of the CFA.²¹ The CFA provide bushfire training to new Forest Industry Brigade members, as well as advanced training courses.²²

Metropolitan Fire Brigade

1.53 The Metropolitan Fire Brigade was established under the *Metropolitan Fire Brigades Act 1958*. Over 1500 fire fighters are located in fire stations and specialist departments across the Melbourne metropolitan area. Both the CFA and the Metropolitan Fire Brigade report to the Minister for Police and Emergency Services.

Fire Protection Plans

1.54 Fire Protection Plans are developed for each DSE Fire District. These strategic plans address fire protection at the regional level to ensure bushfire prevention and suppression activities on public land in Victoria are conducted in an operationally safe, environmentally sensitive and cost efficient manner. Each Fire Protection Plan is prepared with input from DSE, Parks Victoria and the community, and has four main strategies: bushfire prevention, preparedness, suppression and recovery.

1.55 In addition, three-year forward planning programs (Fire Operations Plans) are also prepared. These plans contain:

19 Country Fire Authority, *Annual Report 2009*, pp 12-13

20 Country Fire Authority, *Annual Report 2009*, p. 29

21 Country Fire Authority website, accessed on 18 June 2010 at <http://www.cfa.vic.gov.au/business/forest/index.htm>

22 Country Fire Authority, *Annual Report 2009*, p. 29

- a schedule and maps showing proposed fuel management and ecological burning proposals;
- any new prevention and preparedness programs planned for the immediate three-year budget period;
- details of planned fire prevention related education and enforcement programs; and
- a detailed schedule of prevention and preparedness programs planned for the immediate twelve-month budget period.²³

Tasmania

Department of Primary Industries, Parks, Water and Environment

1.56 The Tasmanian Department Primary Industries, Parks, Water and Environment (DPIPWE) has primary responsibility for land management across the state.

Parks and Wildlife Service

1.57 As a unit of DPIPWE, Tasmania's Parks and Wildlife Service (PWS) is responsible for the management of a range of reserved lands in Tasmania including national parks, regional reserves, conservation areas and Crown Land. This management includes:

- control of unplanned bushfires;
- planned burning to reduce fuel loads and make fire control easier and safer;
- planned burning to help maintain biodiversity, promote regeneration of plants that depend on fire and to maintain suitable habitat for animals; and
- maintaining assets that assist with bushfire control, for example, fire trails, firebreaks and waterholes.²⁴

1.58 Strategic plans are prepared for each PWS region and fire management plans are prepared for some individual reserves. These plans include details of the natural and cultural values of particular areas, details of the assets requiring protection and any resources within and nearby the reserve that can help in fire suppression. Plans also identify strategies to protect neighbouring settlements and towns.

23 Department of Sustainability and Environment website, accessed on 10 June 2010 at <http://www.dse.vic.gov.au/DSE/nrenfoe.nsf>

24 Parks and Wildlife Service website, accessed on 16 June 2010 at <http://www.parks.tas.gov.au/index.aspx?base=890>

1.59 Officers from PWS are involved in fire management area committees organised by the Tasmania Fire Service. The PWS also has a range of fire management specialists (including fire management officers) for each region around the state and a specialist seasonal fire crew is recruited each year to help staff with fire fighting during the summer months.²⁵

Tasmania Fire Service

1.60 The Tasmania Fire Service (TFS) – the operational arm of the State Fire Commission – was created in 1979 through the amalgamation of the State Fire Authority, the Rural Fires Board and 22 urban fire brigade boards. The TFS has 230 fire brigades across Tasmania staffed by approximately 250 career fire fighters and 4800 volunteer fire fighters. In addition to responding to structural fires and bushfires, the TFS is also responsible for:

- responding to hazardous material incidents;
- urban search and rescue;
- emergency call handling and dispatch;
- fire investigation;
- training;
- community fire education;
- building safety;
- fire equipment sales and service;
- building and maintaining TFS vehicles;
- maintaining a state-wide communications network; and
- fire alarm monitoring.²⁶

1.61 The TFS works with the other emergency services across the state, including the Tasmanian Police, the State Emergency Service and the Tasmanian Ambulance Service. The Service also has 'mutual aid' arrangements with Forestry Tasmania and the Parks and Wildlife Service to ensure major bushfires are adequately resourced and managed. The TFS also participates in:

- the State Disaster Committee;
- the Australasian Fire Authorities Council; and
- the Bushfire CRC.²⁷

25 Parks and Wildlife Service website, accessed on 16 June 2010 at <http://www.parks.tas.gov.au/index.aspx?base=890>

26 Tasmanian Fire Service website, accessed on 16 June 2010 at <http://www.fire.tas.gov.au/mysite/>

Forestry Tasmania

1.62 Under the *Fire Services Act 1979*, Forestry Tasmania is responsible for the management of approximately 1.6 million hectares of state forest. As part of these responsibilities, Forestry Tasmania has the authority to control or extinguish fires within three kilometres of the boundary of any area of state forest.²⁸

1.63 Fire management on state forest land is undertaken in close co-operation with the Tasmanian Fire Service, the Parks and Wildlife Service and forest industry companies. Forestry Tasmania works in cooperation with these fire management agencies through a program of hazard reduction, training, communication, education on the use of fire and prosecutions for the illegal or negligent use of fire.²⁹

1.64 The committee notes that Tasmania has a formal operating agreement for bushfire management – the Inter-Agency Fire Management Protocol. This is an agreement between Forestry Tasmania, the Parks and Wildlife Service and the Tasmania Fire Service, the three organisations responsible for the management of bushfires in Tasmania.

South Australia

Department for Environment and Heritage

1.65 The Department for Environment and Heritage (DEH) is responsible for bushfire across South Australia's parks and reserve system and crown land under their control. DEH is involved in:

- preparing Fire Management Plans;
- fire ecology (applying knowledge about fire and its behaviour);
- fire research; and
- prescribed burning.

1.66 Fire management works and activities are delivered through the seven DEH regions. DEH, as a brigade of the CFS, responds to bushfires on and near state managed land. In addition to working alongside CFS as firefighters, DEH can also take on roles in incident management and provide assistance to other agencies in relation to bushfire response – both interstate and overseas.³⁰

27 Tasmanian Fire Service website, accessed on 16 June 2010 at <http://www.fire.tas.gov.au/mysite/>

28 Forestry Tasmania, 2008 – *Forest Management Plan*, p. 34

29 Forestry Tasmania, 2008 – *Forest Management Plan*, p. 34

30 Department for Environment and Heritage website, accessed on 15 June 2010 at <http://www.environment.sa.gov.au/fire/about/index.html>

Country Fire Service

1.67 The South Australian Country Fire Service (CFS) is a volunteer based, fire and emergency service organisation. The CFS is a statutory authority which reports to the Minister for Emergency Services through the Board of the SA Fire and Emergency Services Commission.

1.68 The CFS, which is made up of approximately 15,000 volunteers and 110 staff, is responsible for protecting life, property and environmental assets in regional and semi metropolitan South Australia. CFS brigades provide assistance at approximately 7,000 incidents per year. These incidents can include:

- bushfires;
- structure and motor vehicle fires;
- road crash rescue;
- hazardous material spills;
- structure and motor vehicle fires;
- support and assistance to the SA Metropolitan Fire Service, State Emergency Service, SA Police, SA Ambulance, and other agencies;
- support for local governments in relation to fuel removal, bushfire prevention and community bushfire and fire safety education.³¹

Metropolitan Fire Service

1.69 The South Australian Metropolitan Fire Service (MFS) is the primary provider of structural firefighting services across the state of South Australia. The MFS is responsible for protecting the South Australian community from fire, chemical incidents and other emergencies. Based in the city of Adelaide the MFS is a fully professional organisation that employs more than one thousand staff across 36 metropolitan and regional stations.³²

Fire and Emergency Services Commission

1.70 The South Australian Fire and Emergency Services Commission (SAFECOM) was established by the Fire and Emergency Services Act 2005. SAFECOM came into operation on 1 October 2005 and replaced the Emergency Services Administrative Unit.

1.71 The primary objectives of SAFECOM are:

31 Department for Environment and Heritage website, accessed on 15 June 2010 at <http://www.environment.sa.gov.au/fire/about/index.html>

32 Metropolitan Fire Service website, accessed on 15 June 2010 at http://www.samfs.sa.gov.au/site/about/_us/our_organisation.jsp

- to develop and maintain a strategic and policy framework as well as sound corporate governance across the emergency services sector;
- to provide adequate support services to the emergency services organisations and to ensure the effective allocation of resources within the emergency services sector;
- to ensure relevant statutory compliance by the emergency services organisations;
- to build a safer community through integrated emergency services organisations; and
- to liaise with the peak body responsible for managing emergencies as well as to report regularly to the Minister about relevant issues.

1.72 SAFECOM is also responsible for the administration of the Community Emergency Services Fund, which was established by the Emergency Services Funding Act 1998. The Fund is the main source of funding for all of the Emergency Sector agencies.

Fire Management Plans

1.73 DEH involves local communities, local government, the CFA and other government agencies, and other key stakeholders in providing information regarding fire management issues in the planning area. This information is considered as part of a risk assessment process where strategies and on-ground works are determined to reduce the risk that fire poses to life, property and the environment across the planning area.

DEH seeks public feedback on Draft Fire Management Plans and once this feedback has been considered and incorporated where necessary, Fire Management Plans are adopted and implemented by DEH.

Forestry South Australia

1.74 Under the Guidelines for Plantation Forestry in South Australia, forest owners are advised that:

- vehicles, machinery and equipment to be used in the forest during the fire season should be routinely maintained and tested, and carry appropriate fire suppression equipment;
- all reasonable precautions should be taken to reduce the likelihood of fire ignition and to actively control fires in the event that they occur;
- companies should develop procedures and plans for risk mitigation and fire management in accordance with Regional Bushfire Prevention Plans;

- information on a company's or individual's forest resources and fire management plan should be communicated to the CFS and other relevant stakeholders;
- the plantation manager should consider the provision of fire suppression equipment and resources to reflect the risk of fire to the plantation and the scale of the business, including the appropriate reaction to predicted weather conditions;
- all employees or contractors with a fire management, detection or suppression role should be appropriately trained to national fire competency standards;
- regional forest industry fire management arrangements may exist and forest owners and managers should be familiar with these systems.³³

Western Australia

Department of Environment and Conservation

1.75 In Western Australia, the Department of Environment and Conservation (DEC) is the lead agency responsible for the management of lands and waters including national parks, conservation parks, regional parks, state forests, timber reserves and nature reserves.

1.76 DEC has direct statutory management responsibility for lands under the *Conservation and Land Management Act 1984*, for both biodiversity conservation and community protection. In addition, DEC has 'fire preparedness responsibility' for a further 89 million hectares of unallocated crown land and unmanaged reserves across the state.³⁴

1.77 DEC is supported by officers of the Forest Products Commission and the bushfire brigades of local government authorities in responding to and suppressing fires in the south-west forest regions, the Midwest and the South Coast. DEC has more limited fire management resources in other parts of Western Australia. DEC also works with the Fire and Emergency Services Authority (FESA) and local governments in fire management.³⁵

1.78 DEC has a policy of using prescribed fire as a tool for fuel hazard reduction, wildfire mitigation and ecosystem management. The Department notes that planned burns are often undertaken at landscape scales and that in order to achieve both

33 Department of Primary Industries and Resources website, accessed on 15 June 2010 at http://www.pir.sa.gov.au/forestry/programs/farm_forestry/guidelines_for_plantation_forestry_in_south_australia_2009/forest_protection

34 Western Australian Department of Environment and Conservation, *Submission 50*, p. 1

35 Government of Western Australia, Department of Environment and Conservation, *Submission 50*, p. 2

protection and ecological management objectives the time of year, fire intensity, and the interval between fires is varied. The Department's submission states that it '... has an obligation to ensure that the condition of the public land which it manages does not pose a threat to human life and property as a consequence of wildfires'.³⁶

Fire and Emergency Services Authority

1.79 The Fire and Emergency Services Authority of Western Australia (FESA) was established in January 1999 in an amalgamation of the Fire and Rescue Service, the State Emergency Service, the Bush Fire Service, Emergency Management Services and the Volunteer Marine Rescue Service. FESA provides both emergency services to the Western Australian community and support for more than 30,000 volunteers and 900 firefighters across the state. FESA responds to a wide range of emergencies including fire, cyclones, storms, floods, road accidents, chemical spills and earthquakes as well as undertaking search and rescue operations on land and water.

1.80 FESA provides advice and support regarding emergency management issues to key stakeholders at the local state and national level, which includes the development of strategic fire management plans.³⁷

1.81 Both DEC and FESA provided excellent submissions to this inquiry and Western Australia's bushfire management arrangements are discussed in greater detail throughout this report.

Queensland

Department of Environment and Resource Management

1.82 In Queensland, agencies such as the Department of Environment and Resource Management and Forestry Plantations Queensland are responsible for managing fire on land under their control. These agencies work collaboratively to achieve a coordinated approach to fire management planning, prescribed burning and bushfire suppression.³⁸

Queensland Fire and Rescue Service

1.83 The Queensland Fire and Rescue Service (QFRS) is the lead agency for managing bushfires and bushfire threat in both urban and rural areas of Queensland. The QFRS is a division of the Department of Community Safety which also includes Emergency Management Queensland, the Queensland Ambulance Service and Queensland Corrective Services.

36 Government of Western Australia, Department of Environment and Conservation, *Submission 50*, p. 1

37 FESA, *Submission 39*, pp 1-3; Fire and Emergency Services Authority website, accessed on 26 May 2010 at <http://www.fesa.wa.gov.au/internet>

38 Queensland Department of Community Safety, *Submission 12*, p. 6

1.84 The QFRS works with other agencies in managing bushfire prevention and risk reduction through initiatives such as the establishment of the State Inter-Departmental Committee on Bushfires (SIDC), the introduction of a Wildfire Mitigation initiative and the establishment of local Fire Management Groups.³⁹

State Inter-Departmental Committee on Bushfires

1.85 In 1994, following recommendations from a Bushfire Audit (which examined the state's preparedness for major bushfires that occurred in Queensland and New South Wales that year) the Inter-Departmental Committee on Bushfires was established.

1.86 The committee provides a forum for the coordination of policy and procedures relating to rural fire management with a view to achieving a consistent, comprehensive, whole-of-government approach to managing fire across the state. The committee is chaired by the Assistant Commissioner for Rural Operations and members include representatives from the Department of Environment and Resource Management, the Department of Transport and Main Roads, the Queensland Police Service, Forestry Plantations Queensland, the Local Government Association of Queensland, Brisbane City Council and the Bureau of Meteorology.⁴⁰

Fire Management Groups

1.87 Fire Management Groups were established with a view to developing a cooperative relationship between the QFRS land management agencies, the community and other stakeholders to allow for a cooperative and coordinated approach to bushfire management at a local level. The groups also work closely with regional committees to ensure fire management at the local level is consistent with regional priorities.⁴¹

1.88 Fire Management Groups are generally chaired by a local Rural Operations Officer, a representative of another government agency, a community group or a local landholder. The groups undertake a variety of activities including joint fire management planning, prescribed burning, community education and bushfire risk management.⁴²

Wildfire Mitigation Initiative

1.89 The Wildfire Mitigation Initiative was introduced in 2008 to ensure bushfire risk mitigation planning is carried out in a consistent manner across the state. The key objectives of this initiative are to:

39 Queensland Department of Community Safety, *Submission 12*, p. 1

40 Queensland Department of Community Safety, *Submission 12*, p. 2

41 Queensland Department of Community Safety, *Submission 12*, p. 2

42 Queensland Department of Community Safety, *Submission 12*, p. 2

- minimise the risk to the public and fire fighters by reducing the potential impact of bushfires and ensure that land owners and land managers understand their fire management responsibilities and contribute to the planning process;
- improve the effectiveness of bushfire mitigation through strategic fuel management and other initiatives; and
- reduce bushfire risk by ensuring that the community is well informed about protection measures and prepared for bushfire events through community programs, such as the Bushfire Prepared Communities program.⁴³

Northern Territory

Department of Natural Resources, Environment, the Arts and Sport (including Bushfires NT)

1.90 The Department of Natural Resources, Environment, the Arts and Sport is responsible for land use planning in the territory. The department is also responsible, through Bushfires NT, for implementing the *Bushfires Act 1980* and supporting landholders with fire mitigation. Departmental staff perform a number of roles, including:

- policy development;
- research;
- maintenance programs;
- education and training;
- administrative support; and
- volunteer brigade support.

1.91 Bushfires NT states that its primary role is 'co-ordinating pre-suppression work to achieve consistent levels of practice most suited to the differing areas of the Northern Territory'.⁴⁴ The implementation of 'best practice' is dependent on research into the effects of fire on the environment. Bushfires NT also operates under a series of policy guidelines, the main ones being:

- protection of life, property and the environment from the effects of bushfires; and

43 Queensland Department of Community Safety, *Submission 12*, p. 3

44 Northern Territory Government website, accessed on 15 June 2010 at <http://www.nt.gov.au/nreta/natres/bushfires/about.html>

- maintenance of natural resources, including native ecosystems and productive lands, by the use of appropriate fire regimes.⁴⁵

1.92 The objectives of Bushfires NT are identified as:

- to reduce the total area burnt by bushfire in the Northern Territory;
- to involve individuals and the community as a whole in the responsibility for fire management throughout the Northern Territory;
- to promote fire management strategies for all parcels of land in the Northern Territory;
- to promote fire research and analyse study data to achieve best practice; and
- to develop fire education and training programs for landholders and managers, school students and Aboriginal communities.⁴⁶

Bushfires Council NT

1.93 The role of the Bushfires Council NT is to advise the Minister on measures to be taken to prevent and control bushfires in the Northern Territory. Members of the Bushfires Council make recommendations to the Minister regarding measures for effective fire management on land throughout the Northern Territory (with the exception of land within the immediate environs of the main urban centres, which is under the control of the NT Fire and Rescue Service). The Bushfires Council also considers policy and issues affecting the operational efficiency and strategic direction of bushfire management in the Northern Territory.⁴⁷

Northern Territory Fire and Rescue Service

1.94 The Northern Territory Fire and Rescue Service (NTFRS) is the other primary provider of fire and rescue services throughout the Northern Territory. In addition to attending structural fires, the NTFRS provides other fire and rescue services, which include:

- rescue – road accident and other types of rescue;
- chemical and hazardous material incident management;
- community awareness and education;
- juvenile fire awareness and intervention;

45 Northern Territory Government website, accessed on 15 June 2010 at <http://www.nt.gov.au/nreta/natres/bushfires/about.html>

46 Northern Territory Government website, accessed on 15 June 2010 at <http://www.nt.gov.au/nreta/natres/bushfires/about.html>

47 Northern Territory Government website, accessed on 15 June 2010 at <http://www.nt.gov.au/nreta/natres/bushfires/about.html>

- fire safety compliance inspection of commercial buildings and building plans;
- administering legislation relating to fire and safety in buildings and on rural property;
- rural land management advice regarding the role and use of fire as a hazard mitigation tool;
- hazard abatement;
- fire cause investigation;
- fire alarm monitoring; and
- fire safety advice to the general community.⁴⁸

Local government responsibilities

1.95 Local governments are involved to varying degrees in supporting state-based fire and land management agencies, as well as communities, to effectively manage bushfire risk. Depending on the jurisdiction and nature of the bushfire risk, local governments may be responsible for the following:

- contributing funding for local bushfire brigades;
- hazard identification and management on local government land;
- incorporating bushfire risk assessments into local planning standards and the enforcement of those standards;
- ensuring adequate local disaster response capacity, including volunteer resources; and
- providing public education and awareness about bushfires.⁴⁹

Commonwealth responsibilities

1.96 The committee again notes that Australian state and territory governments are primarily responsible for the protection of life, property and the environment. However, the Commonwealth does engage in bushfire management through a number of different initiatives, mainly relating to providing assistance to responsible state agencies through emergency management and co-ordination support, education and training, research and information sharing, scientific and technical assistance, and public awareness.

48 Northern Territory Fire and Rescue Service website, accessed on 15 June 2010 at <http://www.pfes.nt.gov.au/index.cfm?fire>

49 Ellis, S. et al, *COAG National Inquiry on Bushfire Mitigation and Management*, March 2004, pp 189-190

1.97 The Attorney-General's Department has responsibility for 'whole of government coordination of emergency management activities and crisis management on behalf of the Commonwealth'.⁵⁰ The submission from the Attorney-General's Department stated that:

The Constitutional responsibility for the protection of lives and property of Australian citizens lies predominantly with the States and Territories. The Australian Government accepts that it has a role in supporting the States in promoting community resilience, developing emergency management capabilities and supporting States and Territories when disasters exceed their capacity to respond. The Attorney-General exercises Commonwealth responsibility for emergency management matters through the Attorney-General's Department (AGD).

...

The AGD has responsibility for whole of government coordination of emergency management activities and crisis management on behalf of the Commonwealth. This includes direct responsibility for the provision of a range of mitigation, crisis management and recovery activities in support of the States and Territories in managing bushfires.⁵¹

1.98 The department informed the committee that the government is promoting 'a resilience based approach', which involves the Commonwealth ensuring governments and communities are better prepared for disasters by 'working closely with all levels of government, the private sector and the community to ensure an integrated approach to managing emergencies and disasters'.⁵²

1.99 The Natural Disaster Resilience Program gives effect to this priority:

The Program will consolidate the existing Bushfire Mitigation Program (BMP), the Natural Disaster Mitigation Program (NDMP) and the National Emergency Volunteer Support Fund (NEVSF). This will enable States and Territories to more effectively prioritise and address the risks of a range of disasters and streamline the associated administrative processes.

The DRP is a national program aimed at identifying and addressing disaster risk priorities, including through:

- disaster mitigation works, measures and related activities that contribute to safer, sustainable communities better able to withstand the effects of disasters and emergencies, particularly those arising from the impact of climate change;
- support for volunteers, particularly to address the challenges of volunteer recruitment, retention and training. Projects may include initiatives to increase the recruitment and retention of

50 Attorney-General's Department, *Submission 38*, p. 2

51 Attorney-General's Department, *Submission 38*, p. 1

52 Attorney-General's Department, *Committee Hansard*, 12 March 2010, Canberra, p. 21

volunteers to emergency services and other groups that contribute to individual and community resilience. They may also be directed at improving operational capability;

- support for local government, to assist them to effectively discharge their emergency management responsibilities; and
- encouraging partnerships with business and community groups to improve their ability to assist communities and be integrated in response and recovery activities and arrangements. The private sector owns many of the critical services that underpin communities, and have capacity to help communities prepare for disasters.⁵³

1.100 Within the Attorney-General's Department, Emergency Management Australia (EMA) is responsible for crisis management, including maintaining situational awareness and improving coordination during times of crisis. EMA is also responsible for activating Commonwealth crisis coordination and assistance arrangements post impact. States and territories can seek assistance from the Commonwealth (through EMA) when their total resources cannot reasonably cope with the needs of a specific bushfire disaster.⁵⁴

1.101 EMA also administers partial reimbursements to states and territories for expenditure on natural disaster relief and recovery measures through the Natural Disaster Relief and Recovery Arrangements (NDRRA).⁵⁵ These include:

- eligible personal hardship and distress (food, clothing, accommodation, emergency repairs to housing, replacement of essential household items and personal effects);
- psychological and financial counselling expenditure;
- restoration or replacement of essential public infrastructure (such as roads and bridges);
- concessional interest rate loans; and
- clean up and recovery grants to small business, primary producers and voluntary non-profit bodies.⁵⁶

53 Attorney-General's Department, *Submission 38*, p. 2. The Bushfire Mitigation Program, now consolidated within this program, provided money for the construction and maintenance of fire trails and other accessibility measures.

54 Attorney-General's Department, *Submission 38*, p. 3

55 Attorney-General's Department, *Submission 38*, p. 3

56 Attorney-General's Department, *Submission 38*, p. 4

1.102 The Attorney-General's Department has also been responsible for co-ordinating the implementation of a National Emergency Warning System, which has been designed to enable states and territories to send warning messages to fixed line and mobile telephones based on their billing address.⁵⁷

1.103 The Commonwealth provides funding for fire fighting aircraft through the National Aerial Firefighting Centre, which procures and co-ordinates aircraft on behalf of the states and territories.⁵⁸

1.104 The Commonwealth also serves an important role in providing funding for bushfire-related research, and gathering and sharing bushfire-related information. CSIRO, the Bureau of Meteorology and Geoscience Australia all conduct research and collect data that assists land management and fire agencies across Australia. This includes information about fire behaviour under different conditions, in addition to complementary meteorological and spatial data, which assist bushfire agencies to make informed decisions when determining appropriate mitigation and suppression strategies.

1.105 The Bureau of Meteorology, in particular, provides essential fire weather services to fire agencies and communities during periods of extreme risk conditions. The Bureau also provides information and services through:

- remote sensing from radar, satellite, and ground-based lightening networks which can provide more accurate observations to support fire weather prediction;
- early seasonal forecast information, which assists fire and land management agencies with pre-season strategic planning (for fire hazard reduction and deployment of fire fighting resources);
- a Numerical Weather Prediction model which provides early guidance on dry lightening; and
- participation as a research partner with the Bushfire Cooperative Research Centre.⁵⁹

1.106 The Bushfire Co-operative Research Centre (CRC) is also funded by the Commonwealth to arrange collaborative research projects between universities, CSIRO and other government or private sector organisations. The Bushfire CRC is discussed in greater detail in Chapter 5 from paragraph 5.56.

57 Attorney-General's Department, *Submission 38*, p. 4; Attorney-General's Department, *Committee Hansard*, 12 March 2010, Canberra, p. 23

58 NAFC website, accessed on 8 June 2010 at <http://www.nafc.org.au/portal/DesktopDefault.aspx>

59 Department of the Environment, Water, Heritage and the Arts and Department of Families, Housing, Community Services and Indigenous Affairs, *Submission 45*, pp 3-5

Should the Commonwealth have more responsibility for bushfire management?

1.107 Through the inquiry the committee considered a number of specific areas of bushfire management in which it was argued that the Commonwealth should have greater responsibility. These are examined in the chapters that follow. From a broader perspective, the committee also received evidence about the need for an overarching national bushfire policy to provide a framework for a well co-ordinated, best practice approach to bushfire management.

1.108 Bushfire CRC emphasised the significance of bushfire to other policy objectives, suggesting that developing policies on water and biodiversity conservation, urban planning, carbon sequestration and protecting Indigenous culture is futile 'without first critically analysing fire management'.⁶⁰

1.109 The Queensland Department of Community Safety's submission included commentary on the lack of national direction on bushfire management:

Australia does not have a national bushfire policy. The Australasian Fire Authorities Council has a position paper on bushfire management which is comprehensive and strategic in outlook but does not bind States or agencies.

As a result, each of the States has a mixture of policies between various agencies that are responsible for fire management. In some cases, there are three separate policies within the one state, for example one for state forests, one for national parks and one belonging to the emergency services.

There are also separate policies between and within states that do not connect with one another and/or are contradictory. Many local governments have varying fire mitigation strategies, which have been developed independently from organisations with fire management responsibility. Notably, private plantation companies, which now own most of Australia's plantation resources, are not represented anywhere in bushfire policy development.

There is a significant opportunity for State and federal governments to negotiate the structure and direction of national policy that requires all relevant stakeholders to adhere to and implement a minimum best practice bushfire management system.⁶¹

1.110 Professor Kanowski reiterated the COAG inquiry's suggestion for better focus within the Commonwealth for bushfire responsibility. He said:

The Australian Government's administrative structure does not lend itself to any department having a clear responsibility for bushfire strategies in their entirety. It would be better if there were greater clarity and focus

60 Bushfire CRC, *Submission 7*, p. 1

61 Queensland Department of Community Safety, *Submission 12*, pp 6-7

within the national government, mirroring the progress made by states and territories.⁶²

1.111 National Association of Forest Industries (NAFI) also considered that a nationally-guided approach to fire management be taken:

Given the magnitude of future fire risks, and complexities of multiple jurisdictions and land management responsibilities, fire management should be developed through a national process such as the Council of Australian Governments (COAG), in a similar way as to the treatment of water policy issues.

NAFI recommends that a national government strategy or blueprint be developed and implemented to assist with the reform of public land management for effective fire management. Such a process should build on the initial review commissioned by COAG in 2004 as part of the National Inquiry on Bushfire Mitigation and Management and start with the development of key national principles that would underpin policies and practices for reform and implementation.⁶³

1.112 Mr Gary Morgan from the Bushfire CRC also noted the dispersed responsibility at Commonwealth level:

...there are multiple agencies in the Commonwealth which have fire responsibilities—there are at least four that I am aware of—and a single focus would seem appropriate. I will just point out that, while we have three tiers of government, all have some sort of responsibility, and unity within that and a common focus would be very worth while with good strong leadership.⁶⁴

1.113 He suggested that the UN's fire management voluntary guidelines would be a good basis for a common approach.⁶⁵

1.114 The Bushfire Front Inc advocated the introduction of a national bushfire policy implemented by a new federal agency:

Australia has no National Bushfire policy and different States and agencies have different policies, or at least different philosophies and priorities. This is exacerbated by the situation at local government authority level, where there is often a different approach to fire management on private land between one councils and its neighbour. The Federal government has not shown itself willing or capable of developing a national policy and State governments are generally not interested in dictating policy to local government.

62 Professor Peter Kanowski, *Committee Hansard*, 12 March 2010, Canberra, p. 32

63 NAFI, *Submission 13*, p. 2

64 Bushfire CRC, *Committee Hansard*, 25 March 2010, Melbourne, p. 16

65 Bushfire CRC, *Committee Hansard*, 25 March 2010, Melbourne, p. 16

...

This Inquiry should recommend the development of a National Bushfire Policy for signing off at all levels of government, and arrange for input from independent experts and scientists. This should be accompanied by the development of a small Federal agency responsible for implementing policy and reviewing and reporting on bushfire outcomes in the States and Territories.⁶⁶

1.115 Australian Forest Growers expressed a similar view:

Australia has no national bushfire policy, nor do any of the State or Territory jurisdictions have over-arching policies which will guide land management, planning and Local Government authorities. As a result there is a mish-mash of policies developed independently by different agencies or Councils, with no coordination and no whole of Government ownership.

AFG calls for the development of a national bushfire policy for Australia, to ensure consistency in land management and planning strategies across all State agencies.⁶⁷

1.116 Australian Forest Growers also proposed that a new body be established to audit a more co-ordinated national approach:

AFG recommends that a much higher level of coordination and standardisation at all levels be developed, along with management plans based upon contiguous fuel type. It may be necessary to review current processes and make them more appropriate. Such historic concerns as interagency coordination, communication system compatibility, and skills capacity should be targeted.

AFG recommends that a National Fire Audit Office (NFAO) be established to provide confidence to the community. The NFAO would report annually to the Federal Parliament against the following terms of reference:

- Assessment and standardisation of essential equipment, communication and coordination between agencies (intra- and inter-state);
- Report on the fire readiness of the country prior to each fire season;
- Oversight of the deployment (by the States) of regional rapid response units to support fire suppression and filling of human resource gaps caused by such things as employee rostering and lack of available volunteers.
- Establishment and implementation of guidelines to compel fire management authorities to recognise and act on important and credible local advice. (This should apply to all fire suppression operations especially initial attack on outbreaks).

66 The Bushfire Front Inc, *Submission 48*, p. 2 and 4

67 Australian Forest Growers, *Submission 16*, p. 7

- Creation and management of a national education program designed to provide a range of options that residents should consider when confronted by impending fire. (The major focus is to provide advice on “stay or go” options when confronted by impending fire and fire preparedness).⁶⁸

1.117 The Planning Institute of Australia advocated an 'enhanced role' for EMA:

...their placement within the Attorney-General's Department is not necessarily the best placement in terms of their long-term ability to fulfil such a broader role. I felt they had a fairly comfortable fit with the Department of Defence because this is something that is a strong threat and challenge to us nationally. Emergency Management Australia potentially is the vehicle for an agency that has the key role of coordinating research, working within the AusDIN framework and promulgating and supporting work such as by the Development Assessment Forum to provide an integrated town-planning response. But, if a core part of their function and responsibilities were improving Australia's preparedness for natural hazards—which is there but not sufficiently resourced, in my view—then I think that would be a large part of putting the mechanism in place that we need.⁶⁹

1.118 The Planning Institute of Australia suggested that the Commonwealth's external affairs power may be used to take 'strong and purposive actions that we see need to be taken from the top'.

1.119 Many of the specific issues referred to above are discussed in greater detail throughout this report.

1.120 Other evidence provided a more cautionary perspective on a more robust Commonwealth role in this area. The Department of Environment, Water, Heritage and the Arts told the committee:

...land management is a state and territory responsibility, so you would have to be careful that you were not just adding an extra layer of government for no particular benefit.⁷⁰

1.121 Departmental officer Mr Gerard Early said:

I am a bit hesitant about us at the Commonwealth level telling the states what they should and should not do in terms of the land management and fire regimes that they should be adopting. I think that is properly their

68 Australian Forest Growers, *Submission 16*, p. 7

69 Planning Institute of Australia, *Committee Hansard*, 25 March 2010, Melbourne, p. 36

70 Department of Environment, Water, Heritage and the Arts, *Committee Hansard*, 12 March 2010, Canberra, p. 71

business and they should be much better placed than us to identify the various issues in various landscapes all around the country.⁷¹

1.122 Speaking of the previous federal parliamentary inquiry, Mr Nairn noted the limitations of the process:

...the Commonwealth was in a difficult position because a Commonwealth parliamentary inquiry technically should only be making recommendations where the Commonwealth can act. It can make all sorts of comments about things that it would like the states to do, but we tried—and this was one of the small compromises that I made with the members of the committee—to couch our recommendations in terms of: ‘How can the Commonwealth have a role?’ In a lot of cases, things that we wanted to see done had to be done by the states because they had the control in those areas. So that is why we couched our recommendation in terms of ‘through COAG’, to try to use the COAG process to have the states do those things. But, effectively, what we were saying was: ‘The states should do this.’⁷²

1.123 The committee discusses the Nairn report and its recommendations in the next chapter.

Committee view

1.124 While recognising the limitations on the Commonwealth's authority over bushfire management in Australia, the committee is of the opinion that the Commonwealth should provide a more focussed national direction for bushfire policy. At present, responsibility for bushfire policy at the Commonwealth level is dispersed across agencies and portfolios, without overall responsibility being vested in a single agency accountable to a single government minister or parliamentary secretary. It is the committee's view that bushfire management is of sufficient importance to warrant a more focussed policy approach at the Commonwealth level through such an arrangement, given the potential for more effective bushfire management at various government levels a single Commonwealth agency would bring.

1.125 The committee therefore recommends that the Commonwealth Government examine potential new arrangements for Commonwealth involvement in the development and implementation of a national policy for bushfire management. The committee considers that one option would be for Emergency Management Australia to have an expanded role that appropriately reflects the importance of bushfire mitigation and preparedness and the need to monitor and support the states and territories in this regard. An alternative approach would be for the Commonwealth to investigate establishing a new national bushfire agency answerable to a parliamentary secretary within the government. This agency would co-ordinate the Commonwealth's existing bushfire-related responsibilities performed by Emergency Management

71 Department of Environment, Water, Heritage and the Arts, *Committee Hansard*, 12 March 2010, Canberra, p. 72

72 Mr Gary Nairn, *Committee Hansard*, 12 March 2010, Canberra, pp 6-7

Australia, as well as develop best practice national policy for bushfire management to assist responsible agencies better manage their bushfire risk through mitigation and preparedness strategies.

Recommendation 1

1.126 The Commonwealth Government examine potential new arrangements for Commonwealth involvement in the development and implementation of a national policy for bushfire management.

1.127 The committee makes a number of recommendations later in this report that recommend the Commonwealth take particular action. It is the committee's view that these recommendations would be best implemented through a Commonwealth agency with broader national responsibilities for bushfire management.

Chapter 2 – Previous bushfire inquiries

2.1 The substantial number of previous inquiries into bushfires in Australia was noted on many occasions in evidence to this committee inquiry. This chapter briefly considers the findings of major recent bushfire inquiries and explores the frustrations many in the community feel about apparent political inaction in response.

2.2 Since 1939, there have been at least 18 major bushfire inquiries in Australia, including state and federal parliamentary committee inquiries, COAG reports, coronial inquiries and Royal Commissions. They are listed as follows:

- 1939 (Victoria): Report of the Royal Commission to inquire into the causes of and measures taken to prevent the bush fires of January, 1939. L.E.B. Stretton.
- 1961 (Western Australia): Report of the Royal Commission appointed to enquire into and report upon the bush fires of December 1960 and January, February and March 1961, Western Australia. G.J. Rodger.
- 1967 (Tasmania): The bush fire disaster of 7th February, 1967: report and summary of evidence. D.M. Chambers and C.G. Brettingham-Moore.
- 1977 (Victoria): Report of the Board of Inquiry into the occurrence of bush and grass fires in Victoria. E. Barber.
- 1984 (Victoria): Report of the Bushfire Review Committee on bushfire preparedness in Victoria, Australia, following the Ash Wednesday fires 16 February 1983. S.I. Miller et. al.
- 1984 (national): 'Bushfires and the Australian environment', Report by the House of Representatives Standing Committee on Environment and Conservation. P. Milton, Chair.
- 1994 (NSW): Report of the Select Committee on Bushfires, Parliament of New South Wales, Legislative Assembly.
- 1996 (NSW): Recommendations from the New South Wales Inquiry into 1993/94 Fires, NSW State Coroner's Office. J.W. Hiatt.
- 2001 (NSW): Recommendations from the Inquiry into the Fire at Mt Kuring-Gai Chase National Park, NSW State Coroner's Office. J. Stevenson.
- 2002 (Victoria): Report of the Investigation and Inquests into a Wildfire and the Deaths of Five Firefighters at Linton on 2 December 1998. State Coroner's Office, Victoria. G. Johnstone.

- 2002 (NSW): Report on the Inquiry into the 2001/2002 Bushfires, Joint Select Committee on Bushfires, Parliament of New South Wales, Legislative Assembly. J. Price, Chair.
- 2003 (ACT): Inquiry into the Operational Response to the January 2003 Bushfires in the ACT. R.N. McLeod.
- 2003 (Victoria): Report of the Inquiry into the 2002–2003 Victorian Bushfires. B. Esplin et al.
- 2003 (national): 'A Nation Charred: Inquiry into the Recent Australian Bushfires', House of Representatives Select Committee on the Recent Australian Bushfires. G. Nairn, Chair.
- 2004 (national): Council of Australian Governments National Inquiry into Bushfire Mitigation and Management. S. Ellis et al.
- 2006 (ACT): Inquests and Inquiry into Four Deaths and Four Fires between 8 and 18 January 2003. M. Doogan, ACT Coroner.
- 2008 (Victoria) 'Report on the Impact of Public Land Management Practices on Bushfires in Victoria', Victorian Parliamentary Environment and Natural Resources Committee. J. Pandazopoulos, Chair.
- 2009 (Victoria): 2009 Victorian Bushfires Royal Commission Interim Report. B. Teague et al.
- 2009 (Victoria): 2009 Victorian Bushfires Royal Commission Interim Report 2: Priorities for building in bushfire prone areas. B. Teague et al.
- 2010 (Victoria): Victorian Bushfires Royal Commission Final Report. B. Teague et al.

2.3 In Appendix 5 the committee reproduces the recommendations of these reports, from the 2003 House of Representatives report onwards. The committee has included government responses where available, as well as a brief comment on the extent to which recommendations from those inquiries have been implemented.

2.4 Nearly all of these inquiries have been established in response to major bushfire events in the south-eastern parts of Australia. As the Bushfire CRC notes in its submission, these areas are more greatly affected by such events:

In northern Australia, few years pass without large areas being burnt. These fires generally have a comparatively low economic impact due to the limited population density and the dispersed nature of built assets. ...

In southern Australia however, large fires often have significant economic and social impacts. The 2002-03 and 2006-07 fire seasons in south-eastern Australia, and most particularly the 2008/09 season were bad, with very

significant areas of forest burnt during the summers, major asset losses occurring, very high suppression costs being borne and complex incident management arrangements being required.¹

2.5 The submission also recognised the differences in the types of fires that occur in the northern and southern parts of Australia:

Northern Australian fires tend to occur in savannah woodlands and in hummock grasslands. The amount of fuel in these environments is generally limited and the weather conditions in the dry season are generally stable. Maximum fire intensities in these situations rarely exceed 20,000 kilowatts per metre. During bushfires in the mountain forests of southern Australia maximum intensities can reach up to 100,000 kW/m.²

2.6 The notable exception is the 1961 Royal Commission into Western Australian bushfires that devastated the Dwellingup area. That inquiry found that a build-up of undergrowth had contributed to the intensity of the fires and a substantial prescribed burning regime was introduced in WA.³ The claimed success of the response to the WA inquiry is discussed further at 3.125.

2.7 In evidence to the committee COAG inquiry panellist Professor Peter Kanowski described the common themes to have emerged from the inquiries into Australian bushfires. They include:

- the importance of prevention and mitigation activities before fires occur: including protective burning/fuel reduction (both in the landscape and around assets), improving community education and awareness, and improving track access for fire fighters;
- the need for adequate resources: including resources for fire agencies and land management agencies, using local knowledge more effectively, and recognising the value of volunteers; and
- other issues relating to communications infrastructure, local government responsibilities and the role of the insurance industry.⁴

2.8 The foreword of the Nairn Committee's report on the 2002-03 fires reported that evidence to the inquiry was overwhelmingly of the view that:

1 Bushfire CRC, *Submission 7*, p. 3

2 Bushfire CRC, *Submission 7*, p. 5

3 Emergency Management Australia, *EMA Disasters Database*, accessed on 5 May 2010 at <http://www.ema.gov.au/ema/emadisasters.nsf/c85916e930b93d50ca256d050020cb1f/7fd5650f149a2674ca256d330005802f?OpenDocument>

4 Professor Peter Kanowski, *Committee Hansard*, Canberra, 12 March 2010, p. 31

... proper land management, proper fire prevention principles and proper fire suppression strategies could have greatly limited the risk of these high intensity wildfires.

The Committee heard a consistent message right around Australia:-

- there has been grossly inadequate hazard reduction burning on public lands for far too long;
- local knowledge and experience is being ignored by an increasingly top heavy bureaucracy;
- when accessing the source of fires, volunteers are fed up with having their lives put at risk by fire trails that are blocked and left without maintenance;
- there is a reluctance by state agencies to aggressively attack bushfires when they first start, thus enabling the fires to build in intensity and making them harder to control; and
- better communications between and within relevant agencies is long overdue.⁵

2.9 These broad themes reflected many of the committee's recommendations, which are included in full at Appendix 5.

2.10 In its submission to the inquiry, the Bushfire CRC also outlined the tasks identified by previous inquiries as needing to be resolved at the national level. These mostly fell into the categories of effective fuel reduction, better national co-ordination and the recruitment and retention of volunteer personnel. Specific hazard reduction tasks included:

- the establishment of a 'single, fuel classification system';
- the development of private property based fuel management monitoring systems for use by local government;
- the establishment of an auditing system for the management of fuel loads on both publically and privately-owned land; and
- the establishment and maintenance of a national data base for key fire related parameters including fuel conditions and the level of fuel management, areas burnt by all forms of fire and agreed measures of intensity/severity (to these could be added the monitoring and reporting of the annual greenhouse impacts of fire regimes).

2.11 Within the scope of national co-ordination:

5 House of Representatives Select Committee on the Recent Australian Bushfires, *A Nation Charred: Inquiry into the Recent Australian Bushfires*, October 2003, p. ix-x

- developing a national approach to the interface between the legal system and the responsibilities of Incident Controllers, and in relation to the impact of occupational health and safety legislation and the performance of fire agencies;
- the standardisation of cross State boundary support arrangements, and mutual support arrangements generally;
- further national coordination and resourcing of fire management related aircraft services;
- a greater involvement of fire and land management agencies in the national mapping program;
- the development and implementation of a 'national strategic radio system', improved mobile data services and related enhancements to improve safety on the fireline; and
- a greater nationally co-ordinated approach to land-use planning, building and maintenance standards in fire-prone areas.

2.12 Tasks relating to volunteers were:

- reviewing the financial impacts borne by volunteers and their employers and exploring taxation related and other ways of reducing these impacts; and
- developing a national approach to the insurance arrangements applying to volunteer fire fighters.⁶

2.13 Most of the themes and issues identified from previous bushfire inquiries were again raised with this committee and form the basis for the remainder of the report. The committee recognises the frustration many people feel about raising well established concerns over bushfire management to yet another inquiry, when previous inquiry processes have not resolved the issues that have been so consistently brought to the attention of governments.

2.14 Professor Kanowski described the bushfire 'cycle of response' that needs to be broken to improve the way Australia manages bushfires:

The COAG Inquiry ... found a repeated cycle of response by governments and the community to major fire events: first, suppression and recovery processes are always accompanied by assertions, accusations and allocations of blame, even while the fires are still burning; second, inquiries are established and report; third, recommendations are acted upon, to varying degrees; fourth, the passage of time sees growing complacency and reduced levels of preparedness... and the cycle begins again with the next major bushfire event.

6 Bushfire CRC, *Submission 7*, pp 10-11

The COAG Inquiry concluded that breaking of this cycle, collectively and individually, was perhaps the greatest challenge we face in learning from the impacts of each bushfire on life and property, and applying our learning in time for the next bushfire event.⁷

2.15 Bushfire CRC noted that:

The period 1998-2009 has seen an unprecedented level of scrutiny of the management of bush (wild) fires in Australia. Yet despite all the reports and recommendations, many fundamental issues appear to remain unaddressed. As an example, over two and a half million hectares or over one-third of Victoria's public land has been burnt by wildfire since late 2002.⁸

2.16 Victorian Association of Forest Industries (VAFI) lamented the frequent bushfire inquiries followed by inaction:

It is quite unfortunate, from my brief experience with this industry, that we continue to have inquiry after inquiry and we continue to have the same recommendations made time and time again. The reason that that occurs is because it is common sense. The recommendations cannot change. However, the attitudes do not change either—that is, the implementation of those recommendations, unfortunately, fails to see the light of day in respect of many of them.⁹

2.17 The Institute of Foresters of Australia also expressed their frustration:

The Institute of Foresters of Australia has previously contributed to a wide range of Federal and State Parliamentary Inquiries including the 2004 COAG Inquiry and the current Victorian Royal Commission into Bushfires.

Institute members are concerned with the lack of implementation of recommendations arising out of the various Inquiries/Commissions and the Institute wishes to register its strong opinion that any further inquiries into Australian bushfire management are futile until recommended actions arising out of previous inquiries are resolved.¹⁰

2.18 They recommended:

The IFA calls on the Federal Government to set up a peak body to co-ordinate implementation of the key issues that have arisen out of at least 18 major inquiries dating back to 1939.

2.19 One Bushfire Front Inc representative related his experience contributing to the 2008 Victorian parliamentary committee inquiry, noting that the committee's report is 'gathering cobwebs':

7 Professor Peter Kanowski, *Committee Hansard*, Canberra, 12 March 2010, p. 31

8 Bushfire CRC, *Submission 7*, p. 6

9 VAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 51

10 Institute of Foresters of Australia, *Submission 6*, p. 1

The committee came to Perth and I met with them for almost a whole morning. I was impressed by the committee. They were enthusiastic and interested. They went away and in the end published a report, a copy of which was sent to me, and I thought it was one of the best reports that I had seen come out of a parliamentary group for many, many years. I understand that report was submitted to the Victorian parliament and to the Victorian government and it was noted. I understand that is about all that happened to it.¹¹

2.20 The Ministerial Council for Police and Emergency Management indicated in its November 2009 communiqué that:

The Council acknowledged the significant role that these reports have played in shaping the reform of Australia's emergency management arrangements over recent years. The Council has conducted an audit of the implementation of these recommendations, which found that most recommendations have been addressed.

The Council agreed that further work in regard to risk assessment and modification, land use planning, development and building control regimes will now be undertaken as part of the national disaster resilience agenda.¹²

Committee view

2.21 The committee realises that not every recommendation from parliamentary committee, coronial or Royal Commission inquiries can or should be implemented by the governments and their agencies to whom they are directed. It is also understood that following a natural disaster many of those affected will seek to identify contributing policy failures that can and should have been rectified by government action, rather than attributing the devastation to the grim reality of natural forces alone.

2.22 However, the committee is of the view that the consistency of recommended action over a number of years indicates that some states have not adequately addressed deficiencies in bushfire management. The clearest example of this is the apparent lack of political will in some jurisdictions to comprehensively plan, fund and implement fuel hazard reduction strategies on fire prone public land, despite consistent advice from fire fighters and other bushfire experts to do so.

2.23 The committee understands that improving bushfire management practices is not a straightforward task, nor is there universal agreement about the best way to do it. But the committee makes the observation that governments at all levels are obliged to take all reasonable measures to avoid the catastrophic loss of life that occurred in

11 The Bushfire Front Inc, *Committee Hansard*, Perth, 29 April 2010, p. 21

12 Ministerial Council for Police and Emergency Management, Communiqué, Perth, 20 November 2009, accessed on 28 May 2010 at [http://www.ema.gov.au/www/emaweb/rwpattach.nsf/VAP/\(8AB0BDE05570AAD0EF9C283A48F533E3\)~Communique_Perth+20th+Nov09.pdf/\\$file/Communique_Perth+20th+Nov09.pdf](http://www.ema.gov.au/www/emaweb/rwpattach.nsf/VAP/(8AB0BDE05570AAD0EF9C283A48F533E3)~Communique_Perth+20th+Nov09.pdf/$file/Communique_Perth+20th+Nov09.pdf)

Victoria in February 2009. The committee therefore suggests that governments and their agencies re-consider inquiry recommendations they have previously rejected, and hasten the implementation of those they have accepted, bearing in mind the real possibility that a similar disaster could occur again.

2.24 The committee also proposes that the Commonwealth Government take the necessary measures to assist the states carry out their responsibilities as effectively as possible, and makes a number of recommendations to this effect in the remainder of the report.

Chapter 3 – Bushfire mitigation

Introduction

3.1 This chapter focuses on bushfire management prior to the outbreak of a fire; the actions that can be taken by land managers, fire agencies and at-risk communities to prevent the loss of life and destruction of assets from catastrophic bushfires. From the evidence taken during the inquiry three broad themes emerged:

1. Preventing fire ignition.
2. Reducing the intensity of bushfires by reducing combustible fuel before fires start.
3. Improving measures taken to protect life and assets in built areas by making communities more resilient to fire.

Fire prevention

3.2 Fire has always occurred naturally in the Australian environment so it is not possible to prevent bushfires occurring entirely. However, measures can be taken to minimise some of the human causes of fire. While education and community vigilance are important elements in reducing ignition by careless acts, evidence to the inquiry related mainly to minimising fires deliberately lit by arsonists and fires caused by faulty power infrastructure.

Arson

3.3 An important consideration when managing bushfire risk is the potential damage caused by fires deliberately lit on days when fire conditions are most dangerous. Evidence to the committee noted, though, the elusiveness of this cause and the difficulty of preventing it.

3.4 CSIRO commented that 'prosecutions relating to maliciously lit fires are rarely obtained, so it is difficult to assess their magnitude', though they quoted research suggesting that anywhere between 25 and 50 per cent of fires are deliberately lit, subject to variations depending on locations and times.¹

3.5 The Australian Institute of Criminology has estimated that approximately half of vegetation fires are deliberately lit. Their recent report on arson prevention stated that:

1 CSIRO, *Submission 15*, p. 4

Available evidence suggests that the risk of deliberate fires is higher during certain times of the year and week and that there are 'hot spots', most notably on the edge of urban areas. On known offenders there is limited research and it primarily relies on small samples of convicted arsonists. As a result situational and community crime prevention that addresses the local environment is most likely to have an impact, whilst offender based approaches have to focus on the treatment of known offenders, both adults and juveniles.²

3.6 The report acknowledged the difficulty of identifying cases of arson, before even being in a position to pinpoint who might be responsible:

Arson is a relatively easy crime to commit and conceal. Many bushfires are not subject to an investigation to determine their cause, and of those that are investigated and concluded to be deliberate or suspicious, that conclusion is often due to the lack of any clear indication that the fire was natural: no lightning recorded in the area, and nothing else nearby that may have caused the ignition. It is rare for fire fighters to find some form of incendiary device that would unambiguously point to a deliberate fire. As such, it is very difficult to determine exactly how many bushfires people have lit and with what intent.³

3.7 The Queensland Department of Community Safety's submission referred to 'the inherent difficulties of catching and convicting bushfire arsonists'.⁴ They stated that in addition to mitigating the intensity of fires that occur a co-operative approach to reducing arson is required:

Primary prevention techniques to reduce deliberate bushfires need to rely on an understanding of the situations in which such fires occur and either changing something about the environment or the community in order to prevent it happening in the future. For example, available evidence on bushfire arson suggests that the risk of deliberate fires is higher during certain times of the year and week and often most notably on the fringe of urban areas.

A cooperative approach by fire agencies, land management agencies and police is required to identify and document arson hotspots. Once an understanding of the arson pattern is established, appropriate prevention techniques can be applied in order to reduce bushfire incidents. QFRS is currently working with the Queensland Police Service through an exchange program to obtain data on the location of habitual arsonists to enable this to be and mapped along with Australasian Incident Reporting System data on suspicious fires.

2 Muller, D. 'Using crime prevention to reduce deliberate bushfires in Australia', *Australian Institute of Criminology Research and Public Policy Series*, No. 98, 2009, p. iii

3 Muller, D. 'Using crime prevention to reduce deliberate bushfires in Australia', *Australian Institute of Criminology Research and Public Policy Series*, No. 98, 2009, p. 2

4 Queensland Department of Community Safety, *Submission 12*, p. 13

3.8 Fire and Emergency Services Authority of Western Australia (FESA) told the committee that in Western Australia FESA, DEC and the police arson squad co-operate via web-based reporting to identify and act on series of localised incidents indicating the work of arsonists.⁵ South Australian MP Dr Bob Such advocated the wider adoption of that state's Operation Nomad, where convicted and suspected arsonists are placed under surveillance by police on high risk fire days.⁶

3.9 The COAG bushfire inquiry identified arson prevention as an important strategy:

Arson is one cause of fire that can be reduced through greater application of resources. The Inquiry found, however, that the focus on arson varies significantly across the states and territories, depending on the perceived size of the problem, community concern and identification of arsonists.⁷

3.10 The inquiry encouraged co-operation and information sharing between police and fire agencies:

The Inquiry considers that benefit would be gained if fire and police agencies:

- provided information to other services when known arsonists travel or move interstate or when there is potential for this to happen
- shared arson research, teaching and practical advice on arson incendiary devices
- collected nationally agreed statistics, perhaps through the Australian Institute of Criminology
- monitored and reported on any incidents of politically motivated arson.⁸

3.11 The Attorney-General's Department submission informed the committee that the Attorney-General held a forum on the reduction of bushfire arson, the outcomes of which were discussed at the Ministerial Council for Police and Emergency Management.⁹ The communiqué from that ministerial council in November 2009 noted:

The Council agreed to a National Work Plan to Reduce Bushfire Arson in Australia including the development of a whole-of-government national strategy on best practices to reduce bushfire arson. The strategy will use the

5 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 75

6 Dr Bob Such MP, *Submission 10*, p. 2

7 Ellis, S. et al, *COAG National Inquiry on Bushfire Mitigation and Management*, March 2004, p. 95

8 Ellis, S. et al, *COAG National Inquiry on Bushfire Mitigation and Management*, March 2004, p. 96

9 Attorney-General's Department, *Submission 38*, p. 3

National Work Plan as a basis for its development. An interim report on the strategy will be available to the Ministerial Council by the end of April 2010.¹⁰

3.12 The Australian Fire and Emergency Services Council (AFAC) incident reporting system database is an important aspect of this national approach, however AFAC's website notes that:

Not all Australian fire services contribute to the national database, and of the fire services that have contributed, some have not included responses from the rural component of their service.¹¹

Power infrastructure

3.13 Another preventable cause of ignition is faulty power infrastructure. The Bushfire Front Inc noted 'a long history' of powerlines causing fires. However, the expense of updating power infrastructure meant that preventative measures 'are generally not implemented'.¹²

3.14 The Hon. Judi Moylan MP stated that: 'The ageing power reticulation system in Western Australia appears to have been the cause of many fires'.¹³ She was particularly concerned that ageing wood power poles had long passed their Australian Standard service life and their replacement has not been prioritised as part of the national infrastructure development program.¹⁴ Ms Moylan noted that this is a potential cause of fires that can be addressed:

The risk of fires due to ageing power reticulation infrastructure is a risk that can be almost entirely eliminated by a commitment of capital to update the system.

It will require political will at both a State and Federal level for this urgent work to go ahead, but there is little doubt that putting the lives of fire-fighters and citizens at risk, due to failure to renew the system is unacceptable. The financial cost of such fires is another issue and the Government should consider a Productivity Report into the cost of bushfires with particular attention to links between ageing power reticulation systems and fire risk.¹⁵

10 Ministerial Council for Police and Emergency Management, Communiqué, Perth, 20 November 2009, accessed on 28 May 2010 at [http://www.ema.gov.au/www/emaweb/rwpattach.nsf/VAP/\(8AB0BDE05570AAD0EF9C283A8F533E3\)~Communique_Perth+20th+Nov09.pdf/\\$file/Communique_Perth+20th+Nov09.pdf](http://www.ema.gov.au/www/emaweb/rwpattach.nsf/VAP/(8AB0BDE05570AAD0EF9C283A8F533E3)~Communique_Perth+20th+Nov09.pdf/$file/Communique_Perth+20th+Nov09.pdf)

11 AFAC website, 'National Data', accessed on 28 May 2010 at http://knowledgeweb.afac.com.au/national_data_and_glossary/national_data

12 The Bushfire Front Inc, *Committee Hansard*, Perth, 29 April 2010, p. 23

13 The Hon. Judi Moylan MP, *Submission 52*, p. 2

14 The Hon. Judi Moylan MP, *Submission 52*, p. 3

15 The Hon. Judi Moylan MP, *Submission 52*, p. 3

3.15 Ms Moylan acknowledged that the privatisation of utilities had exacerbated maintenance problems:

It is evident that power utilities once wholly Government owned and controlled have in most cases become corporate or privatised entities and, over the years, insufficient capital has been set aside to manage an infrastructure replacement program that minimises the risk of fires from this source and indeed power outages.

In addition, the political issue of the cost of energy to industry and domestic consumers means that power charging policies bear no resemblance to the real cost of delivery and therefore inhibit the capacity for generators to make adequate provision for a sinking fund out of general revenue.¹⁶

3.16 Despite these complications, Ms Moylan argued that the risks justify Commonwealth intervention and assistance:

Although the energy network infrastructure falls within the responsibility of the States and Territories, it could be argued that given the scope and the risks posed by the problem the Australian Government has a role in supporting the States to make the necessary upgrades.

While acknowledging the difficulties confronting the State Governments and the power generators, the continuation of these practices is patently unacceptable and the re-instatement of the matter on the COAG agenda should be an urgent priority.¹⁷

3.17 The committee notes that the Kilmore East fire that contributed significantly to the Black Saturday disaster is believed to have been caused by faulty power infrastructure, though the fault was attributed to a failure to observe a defective fitting during maintenance inspections, rather than ageing poles.¹⁸

Committee view

3.18 The committee is of the view that efforts should be made to prevent the causes of ignition where it is possible to do so. In particular, arson is one cause of bushfires which may be countered by improving strategies used to identify those responsible. The committee is encouraged by reports of co-operation between fire agencies and police at the state level, as well as the work being done through the Ministerial Council for Police and Emergency Management to facilitate information sharing between the states. Such co-operation will ensure that successful strategies identified in one state are able to be adopted across Australia, as ought to be the case. The committee also considers that the national incident reporting system administered by

16 The Hon. Judi Moylan MP, *Submission 52*, pp 3-4

17 The Hon. Judi Moylan MP, *Submission 52*, p. 4

18 Hughes, G. 'Deadly East Kilmore bushfire caused by power line fault', *The Australian*, 17 November 2009, accessed on 27 May 2010 at <http://www.theaustralian.com.au/news/world/deadly-east-kilmore-bushfire-caused-by-power-line-fault/story-e6frg6so-1225798543822>

the Australian Fire and Emergency Services Council is a valuable tool in this process and encourages AFAC to continue to work to improve the comprehensiveness and consistency of the data collected.

3.19 The committee supports greater efforts to share arson-related information and strategies across jurisdictions and recommends that the Commonwealth co-ordinate a standing arson forum between the relevant fire and law enforcement agencies from across Australia every two years to ensure this continues.

Recommendation 2

3.20 The Commonwealth co-ordinate a standing national arson forum between fire and law enforcement agencies to be held every two years.

3.21 The committee recognises that the task of replacing ageing power infrastructure will be time consuming and expensive. It is also a difficult task for governments to prioritise when competing spending imperatives such as transport infrastructure, health and education are more visible and immediate concerns for the public. The committee also recognises that the private ownership of utilities and concerns about rising energy costs means that there is little incentive to impose on consumers significant maintenance costs for the purpose of negating an unknown bushfire risk.

3.22 However, ageing power infrastructure is a cause of bushfires that can be addressed by governments directly and leaving the situation to fester is not acceptable. Furthermore, replacement costs would be to some degree offset by the reduced cost of suppressing possible future bushfires attributable to this cause, a question that should be the subject of further investigation by the Productivity Commission.

3.23 The committee is of the opinion that the Commonwealth should, through COAG and subject to the findings of such a report, examine options for the funding of replacement of power infrastructure that presents an unacceptable bushfire risk.

Recommendation 3

3.24 The Productivity Commission undertake an examination of bushfire risk from ageing power infrastructure, including an assessment of replacement costs and likely suppression costs from bushfires caused by defective infrastructure.

Recommendation 4

3.25 Subject to the findings of the Productivity Commission, the Commonwealth examine options for the funding of replacement of power infrastructure that presents an unacceptable bushfire risk.

Fuel reduction

3.26 The issue of fuel reduction in the landscape was the most contentious and debated topic during the inquiry. Although prescribed burning to reduce fuel loads

was recognised as an effective management approach, the committee received conflicting evidence about the following issues:

- the efficacy of prescribed burning in mitigating the intensity of fires in dangerous conditions;
- the efficacy of prescribed burning in the landscape as a strategy for protecting built assets and the people within them;
- the ecological consequences of prescribed burning;
- community concerns relating to smoke and the threat of escaped prescribed burns; and
- the adequacy of responsible agencies' implementation of prescribed burning measures.

3.27 The committee also heard evidence on specific prescribed burning strategies and proposals for reform. These are considered at the end of this chapter.

3.28 The adequacy of resources to utilise prescribed burning opportunities is discussed briefly in this chapter. However, the availability of resources for all aspects bushfire management is examined in more detail in Chapter 5.

Prescribed burning in bushfire management

3.29 Even using the best fire prevention measures, bushfires cannot be eliminated from the landscape and land managers are required to take measures to reduce the seriousness of these fires and the damage they inflict. When seeking to mitigate the effects of bushfires, fuel is the only variable affecting fire behaviour subject to human intervention and control. Therefore reducing combustible material in the landscape through prescribed burning programs is a critical management tool.

3.30 CSIRO stated:

Of the three components that combine to determine fire behaviour (fuel, topography and weather), fuel is the only one that can be modified by people to moderate the behaviour of bushfires... Reducing the fuel hazard will reduce the overall danger posed by bushfires and increase the potential that a fire may be stopped through natural or artificial means...¹⁹

3.31 Given the inability of humans to control weather this view was not contested. For example, the Victorian Farmers Federation (VFF) said: 'There are some things that we cannot control. We cannot control the temperature, the wind or the humidity

19 CSIRO, *Submission 15*, p. 8

but we can control fuel loads'.²⁰ Mr Phil Cheney also said: 'the only thing that you can manage is the fuel'.²¹

3.32 Although fuel hazards can be reduced via mechanical removal and chemical treatment, prescribed burning is the most effective approach at landscape scales.²² CSIRO described the purpose and effect of prescribed burning:

Most hazard reduction burning conducted in Australia aims to keep the amount of fine surface fuels (fuels less than 6 millimetres in diameter) within the range of 8-15 tonnes per hectare... Hazard reduction burning also reduces the height, mass and flammability of elevated fine fuels such as shrubs and suspended dead material and is the only practical way of reducing the fibrous bark on trees, the prime source of firebrands that cause spotting...

Hazard reduction burning is not intended to stop wildfires, but it does reduce the intensity and the spread of unplanned fires, within the area treated by prescribed fire, by reducing:

- the rate of fire growth from its ignition point;
- flame height and rate of spread;
- the spotting potential by reducing the number of firebrands and the distance they are carried downwind; and
- the intensity of the fire.

As a consequence, hazard reduction burning lowers the risk of crown fires developing in medium to tall forests, will limit the rate of spread and potential impact of wildfires, and makes fire suppression actions safer, more effective and thus more efficient...²³

3.33 The CSIRO submission stated:

Fires burning in areas that have a reduced level of fuel hazard are much more likely to be quickly contained than those that are burning in heavy fuels that are long unburnt.²⁴

3.34 The Bushfire CRC noted that fuel reduction had diminished over time:

...the area subject to regular fire in Australia has declined somewhat over the past several decades as a consequence of changed land-use patterns, fire suppression practices and, and [sic] in many areas as a result of the

20 VFF, *Committee Hansard*, Melbourne, 25 March 2010, p. 93

21 Mr Phil Cheney, *Committee Hansard*, Canberra, 12 March 2010, p. 10. See also Volunteer Fire Fighters Association of NSW, *Committee Hansard*, Canberra, 12 March 2010, p. 48 and Mr Graham Brown, *Committee Hansard*, Canberra, 14 May 2010, p.36.

22 CSIRO, *Submission 15*, p. 8

23 CSIRO, *Submission 15*, p. 8

24 CSIRO, *Submission 15*, p. 12

cessation of traditional burning by aboriginal populations. In southern Australia, urban attitudes to the use of prescribed fire in more recent years have also been a factor in the decline in its use.²⁵

3.35 The causes and consequences of declining fuel reduction are examined below.

Effectiveness in different conditions

3.36 The committee received considerable evidence that there is a direct and established relationship between fuel loads in the landscape and bushfire intensity. The committee heard that while fuel reduction measures would not prevent fires from occurring, it could mitigate their intensity and assist with suppression efforts. However, some evidence suggested that reduced fuel may have a limited affect on bushfire severity in extreme fire conditions.

3.37 CSIRO's Dr Andrew Sullivan explained the effect of fuel load on fire intensity:

...if you take one kilogram of leaf litter out of a forest, there is the equivalent energy in that one dry kilogram of fuel to power a 100-watt light bulb for 50 hours—and it goes in 10 seconds when a fire burns it. People have that around them, but there is a disconnect between what the fuel is and what a fire will do in terms of releasing that as thermal energy.²⁶

3.38 The Western Australian Department of Environment and Conservation (DEC) claimed the following relationship between forest fuel and fire:

The fundamental relationship between fuel structure and quantity, and the speed and intensity of a forest fire, has been well established since the 1960's. Doubling the quantity of fuel doubles the speed of the fire and increases its intensity (killing power) four-fold. Reducing the amount of fuel over a significant proportion of the landscape by prescribed burning will significantly reduce the speed, intensity and damage potential of wildfires and greatly improves opportunities for safe suppression.²⁷

3.39 Citing research undertaken as part of Western Australian-based Project Vesta, the department stated:

This research demonstrated that the forward rate of spread of a fire is directly related to the characteristics of the surface fuel bed and understorey layers, with the near-surface fuel layer having the strongest effect on rate of spread.

...

25 Bushfire CRC, *Submission 7*, p. 5

26 CSIRO, *Committee Hansard*, Canberra, 12 March 2010, p. 12

27 DEC, *Submission 50*, p. 7

The Project Vista experiments indicate that fires in fuels older than about seven years will prove difficult to control under average summer conditions of moderate high fire danger in open eucalypt forest.²⁸

3.40 The Volunteer Fire Fighters Association of New South Wales claimed that increasing fuel loads by four times multiplied the fire intensity 17 times.²⁹ National Association of Forest Industries (NAFI) told the committee that:

...the higher the fuel load, the more intense the fire. In terms of fire suppression, it obviously makes it more difficult with a higher fire intensity. The research has shown that you have more spotting and faster spread of fires. So, even when you have moderate fire danger ratings, if you have a high fuel load, it is really a recipe for disaster.³⁰

3.41 The Bushfire Front Inc argued that fuel was more important in determining fire severity than any potential climate change effects:

...increased temperature has little impact on fire behaviour. Fires become intense when it is dry and windy and fuels are heavy. A rise in temperature of a couple of degrees will have insignificant impact.

Drought is an important influence on fire, but droughts occur in Australia already and always have done.

Doomsday projections of “unstoppable megafires” and “catastrophic weather” are expressions of defeat. We are not powerless to face up to hotter, even drier conditions. The trick is to prepare and to take steps to minimise fire damage and make fires easier and safer to suppress.³¹

3.42 From an anecdotal perspective, the Institute of Foresters of Australia cited the Kingslake area as evidence of the effects of fuel reduction, claiming that the Black Saturday fires were less severe in areas that had been affected by a smaller bushfire three years before, which had the effect of reducing fuel.³²

3.43 The Western Australian Department of Environment and Conservation argued that their system of broadscale prescribed mosaic burning had prevented the catastrophic fire events that have occurred in the south-east of Australia. They noted that since its introduction in 1961:

...there have been no forest fires greater than 30,000 hectares, no lives lost in forest fires, few injuries, and only one instance of multiple property losses. In the past 20 years, the average annual area burned by wildfires in

28 DEC, *Submission 50*, p. 7. See also outline of CSIRO's Project Vesta report at <http://www.csiro.au/resources/VestaTechReport.html#1>

29 Volunteer Fire Fighters Association of New South Wales, *Committee Hansard*, Canberra, 12 March 2010, p. 48

30 NAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 24

31 The Bushfire Front Inc, *Submission 48*, p. 3

32 Institute of Foresters of Australia, *Committee Hansard*, Melbourne, 25 March 2010, p. 84

the south-west forest regions is about 20,000 hectares, which is less than one per cent of the forested landscape managed by DEC.³³

3.44 In evidence at the committee's public hearing in Perth, the WA Department of Environment and Conservation gave examples of a number of successfully contained fire events that they claimed demonstrated the effectiveness of their prescribed burning regime.³⁴ The Department acknowledged that a more subdued topography in WA makes prescribed burning and rapid attack easier, but 'there is no practical difference in the structure and flammability of forest fuels'.³⁵

3.45 Professor Neal Enright stated that the differences were in fact significant:

[Victoria has] much more complicated topographic circumstances, higher fuel load vegetation and more extreme to catastrophic fire danger days than typically occur in the higher biomass forests of south-western Australia.

A lot has been made of how well the authorities and agencies do in south-western Australia. They do a very good job here. They treat a reasonably high area per year. The record of wildfires indicates that there is a small frequency and small size of wildfire events here, relative to south-eastern Australia. I do not know that you can put that down solely to them doing it better here. I think there are the environmental circumstances of the more mountainous terrain, the much larger area of high-biomass wet forests and differences in fire weather and fire behaviour conditions that make it a more difficult problem in Victoria. They will have to throw a hell of a lot more money at it to fix it. Then, of course, there are the biodiversity issues that would be associated with trying to do that in those large areas of national parks.³⁶

3.46 The Bushfire Front Inc also mentioned the contained Donnybrook fire, fanned by cyclonic winds:

Cyclone Alby provided winds of 130 kilometres an hour from the north-west in April 1978. The fire started about five kilometres north-west of Donnybrook, a town at that time of roughly 3,000 people. It headed straight for the town coming out of private property.

It came out of private property as a crown fire and then hit an area of state forest—Donnybrook block, as it used to be called. The whole block had been burnt about 18 months previously, and as a result the fire virtually stopped. It came down from the crowns, trickled around and was easily contained within a very short period of time, with minimum effort and with complete safety. If that burnt had not been done, there is no doubt whatever the town of Donnybrook would have been obliterated, because the fire had

33 DEC, *Submission 50*, p. 6

34 DEC, *Committee Hansard*, Perth, 29 April 2010, pp 3-4. The Department referred to fires at Mount Cooke, Mundaring-Karragullen, Dwellingup and fires associated with Cyclone Alby.

35 DEC, *Submission 50*, p. 6

36 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 85

been running on the other side of the forest block into long grass and peri-urban areas, which always carry heavy fuel loads. That is a classic example in our case of the value of fuel reduction burning.³⁷

3.47 Conservation Council of WA suggested that fires brought under control may often be due to other factors:

When we are told that the fire stopped because it ran into a recently fuel reduced area ... we are not told that there was a change in the weather or that the wind changed, and we are never told when the fires go straight through recently burnt areas.³⁸

3.48 There were varying opinions about whether reduced fuel loads would assist suppression on days of extreme fire danger. Dr Don Driscoll was of the view that weather was the overwhelming cause of major fire catastrophes:

The weather conditions really drive the incidence of these dangerous fires. The fires that have stimulated this sort of inquiry, the Victorian inquiry and the South Australian inquiries have all occurred under extreme weather conditions. So, really, considering what happens under mild or low conditions is not very important; it [is] what happens under extreme conditions that is very important. That is why the results emerging from Project Vesta and some of these other studies that have looked at the way the fire behaviour under different fuel loads have not really got to the nub of the problem, because you cannot carry out field experiments under extreme fire conditions.³⁹

3.49 Professor Neal Enright emphasised that the effectiveness of fuel reduction in certain circumstances remains unclear. He said:

...the relationship between the amount of fuel reduction burning and the effectiveness of fuel reduction burning is still not clear in a scientific sense. Most of the experimental research relates to fires conducted under moderate to, at most, high fire danger weather conditions. It is very difficult to actually conduct experiments under extreme fire danger weather conditions. As we move up the scale, we do not really have as good an understanding of how fuels will behave, even in fuel reduced situations.

There have been a number of [case] studies ... that have been done looking at the fact that a particular wildfire may have been slowed or stopped when it encountered a fuel reduced block. That is certainly true and there are many examples of that in a number of forest types in southern Australia, particularly where the fuel reduction burns had been delivered within the previous five years. One of the main issues is that, once you get beyond five

37 The Bushfire Front Inc, *Committee Hansard*, Perth, 29 April 2010, p. 22

38 Conservation Council of WA, *Committee Hansard*, Perth, 29 April 2010, p. 34

39 Dr Don Driscoll, *Committee Hansard*, Canberra, 14 May 2010, p. 10

years and you get into high fire danger weather conditions, the value of those previous fuel reduction burns drops away quite quickly.⁴⁰

3.50 The committee notes that Professor Enright assisted the Victorian Esplin inquiry into the 2002-2003 bushfires, which recommended that fuel reduction burning be increased, especially in the zones surrounding built-up areas.⁴¹

3.51 CSIRO informed the committee that the effectiveness of fuel reduction depends on manageable weather conditions when fires start:

The degree of risk reduction will depend on fire weather. During days of extreme fire danger, bushfires will be virtually uncontrollable even if fuels are minimal. However, the number of days each year during which fires will be controllable is many times greater for lighter fuels than for heavier fuels. Thus, there will be more opportunity to suppress fires ignited in summer, and to ensure that they are extinguished before weather conditions worsen.⁴²

3.52 CSIRO commented that the extent to which prescribed burning would modify fire behaviour is still uncertain:

There are research questions as to the extent of prescribed burning required to modify fires under different fire weather conditions. We are limited in doing experimental work to fairly mild fire weather. If you wanted to make a change allowing us to light fires under extreme fire weather that would be a good thing so that we could actually study those fires at the level where they make their impact in wildfires.⁴³

3.53 Nature Conservation Council of NSW claimed that fuel reduction activities can be counter-productive, by curing previously green vegetation and therefore increasing fuel loads.⁴⁴ The Conservation Council of WA disputed the notion that prescribed burning in effect replicates natural processes the environment depends on:

Fire is presented as a natural phenomenon, but the only natural fires are those started by lightning. If you drop an incendiary from a helicopter, it is not a natural fire; it is no more natural than pivot irrigation.⁴⁵

40 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 80

41 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 80. See also B. Esplin et al, Report of the Inquiry into the 2002–2003 Victorian Bushfires, accessed on 15 June 2010 at [http://www.dpc.vic.gov.au/CA256D8000265E1A/page/Listing-Inquiry+into+the+2002-2003+Victorian+Bushfires-Report+of+the+Inquiry+into+the+2002-2003+Victorian+Bushfires+\(Released+14+October+2003\)!OpenDocument&1=~&2=~&3=~](http://www.dpc.vic.gov.au/CA256D8000265E1A/page/Listing-Inquiry+into+the+2002-2003+Victorian+Bushfires-Report+of+the+Inquiry+into+the+2002-2003+Victorian+Bushfires+(Released+14+October+2003)!OpenDocument&1=~&2=~&3=~) .

42 CSIRO, *Submission 15*, p. 9

43 CSIRO, *Committee Hansard*, Canberra, 12 March 2010, p. 18

44 Nature Conservation Council of NSW, *Response to question on notice*, Appendix 3, p. 3

45 Conservation Council of WA, *Committee Hansard*, Perth, 29 April 2010, p. 26

3.54 They suggested that prescribed burning may actually increase the fire prone nature of certain forests by drying out 'wet' forest areas, introducing weeds and germinating dense understory thicket.⁴⁶

3.55 The Bushfire Front Inc rejected the notion that fuel reduction is ineffectual in serious bushfire conditions, telling the committee that this view 'flies in the face of every experienced firefighter across the nation'.⁴⁷ Similarly, the WA Department of Environment and Conservation dismissed claims that prescribed burning could not prevent catastrophic bushfires in extreme conditions:

There have been numerous examples where the fuel reduction burning program has resulted in relatively rapid containment of bushfires and significant 'saves', even under extreme fire weather conditions.

Forest fire managers who are directly involved in fire control operations have no doubt about the value of fuel reduced areas in reducing the intensity of bushfires and in providing safe conditions to apply fire suppression tactics.⁴⁸

Effectiveness in protecting built assets

3.56 Another contentious issue was whether prescribed burning in the landscape is an effective way to protect built assets and the people within them, taking into account the potential negative ecological and social consequences of the practice, and the resources required to undertake the task properly.

3.57 CSIRO's submission suggested that this remains an open question:

...relatively large amounts of prescribed burning would have to be implemented in Australian forested landscapes to achieve modest levels of risk mitigation for urban and other assets. The relative benefits and costs of prescribed burning, and its effectiveness in achieving multiple land management goals in different land tenures requires more research.⁴⁹

3.58 Professor Enright commented that: 'Fuel reduction burning is only one part of the equation'.⁵⁰ Dr Don Driscoll concurred, citing engineering and social solutions as being more effective to achieve the objective of protecting lives and assets than prescribed burning. He told the committee that prescribed burning is limited for the following reasons:

- climatic conditions are a greater determinant of bushfire severity than fuel reduction; and

46 Conservation Council of WA, *Committee Hansard*, Perth, 29 April 2010, pp 27-28 and p. 36

47 The Bushfire Front Inc, *Committee Hansard*, Perth, 29 April 2010, p. 18

48 DEC, *Submission 50*, p. 7

49 CSIRO, *Submission 15*, p. 25

50 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 85

- the influence of fuel reduction is short-lived, necessitating regular burns that are uneconomical and ecologically damaging.⁵¹

3.59 Dr Driscoll argued that:

...we would have to ask: how much money do we spend on burning the forest every three years and how effective is that? In damp and dry forest, it is going to reduce the probability of a crown fire by five to 10 per cent. Under extreme conditions—and that is from roughly 70 to 60 per cent in dry forest or 85 to 80 per cent in damp forest—how does that small reduction in the risk of crown fire translate into risk of houses burning down? I do not think we know that yet. And was any marginal gain in saving houses a reasonable trade-off against all of the other competing objectives? Is the marginal gain in asset protection of burning the forest every three years so valuable that it is worth trading off the other objectives? In this scenario, with the burning of the forest every three years, we would certainly see a loss of species throughout the forest and an increase in health related deaths and associated costs, as well as an increase in carbon emissions.⁵²

3.60 Nature Conservation Council of NSW stated in their submission that 'risk management strategies should include initiatives on both sides of the interface'.⁵³ They commented that controlled burns in bush areas are of limited value:

Management of fuel in close proximity to the asset, as opposed to fuel management on the bushland side of the interface, is often a far more effective strategy to achieve fire protection to a particular asset. Short of cementing over or clearing vast tracts of bushland, fuel reduction at the interface must be combined with strategies to increase the ability of a house, structure, product or other economic asset to withstand a bush fire event.⁵⁴

3.61 Although not opposed to fuel reduction, Mr Justin Leonard from CSIRO sought to distinguish fuel reduction in the landscape and in the immediate vicinity of assets that require protection:

...fuel reduction burning at the interface or immediately around an asset—say, within a few hundred metres of an asset—is a vastly different process or has a vastly different outcome for that building or that small community from a broadacre burning process, which would have some impact in determining the rate at which a fire would move through the landscape and its chance of arriving at a point in the landscape that would have an impact on a structure. But it is only the last few hundred metres of a fuel load that has an impact on the magnitude of the impact of that fire and its potential

51 Dr Don Driscoll, *Committee Hansard*, Canberra, 14 May 2010, pp 3-5

52 Dr Don Driscoll, *Committee Hansard*, Canberra, 14 May 2010, p. 6

53 Nature Conservation Council of NSW, *Submission 8*, p. 9

54 Nature Conservation Council of NSW, *Submission 8*, p. 10

outcome for the actual building. Separating those two issues is quite important.⁵⁵

3.62 He commented that random chance ember attack is the biggest risk to houses:

...it is generally understood, from the fires that we have extensively investigated, that it is something like 90 per cent of houses being lost in the absence of a direct interaction with the fire front itself, which means it is about more insidious activity like ember attack igniting the house directly or igniting fences and other details around the house, which then have an impact on the structure itself.⁵⁶

3.63 The contention therefore is that reducing fuel hazards at the urban interface and improving house design to withstand ember attacks are the most critical elements of protecting housing assets. Alternative mitigation strategies are explored in more detail at paragraph 3.203.

3.64 The WA Department of Conservation and Environment disagreed with the contention that only the immediate vicinity of assets is prioritised:

...if you do not burn the landscape to a reasonable proportion, you are going to invite very large, intense fires, with the embers that might blow kilometres ahead of the head fire. Dwellingup town itself was actually burnt before the head fire got there by the ember storm that was generated by the fire burning in old fuels. So what we attempted do is, yes, focus around a town, but not to the degree that that is the only option. We believe quite strongly that you need to burn the landscape so that you do not invite those big fires.⁵⁷

Ecological considerations

3.65 The inquiry also attracted significant debate about the ecological consequences of prescribed burning measures. Some evidence to the committee expressed concern about the capacity of local biodiversity to recover from burns conducted too frequently. For instance, Nature Conservation Council of NSW stated that:

NCC recognises that fuel and fuel accumulation is an integral part of the fire management process, and can influence fire behaviour and the energy released during a fire. However, the NCC considers that the use of hazard reduction burning to reduce fuels on a broadscale landscape basis without scientific information, poses a high risk to biodiversity and ecological processes ... understanding of the specific impacts of different burning regimes on different vegetation communities is not yet fully understood.

55 Mr Justin Leonard, *Committee Hansard*, Melbourne, 25 March 2010, pp 72-73

56 Mr Justin Leonard, *Committee Hansard*, Melbourne, 25 March 2010, p. 74

57 DEC, *Committee Hansard*, Perth, 29 April 2010, pp 4-5

...Burning forests too often poses a serious threat to biodiversity ... the cumulative effect of frequent fire may be as profound as high intensity fires.⁵⁸

3.66 Nature Conservation Council of NSW stated that while mosaic burning methods (see below from paragraph 3.152) may comply with the NSW Rural Fire Service's environmental code, the primary objective is to protect life and property, which 'may not be optimal for the protection of biodiversity'. They suggested that burning intervals may need to be longer than nine years to maintain biodiversity values.⁵⁹

3.67 The Conservation Council of WA told the committee that: 'Frequent fires for whatever reason, whether it is wildfire or prescribed burning, have a disastrous effect on many species of flora and fauna'.⁶⁰ Although not opposed to prescribed burns altogether, they argued that the Western Australian objective of burning every eight years is too frequent for many ecosystems to recover.⁶¹

3.68 Plant ecologist Professor Neal Enright provided the committee with research experience suggesting that fire regimes more frequent than 15 years in Western Australian shrublands could lead to a reduction in plant species richness, particularly where intervals are five years or less.⁶²

3.69 CSIRO stated that:

Both hazard reduction burning and wildfire can have positive or negative impacts on biodiversity. In some landscapes, there are potential biodiversity costs associated with the intervals between prescribed fires.⁶³

3.70 CSIRO also noted that this is a 'developing research area'.⁶⁴

3.71 However, the majority of evidence on this issue countered the notion that prescribed burning is ecologically harmful, particularly when the alternative to controlled fires is intense catastrophic fires that cause far more damage to local biodiversity. The Volunteer Fire Fighters Association of New South Wales noted:

...we are not doing the bush any favours if we allow fuel levels to reach levels where they ultimately destroy biodiversity.⁶⁵

58 Nature Conservation Council of NSW, *Response to question on notice*, Appendix 3, p. 3

59 Nature Conservation Council of NSW, *Response to question on notice*, Appendix 3, pp 1-2

60 Conservation Council of WA, *Committee Hansard*, Perth, 29 April 2010, p. 25

61 Conservation Council of WA, *Committee Hansard*, Perth, 29 April 2010, p. 27 and p. 29

62 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 79

63 CSIRO, *Submission 15*, p. 11

64 CSIRO, *Submission 15*, p. 11

65 Volunteer Fire Fighters Association of New South Wales, *Committee Hansard*, Canberra, 12 March 2010, p. 49

3.72 Dr Christine Finlay said: 'there is nothing worse for the environment than an intense burn'.⁶⁶ Victorian Association of Forest Industries (VAFI) commented:

...the greatest threat to threatened species and flora and fauna within national parks, state forests or private landholdings is in fact the threat of wildfire.⁶⁷

3.73 Mr Phil Cheney told the committee:

In assessing any impacts of prescribed burning one has to say: what are the consequences of not doing it and what are the impacts of these high-intensity fires that in this last decade have burnt several million hectares of country in south-east Australia? From an ecological point of view, although there is variation in intensity, pretty much every hectare of that country is burnt. In 2003 and 2007 I travelled for hundreds of miles through the forest on burnt ground. It was all burnt. The consequences on our fauna are inestimable.⁶⁸

3.74 The Western Australian Department of Environment and Conservation rejected the notion that bushfire mitigation and ecological values are incompatible:

... in fire-prone environments, proactive fire management is integral to, not incidental to, good conservation and land management. If wildfires cannot be managed, then it is unlikely that other land management objectives will be achieved.⁶⁹

3.75 The department compared the effects of very large and smaller fires on biodiversity:

Very large and intense wildfires cause high levels of mortality and damage to native plants and animals, and irreversible loss of topsoil. Post-fire recovery may take many decades, or even centuries where old-growth forests have been killed. On the other hand, low intensity, patchy fires have little long-term impact on the biota, which recovers relatively quickly from such events.⁷⁰

3.76 The department's submission added:

...there is no evidence that current prescribed burning for fuel management and other purposes has resulted in any species losses or environmental degradation. In fact there is growing evidence that, implemented correctly (appropriate interval, intensity, season and scale), prescribed burning can benefit biodiversity at the landscape scale by providing diverse habitats

66 Dr Christine Finlay, *Committee Hansard*, Canberra, 12 March 2010, p. 95

67 VAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 50

68 Mr Phil Cheney, *Committee Hansard*, Canberra, 12 March 2010, pp 11-12

69 DEC, *Submission 50*, p. 1

70 DEC, *Submission 50*, p. 5

(seral stages) and by reducing the size and intensity (severity) of damaging wildfires.⁷¹

3.77 In verbal evidence to the committee, the Western Australian Department of Conservation and Environment referred to the need for balancing land management objectives:

...when you put our biodiversity and conservation responsibilities, our fire responsibilities and our community protection responsibilities on the table there are some trade-offs against the purity, if you like, of what I would like to do in biodiversity conservation. Having said that, we have a program that is based around variety in fire size, intensity, season and so on. We have studied the ecosystems—the flora and the fauna—to a very considerable degree, and we are fairly confident that our programs are not causing any undue damage to our biodiversity values.⁷²

3.78 The department indicated that satellite imagery evidence from one of their prescribed burns suggests that ecological harm will be minimal:

...the majority of the area was burned very mildly—burns spreading out about 20 to 30 metres per hour with flames of half a metre. Any mobile mammal is going to be able to deal with that. The fact that they have dealt with it over millions of years makes me confident that, although you may get individuals that get compromised, as a community, that sort of fire treatment is in fact more likely to enhance than detract from its health.⁷³

3.79 National Association of Forest Industries (NAFI) also argued that prescribed burns were not counteracting the goal of using forests as carbon stores:

...the argument about whether we leave our forests for carbon stores really needs to focus on what the implications are in relation to fire if we do, because the outcome could very well be that, if we leave our forests to store carbon up in that way, we are actually making them a very high fire risk. We could end up with a situation where we have a high level of emissions from fires. In their numbers, the government have calculated that the 2003 Victorian fires put out 190 million tonnes, I think it was, of CO₂. That is significant when you remember the total emissions from our economy are 560 million tonnes. So it is a significant amount.⁷⁴

3.80 Forest Fire Victoria Inc commented that it is inappropriate for the EPBC Act to describe controlled burns as a process that is threatening to forest ecosystems:

...without fire most of the values by which we manage forests, such as water, timber, soil protection and all the other qualities—all these processes are threatened because inevitably we get major fires. We have had fires of

71 DEC, *Submission 50*, p. 5

72 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 7

73 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 10

74 NAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 25

major size in Victoria, not just a million hectares but a million hectares with 60 per cent of them burnt at the highest intensity. That is frightening. That is not good ecology, that is not managing biodiversity, that is not managing topsoils, that is not managing erosion and that is not managing water. So to call the use of prescribed fire, fuel reduction fire, a threatening process is I think very odd.⁷⁵

3.81 Australian Forest Growers also expressed concern that the implementation of the EPBC Act to protect native species may prove an impediment to prescribed burning activities:

...in the context of the EPBC Act nomination of prescribed burning as a threatening process ... that is a benchmark process, and we are very concerned about that. I know you know there is enough difficulty getting a permit to undertake a prescribed burn as it currently stands without having to go through a federal licensing process as well.⁷⁶

3.82 Responding to these concerns, the Commonwealth Department of Environment Heritage and the Arts indicated that the EPBC Act had not interfered with bushfire mitigation activities:

The Commonwealth Government may have a role in fire management plans where national environmental matters may be significantly impacted by those management measures, such as through impacts on threatened species. In these circumstances state and territory governments submit fire management plans that take these matters into account. Since 2001, [19] bushfire management related projects have been referred under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (not including burns for research purposes).

All bushfire management related projects referred under the EPBC Act have been assessed as not requiring formal assessment or approval and have not been further regulated.⁷⁷

3.83 The department's submission sought to clarify the effect of fire regimes being nominated for listing under the Act as a key 'threatening process':

Should the nomination be approved for listing as a KTP, there would be no reduction in the priority that the Australian Government places on the protection of life and property. Even if "Contemporary fire regimes resulting in the loss of vegetation heterogeneity and biodiversity throughout Australia" were to be listed as a KTP, such a listing does not provide any authority for the Australian Government to require any changes in prescribed burning practices in the states and territories.

75 Forest Fire Victoria Inc, *Committee Hansard*, Melbourne, 25 March 2010, p. 64

76 Australian Forest Growers, *Committee Hansard*, Melbourne, 25 March 2010, p. 86

77 Department of Environment Heritage and the Arts, *Submission 45*, p. 14. See also *Committee Hansard*, Canberra, 12 March 2010, p. 66

The listing of a key threatening process has no regulatory implications other than requiring the Minister to decide whether or not to have a threat abatement plan (TAP). A TAP provides for the research, management, and any other actions necessary to reduce the impact of a listed key threatening process on native species and ecological communities. Commonwealth agencies must implement TAPs in Commonwealth areas and must not take action that contravenes a TAP.

If the process were to be listed, the Minister would need to decide whether a TAP would be an efficient, effective and feasible way to abate the threats. In making that decision, the Minister would be required to seek the advice of the TSSC as well as each of the states and territories.⁷⁸

Community attitudes to prescribed burning

3.84 One major obstacle to land managers undertaking effective prescribed burning measures is community opposition to the practice. The following issues were raised during the inquiry:

- the effects of smoke drift on nearby communities;
- the potential for escaped burns; and
- poor understanding about prescribed burning.

Smoke

3.85 Prescribed burns generate smoke that affects nearby communities to varying degrees, depending largely on the weather conditions at the time and how predictable these have been, as well as the competence of those carrying out the burn. The Bureau of Meteorology told the committee that they had been assisting land managers predict smoke drift from prescribed burns:

For nearly 10 years now we have been developing a system to assist the land managers with where smoke from a prescribed burn would travel. It is operationally supported by the bureau and it runs every day. The take-up in different states is variable depending on the pressure that they are under. Western Australia, Victoria and Tasmania are the most enthusiastic partners. They nominate the areas within the state where their major prescribed burning activities are likely to be and we give them a forecast smoke plume from that position for ignitions starting at several different times during the following day, and that is updated overnight.⁷⁹

3.86 Despite the best available forecasting, smoke will inevitably cross the path of those living downwind from the burn. The Conservation Council of WA highlighted the health implications of smoke from prescribed burns:

78 Department of Environment Heritage and the Arts, *Submission 45*, p. 15

79 Bureau of Meteorology, *Committee Hansard*, Canberra, 12 March 2010, p. 74

...it is recognised that it is the particulates in wood smoke that are a very serious health problem. Efforts are made to prevent smoke over Perth, but the smoke invades country towns and rural properties and is a health hazard to the people there as well as to Perth people. So it is not just a minor nuisance to city dwellers; it is a serious health hazard.⁸⁰

3.87 A number of witnesses commented that the smoke 'problem' needed to be kept in perspective. VFF told the committee:

The reality is that we get enormous smoke palls when we have bushfires, but that seems to be tolerated because there are other worse impacts from the bushfire. But when there is a bit of smoke from prescribed burning, it seems like a terrible thing to occur.⁸¹

3.88 The WA Department of Environment and Conservation told the committee that the effect of smoke is taken into account when making daily decisions on prescribed burns, however:

We are very conscious of those things, but the government has taken the position that the community's tolerance to some smoke has to be there because the prescribed burning program is so important, and the government has been quite strong in making those statements over the last year or so.⁸²

3.89 Bushfire CRC said:

I think there is plenty of evidence to suggest that bushfire smoke can have detrimental effects on the health of people. It is a matter of degree. It is a matter of trade-off in the types of information on warnings that we give to the communities about the smoke that is there. There is also documented evidence that smoke may have an impact on some agricultural crops—for example, grapes.⁸³

3.90 The committee notes that four vineyards recently took legal action against the WA Department of Environment and Conservation for damage caused to wine grapes from prescribed burning activities.⁸⁴ The department commented that:

That is a difficult juxtaposition of our burning opportunities or windows in the southern forests beside the times when grapes are ripening and pre-

80 Conservation Council of WA, *Committee Hansard*, Perth, 29 April 2010, p. 26

81 VFF, *Committee Hansard*, Melbourne, 25 March 2010, p. 96

82 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 16

83 Bushfire CRC, *Committee Hansard*, Melbourne, 25 March 2010, p. 21

84 The action failed on the basis that it would be unreasonable to impose a duty of care to avoid smoke damage on a public authority with responsibility for fire management in such circumstances. See AFAC website, 'Supreme Court judgment on smoke and wine grapes', accessed on 28 May 2010 at

http://www.afac.com.au/news_and_media/fire_news2/news_items/supreme_court_judgment_on_smoke_and_wine_grapes

harvest. It is a difficult balancing act for us and one that we do take seriously.⁸⁵

3.91 Bushfire CRC also commented that smoke from prescribed burning does not necessarily add to greenhouse gas emissions:

Smoke from bushfires, and more particularly smoke from the use of prescribed fire, is increasingly viewed in some quarters as further adding carbon dioxide and other Greenhouse gases to the atmosphere. As with much of the science associated with climate change, however, the story is more complex. New vegetation that establishes following a fire invariably grows vigorously, generally locking up considerable quantities of carbon. Similarly, any contributions to global warming that may result from prescribed fires must be balanced against the global warming effects of more frequent and more intense bushfires that will occur in the absence of the strategic use of prescribed fire.⁸⁶

Liability

3.92 Another obstacle is the requirement for land managers to respect property boundaries when conducting prescribed burns. Mr John Gledhill noted that fuel reduction is more difficult now bush areas are more densely populated:

...fuel management, whilst it is very effective, is very difficult. It is particularly becoming more difficult as more and more people elect to go and live amongst the trees. Broad-area fuel reduction burning is not as easy as what it was many years ago. There are lots of risks and people are popped in the middle of them all. It is not easily undertaken. There is much greater accountability. There are a lot of barriers imposed that make fuel reduction extremely difficult to undertake in quite a few places. I know it is successfully done, and I am sure you have probably heard of the Western Australian example whereby huge areas are burnt annually. But when you look at that, the areas that are burnt do not have houses dotted in amongst them. They are large tracts of public land, whereas a lot of the public land in a lot of Australia—and I am talking particularly about Tasmania—is a mosaic of public and private land. When you mix it all together you have property boundaries running through them. Fires do not understand property boundaries. But for fuel management works you have got to respect property boundaries.⁸⁷

3.93 Professor Kanowski agreed that liability had become a 'real issue'. He said:

As a society we have become more risk averse in a whole range of ways it seems ... prior to the 2009 Victorian fires, the Department of Sustainability and Environment had sought to implement a greater level of fuel reduction burning. There was a burn on the Mornington Peninsula that got away and

85 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 16

86 Bushfire CRC, *Submission 7*, p. 6

87 Mr John Gledhill, *Committee Hansard*, Melbourne, 25 March 2010, p. 8

caused a lot of adverse publicity. That sort of response to the inevitable vagaries of natural resource management is quite problematic.⁸⁸

3.94 VFF argued that, as with smoke from prescribed burns, the issue needs to be kept in perspective:

...there is often an outcry if a prescribed burn escapes—and the media do not help when they seem to delight in highlighting it and it is all over the news—whereas the impact of that occurring is far smaller than the impacts of the devastation of an uncontrolled bushfire.

...

I do not think we can ever expect prescribed burning to be carried out with a 100 per cent safety record. I think that is one of the problems that we have had in the past. We have assumed that we can prescribe burn without a single incident occurring. I do not think that that is possible. We have to accept that there is some risk involved. But the question is whether that risk is greater than that risk of not burning at all.⁸⁹

3.95 Mr Phil Cheney suggested that landholders be afforded legal protection for conducting controlled burns:

In some states of the US, Florida in particular, there is legislation that says if someone carrying out a prescribed burn follows the rules then he will not be liable if that fire should happen to escape. We need something like that for our landholders here. If they get a permit to burn from the rural fire service, the burn goes ahead, the weather changes unpredictably and they have not been negligent within the terms of their permit, then they should be covered.

People that own bush blocks are dead scared of doing their own little bit of burning off, which used to be done through winter on an almost daily basis 30 years ago. Now it is, 'If the burn gets over my fence and burns my neighbour's grass, he's going to sue me.' So there is that social impact on people that makes them averse to doing anything with fire.⁹⁰

3.96 The WA Department of Environment and Conservation told the committee that:

We burn under very mild conditions, so if we do get an escape—and just about all burns have some minor escapes, whether they be a square metre or more—because our forces are there, those fires are put out rapidly. Occasionally a fire does get away, but the wildfires from prescribed burns represent less than one per cent of our wildfires and, as I said, they generally occur under mild conditions. It is a risky job. We have to do all the things we do to minimise that risk. Good training, good equipment,

88 Professor Peter Kanowski, *Committee Hansard*, Canberra, 12 March 2010, p. 36

89 VFF, *Committee Hansard*, Melbourne, 25 March 2010, p. 96

90 Mr Phil Cheney, *Committee Hansard*, Canberra, 12 March 2010, p. 15

good science and good fire behaviour knowledge—the sort of knowledge that is available to us from the research we have undertaken—enable us to minimise that risk, without totally eliminating it.⁹¹

3.97 Fire and Emergency Services Authority (FESA) in WA indicated that they try to minimise escaped burns, but that some escaped burns 'would probably be something that we would have to accept' in large areas with large fuel loads.⁹² Officers suggested that minimal escaped burns needed to be balanced against the task of meeting prescribed burning targets within the window of opportunity dictated by weather and moisture levels.⁹³

3.98 The Rural Fire Service Association of NSW said that legal protection for fire fighters is essential:

...our clear policy on this is that where an individual firefighter or a group of firefighters acts in good faith in carrying out their duties, regardless of outcome they must have absolute protection under the law, and that wherever there is a legal manoeuvre or a test case for changes to that, governments must act immediately to restore that protection.⁹⁴

3.99 The Association of Volunteer Bushfire Brigades of Western Australia told the committee that fire fighters acting in good faith and in accordance with their powers under the WA Bushfires Act are protected:

We have not come up against a situation yet where those powers have been exceeded and volunteers have been in trouble with the law.⁹⁵

3.100 Forest Fire Victoria Inc was of the view that there are too many restrictions on local people using their own experience and judgement:

It is rules and regulations. The more rules and regulations you make, the fewer and fewer days are available for controlled burning, until you make so many rules that you cannot possibly do it on any day of the year because of the possible danger of something happening. ...People in the bush want more control. People in the bush know when it is a good day for burning if they have local knowledge and experience and knowledge of the local topography and the terrain. You cannot plan this three months ahead and get permits and all the other things you need.⁹⁶

91 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 7

92 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 74

93 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 74

94 Rural Fire Service Association of NSW, *Committee Hansard*, Canberra, 12 March 2010, p. 90. See section 128 of the Rural Fires Act 1997 (NSW) for the protection afforded to fire fighters in that state acting in good faith.

95 Association of Volunteer Bushfire Brigades of Western Australia, *Committee Hansard*, Perth, 29 April 2010, p. 42

96 Forest Fire Victoria Inc, *Committee Hansard*, Melbourne, 25 March 2010, p. 69

3.101 The limited window of opportunity for prescribed burns is discussed further from paragraph 3.141.

Community understanding

3.102 Evidence to the committee also suggested that many people do not understand the significant effect that prescribed burning can have on mitigating bushfires. Mr Phil Cheney told the committee that there was poor understanding in the community about this relationship:

Until there is a very firm view that this is the controlling factor, stories that there is nothing which can be done about the catastrophic end, which is really a fabrication and absolute nonsense, will persist. You cannot stop it—that is for sure—but you can do something about reducing the intensity and the impact on people and towns.

We have known for decades, if not hundreds of years, that burning off, prescribed burning or removing the fuel modifies the fire behaviour. In my lifetime there has been a continual battle against certain elements of the community to convince them that it can be done, that it is ecologically sound and that it actually works.⁹⁷

3.103 Mr Cheney suggested that much of the opposition to prescribed burning may be due to aesthetic reasons:

...we do have the unfortunate fact that burnt ground is black and people do not like the look of it. Often why they do not like prescribed burning is as simple as that, and they make up all sorts of other excuses.⁹⁸

3.104 In evidence to the committee, the Conservation Council of WA noted that for tourists visiting Western Australia's forests, 'burned bush land is not particularly attractive'.⁹⁹

3.105 The Rural Fire Service Association of NSW suggested that the passing of time affected attitudes about the urgency prescribed burning:

...the bottom line is that fuel management is critical for fire behaviour purposes, and it is fair to say that after the 1994 fires in New South Wales the enthusiasm was there to get on with a lot of hazard reduction work. But someone once said to me that the enthusiasm sometimes dies with the flames, and that is exactly what happens.

...

Our membership went up significantly after the 1994 fires because people saw it as a critical organisation to be involved in and there was a big push for added hazard reduction. But because of the gap between major fire

97 Mr Phil Cheney, *Committee Hansard*, Canberra, 12 March 2010, p. 11

98 Mr Phil Cheney, *Committee Hansard*, Canberra, 12 March 2010, p. 11

99 Conservation Council of WA, *Committee Hansard*, Perth, 29 April 2010, p. 26

events the enthusiasm tends to die and it is a matter of getting on with it and trying to get people motivated to do it.¹⁰⁰

3.106 Australian Forest Growers also spoke of the difficulty in maintaining momentum for prescribed burning:

We have had lots of hearings over the last decade where there have been recommendations that have come out that we need to increase the level of prescribed burning to reduce the fuel. Everybody goes away and nods their head and says, 'Yes, that's what we need to do.' Then you get a couple of cool years and people forget what Black Saturday or the Canberra fire or whatever fire were all about and, before too much longer, Mrs Smith who complains about her washing getting smoky on the ground gets a big hearing or some environmental group that does not believe it is a natural thing to do to artificially burn land gets a say or something else happens and, for whatever reason, we do not seem to get the burning done.¹⁰¹

3.107 Dr Thornton of the Bushfire CRC suggested that there needs to be better understanding, through social research, about the motivations for resisting prescribed burns:

We do need to better understand those values and we need to better understand how people think ... how do we do fuel reduction in an area where the community themselves do not want it but they do not want the fire either? So we need to better understand that in order to be able to get to those things.¹⁰²

3.108 FESA spoke to the committee about winter burning program for private landholders on hobby blocks in Perth Hills, in which FESA provides field demonstrations and simple instructions on conducting cool burns. Officers indicated that initial trials had been successful and the program would be expanded.¹⁰³ FESA also suggested that the program would give the public a better understanding of fire and the need for prescribed burns that occur on a larger scale:

...while people are very timid around fires, when they see fire in a controlled environment in a winter burn, where the fire behaviour is very mild, they really start to understand that fire can work for them. That really helps with them understanding the way fire works. After setting a break, we just burn back. On a bigger scale, they understand what has to happen in prescribed burnings, so it is a very good offset in getting the community to understand that fire is actually a friend in many instances. That is a really good offset of it. We feel that the high profile of fire has assisted in the

100 Rural Fire Service Association of NSW, *Committee Hansard*, Canberra, 12 March 2010, p. 83

101 Australian Forest Growers, *Committee Hansard*, Melbourne, 25 March 2010, p. 90

102 Bushfire CRC, *Committee Hansard*, Melbourne, 25 March 2010, p. 21

103 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 68

acceptance of the smoke around the community in this last year in particular.¹⁰⁴

The adequacy of current prescribed burning measures

3.109 In addition to the limitations associated with community attitudes, the committee heard from a number of organisations citing the inadequacy of prescribed burning measures carried out by some agencies responsible for managing public lands. Australian Forest Growers stated that fewer burns were being undertaken each year, 'resulting in a gradual build up of fuel loads in native vegetation, to a point where actively managed fuel reduction has become almost impossible in some areas'.¹⁰⁵

3.110 The Volunteer Fire Fighters Association of New South Wales warned: 'Canberra and Victoria are just the start of it. We are going to have bigger and worse fires unless we start to manage the fuel loads'.¹⁰⁶

3.111 Indeed, the Victorian situation was the source of much concern. As noted in Chapter 2, in 2008 the Victorian Parliamentary Committee on Environment and Natural Resources tabled a report on the impact of public land management practices on bushfires in Victoria. The committee noted that:

...the current targeted level of prescribed burning, approximately 130,000 hectares per annum, undertaken by DSE and its partner agencies is insufficient to mitigate the impacts of future bushfires and provide the level of fire needed to promote healthy ecological outcomes.¹⁰⁷

3.112 Although recognising that quantifying the effectiveness of prescribed burning is difficult, the Victorian parliamentary committee recommended that the target be increased to 385,000 hectares 'to mitigate the risks associated with future bushfires'.¹⁰⁸

3.113 The Victorian government response indicated in-principle agreement, though it did not support a hectare-based target:

The Victorian Government supports this recommendation in principle. The Victorian Government supports planned burning to improve protection,

104 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 72

105 Australian Forest Growers, *Submission 16*, p. 4

106 Volunteer Fire Fighters Association of New South Wales, *Committee Hansard*, Canberra, 12 March 2010, p. 49

107 Victorian Parliamentary Committee on Environment and Natural Resources, *Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria*, June 2008, p. xvi, accessed on 15 June 2010 at <http://www.parliament.vic.gov.au/enrc/inquiries/bushfires/Report/report.html>

108 Victorian Parliamentary Committee on Environment and Natural Resources, *Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria*, June 2008, p. xv-xvi and p. 95, accessed on 15 June 2010 at <http://www.parliament.vic.gov.au/enrc/inquiries/bushfires/Report/report.html>

conservation and production outcomes. However, the annual area treated by planned burning needs to be determined based on science and risk management frameworks and be subject to suitable opportunities as dictated by seasonal conditions. Given this, the Government recognises that the amount of planned burning will vary to take into account these factors.

The Government supports a move away from focusing on hectare-based targets which may lead to inappropriate planned burning programs. They do not account for differences in the effort required for small area asset protection burns (often around settlements) compared with larger scale mosaic burns in more remote areas. The latter, while not providing immediate and apparent asset protection are important for achieving multiple outcomes. A combination of both is required.¹⁰⁹

3.114 Further discussion about the merits or otherwise of setting hectare-based prescribed burning targets is included below from paragraph 3.152 (methodology) and 3.174 (proposals for reform).

3.115 Victorian Lands Alliance provided a strong warning to this committee about the imperative to now get fire management right:

No other values on public land can be managed successfully if fire management fails. There is no use talking about having a national forest strategy, management of water or management of conservation values—if you get fire management wrong then all of those other values will fail. Victoria will inevitably burn; it is our choice as to how it burns.¹¹⁰

3.116 They indicated that 'fire management is the primary task of the land manager' and argued that current approaches in Victoria fell short.¹¹¹ Victorian Lands Alliance concluded that:

Currently in Victoria, just 2% of the forests regarded as being suitable for prescribed burning are planned for treatment each year.

...

We can either burn more forest under prescribed conditions at cooler times of the year when fires burn slowly at low intensities causing little damage; or we can allow fuels to build and consequently consign our forests to greater areas burnt by periodic unplanned wildfires during hotter times of the year when they move quickly with high intensity and are infinitely more damaging to ourselves and the environment.¹¹²

109 Victorian Government, Victorian Government's response to the Environment and Natural Resources Committee's Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria, December 2008, pp 4-5, accessed on 15 June 2010 at http://www.parliament.vic.gov.au/enrc/inquiries/bushfires/government_response.pdf

110 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, p. 39

111 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, p. 39

112 Victorian Lands Alliance, *Supplementary submission 34*, p. 23

3.117 Forest Fire Victoria Inc also claimed that successive Victorian governments had neglected fuel management:

...over 2½ or perhaps three decades, successive Victorian governments have allowed fuel levels to build up on public land to levels that are quite unnatural. They are probably higher than at any time in history. They are also high on private land—also, in our view, through failures by government at various levels to tackle the problem. When those fuels get dry, as they do after a prolonged drought, and if a fire starts when the fuel is very, very dry and there is a wind blowing, you will not put that fire out even if you are standing beside it.¹¹³

3.118 They cited the written history of Australia, with reports of open forests with grassy understoreys allowing horse riding, as evidence of their claim about historically high fuel levels.¹¹⁴

3.119 Other organisations also cited historical landscape changes when suggesting that current approaches have been inadequate. The Mountain Cattlemens Association of Victoria argued that the high country landscape has changed considerably since Aboriginal fire practices were ceased in the early twentieth century:

In the early days the country was similar to open parkland and this is confirmed by reports from the early explorers and settlers, writing, painting then later photographing the Australian bush.¹¹⁵

3.120 They stated that a ban on burns around 1920 had left many cattle runs overgrown and unsuitable for grazing:

After 1920, the buildup of fuel began, especially in the non grazed areas of the High Country. The lack of patchwork burning and cattle grazing meant that vegetation grew unchecked and gradually choked the forests with scrubby understorey which shaded out grasses and changed the viable landscape forever.¹¹⁶

3.121 Professor Neal Enright agreed that fire practices had indeed changed, though as a consequence of modern attitudes and understanding, rather than neglect:

...individuals were able to use fire much more freely back then. So you had farmers and other people in bush settings who were using fire to manage the landscape themselves in whatever way they saw fit. That is no longer acceptable and that probably has had an effect. But the question is: were they impacting on biodiversity values by doing that, and could we go back

113 Forest Fire Victoria Inc, *Committee Hansard*, Melbourne, 25 March 2010, p. 61

114 Forest Fire Victoria Inc, *Committee Hansard*, Melbourne, 25 March 2010, p. 63

115 Mountain Cattlemens Association of Victoria, *Submission 55*, p. 3

116 Mountain Cattlemens Association of Victoria, *Submission 55*, pp 4-5

to such a procedure now? I do not think we could, on occupational health and safety grounds on biodiversity.¹¹⁷

3.122 The CSIRO also cautioned about making assumptions about historic practices:

Indigenous Australians certainly burned some parts of the landscape, but the extent and frequency of burning, along with their impacts on native plants and animals are poorly understood.¹¹⁸

3.123 Professor Neal Enright said that the Victorian government had attempted to act on the earlier Esplin report recommendations to increase fuel reduction burn targets, but:

...they have had trouble in meeting any new targets, so fuel reduction burning levels are still relatively low and there have been subsequent inquiries and reports [since 2003] that have continued to recommend increases in the amount of fuel reduction burning.¹¹⁹

3.124 The obstacles faced by land management agencies attempting to meet prescribed burn targets are discussed below from paragraph 3.141. Although recognising that land managers operate different circumstances, the WA Department of Environment and Conservation said 'that there would be scope for more active prescribed burning in other parts of the country'.¹²⁰

3.125 During the inquiry Western Australia was given as an example of a jurisdiction where adequate measures had been taken. The WA Department of Environment and Conservation indicated that prescribed burning served the dual purpose of mitigating bushfires by reducing fuel hazards, and managing ecosystems that often depend on certain fire regimes.¹²¹ They stated that controlled burns were varied to achieve land management objectives:

In many cases, planned burns are undertaken at landscape scales to achieve both protection and ecological management objectives by varying the seasons, fire intensities, and the interval between fires. The Department has an obligation to ensure that the condition of the public land which it manages does not pose a threat to human life and property as a consequence of wildfires.¹²²

3.126 The WA Department of Environment and Conservation informed the committee that six to eight per cent of crown land in the state is burned each year,

117 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 84

118 CSIRO, *Submission 15*, p. 21

119 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 81

120 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 3

121 DEC, *Submission 50*, p. 1

122 DEC, *Submission 50*, p. 1

arguing that this regime had allowed fire managers to 'achieve a high level of protection for community assets and natural values on and near the lands managed by DEC'.¹²³

3.127 Not all Western Australians agreed with the department's claims. WA Farmers' Federation suggested that WA Department of Environment and Conservation did not have the resources to manage all the land under their control:

What has happened is that people like DEC have now got responsibility for fairly big areas of what we call unallocated crown land in this state. It used to be the country that we were opening up 20 and 30 years ago that did not get opened up. It is not national park; it is really just vacant public land, and that is the sort of country that DEC have a lot of problems keeping tabs on because the resources just are not there for them to be able to manage them properly.¹²⁴

3.128 The Bushfire Front Inc told the committee that while the WA approach 'has not been as bad as in Victoria or New South Wales', prescribed burning had been wound back due to a lack of political support and was insufficient.¹²⁵

3.129 There were a number of barriers to prescribed burning raised in evidence to the committee. NAFI referred to a variety of these:

...multiple land agencies and tenures with responsibilities for fire management; inadequate funding, skills and equipment; a focus on fire suppression at the expense of fire prevention; a decline in forestry trained fire managers and infrastructure from the transfer of multiple-use public forests to national parks and reserves; and a political and institutional environment that has fostered a passive approach to fuel management in conservation reserves and protected areas.¹²⁶

Co-ordinating multiple agencies

3.130 The committee heard that effective prescribed burning requires a co-ordinated approach between adjacent land managers, recognising that the behaviour of fire in the natural landscape does not adhere to artificial ownership boundaries.

3.131 NAFI argued that a reluctance to conduct prescribed burns by one agency can affect other neighbouring landholders, even where they take appropriate measures to mitigate fire risks:

If we look at the current situation, we have a landscape that is fragmented with a range of tenures. We have forests in state parks; we have got agriculture; and we have got an increasing number of forest reserves and

123 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 11

124 WA Farmers' Federation, *Committee Hansard*, Perth, 29 April 2010, p. 50

125 The Bushfire Front Inc, *Committee Hansard*, Perth, 29 April 2010, p. 18

126 NAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 23

protected areas over the last few decades. One of the issues for the forest industry, in particular, and other landholders is that there has been this build-up in fuel loads in that part of the estate. Given the physical relationships when you have a high fire danger rating, we get the crossover into the other elements of the landscape, which then obviously affects the communities and the industries that depend on the natural resource.¹²⁷

3.132 NAFI called for a more strategic risk management approach:

There needs to be integration across the state, across land tenures and across state boundaries at the national level.¹²⁸

3.133 VAFI also argued that land management must be 'tenure blind':

That means that irrespective of whether we are talking about state forest, national parks or in fact private landholdings, the approach to the land management must be exactly the same.¹²⁹

3.134 Australian Forest Growers suggested that future fire models should seek to remove the tension between agencies' land management objectives, the most difficult being at the urban interface where the mixture of tenure is most complex.¹³⁰

3.135 Although disagreeing with many other witnesses over bushfire management strategies, the Nature Conservation Council of NSW agreed on the importance of co-operation across agencies:

To be effective, management of bush fire across the landscape requires a tenure blind approach. While not without challenges, such a management strategy ensures that: all land management agencies (including private property) contribute to the outcomes; there is minimal bias; and inappropriate land management issues can be openly addressed.

Because successful bush fire management is dependent on the participation of all property owners who experience bush fire risk, bush fire management must involve all stakeholders at a planning level.¹³¹

3.136 The WA Department of Environment and Conservation told the committee that their management of both state forests and national parks in WA allowed co-ordinated management across those tenures.¹³² However, officers noted that the management of fuels on private lands 'is very problematic':

... [over the past 40 years] there has been a diminution of burning by local volunteer bushfire brigades and by landholders. Many of the farms that

127 NAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 24

128 NAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 24

129 VAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 50

130 Australian Forest Growers, Melbourne, 25 March 2010, pp 82-83

131 Nature Conservation Council of NSW, *Submission 8*, p. 8

132 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 12

used [to] have the capacity to burn on their land are not subdivisions. The equipment has gone, so there has been a diminution of active fire management on private lands. We are trying to address that, working with our colleagues from FESA to see how we might be able to come up with a more coordinated program. But it is still going to be difficult to see how that can be done if the individual does not want to get involved and has not got the capacity to do it.¹³³

3.137 Strategies to achieve a more co-ordinated approach to prescribed burning are contained below from paragraph 3.151.

Passive approaches to land management

3.138 A number of contributors were critical that responsibility for managing public land had been driven by an ideological approach favouring minimal intervention. For example, NAFI criticised 'an increasing trend over the past few decades for large increases in the area of formal conservation reserves with a passive approach to fire management'.¹³⁴ They noted:

While acknowledging that fire is an inevitable part of the Australian environment, the challenge will be to move from a passive approach to fire management with high uncertainty to a more active management approach across all land tenures that shifts the focus and outcomes from extensive high intensity fires to more frequent but controlled low intensity fires.¹³⁵

3.139 In evidence to the committee NAFI commented that a 'hands off' philosophy had been spreading:

I think there is a philosophy there that, when you create a national park, you lock it up and leave it. Unfortunately, that sort of philosophy has permeated itself not only into national park management but also into a lot of local council managements.¹³⁶

3.140 In evidence Mr Gary Nairn described this as the 'lock it up and throw away the keys' view, though he noted that attitudes had shifted somewhat since:

I think that, over the last six or seven years, there has been some backing away from that by some of those often referred to by witnesses as the 'extreme green' element, when looking at land management. I think there has been some rationalisation since in that respect, but to what extent I am probably not well qualified to know.¹³⁷

133 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 12

134 NAFI, *Submission 13*, p. 1

135 NAFI, *Submission 13*, p. 2

136 NAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 27

137 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 7

Opportunities for prescribed burning

3.141 The committee was also told of the problems associated with achieving prescribed burn targets given the limited number of days suitable for conducting these burns, which are relatively labour intensive and require a degree of knowledge and skill. These problems relate directly to the difficulty of obtaining adequate personnel and equipment resources for the task, which is discussed in greater detail in chapter 5.

3.142 Victorian Lands Alliance said that money and personnel were major impediments to meeting controlled burn targets in Victoria:

The primary operational constraint on meeting current fuel reduction targets is a lack of financial and personnel resources. The permanent, experienced workforce in the bush has fallen from around 2,000 individuals in the 1980s to the current level of 237. Funding is year to year. The fire prevention program funding in Victoria fell this year, down from \$223 million two years ago to \$198 million this year. If the land manager does not have adequate funding and does not have adequate personnel or political support for an ongoing program, then I would suggest that he has little to work with.¹³⁸

3.143 VFF commented that a declining rural workforce meant fewer volunteers to conduct burns.¹³⁹

3.144 Professor Enright queried whether effective prescribed burning is achievable given the constraints that exist:

...a large issue surrounds how much fuel reduction burning of the public estate in different parts of the country in different vegetation types can actually be done at the frequency required to deliver the wildfire suppression and life and property protection benefits that we want. If we were to deliver at that level, what would the costs of that be? Do we have the economic, manpower and time resources?¹⁴⁰

3.145 The small window of opportunity for burning compounds the limited resources available for the task. Professor Enright commented:

...delivering the fuel reduction burns is quite problematic in terms of the window of time that is available. If you think purely of the parts of the year that are not too cold and damp or too hot, dry and windy and take out weekends, school holidays and the days within those zones in spring and autumn that are too windy or fall outside the prescription envelopes, the estimates for most places in Victoria are that fewer than 20 days a year are

138 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, pp 39-40

139 VFF, *Committee Hansard*, Melbourne, 25 March 2010, p. 94

140 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 80

available for fuel reduction burning and in some years zero days a year fall within the prescription envelope.¹⁴¹

3.146 He related the difficulty of conducting prescribed burns in the areas affected by the 2009 Victorian bushfires:

One of the issues with some of the high impact areas in the 2009 fires relate to the vegetation types and the fact that some of these areas were high biomass, wetter eucalypt forest areas dominated by mountain ash, and these areas are probably the most difficult to fuel reduction burn because the fuel loads can become very high. At the same time the fuel moisture levels are high and tend to remain high right through the spring so that by the time the fine fuels are dry enough to allow them to burn you are probably entering weather conditions that are inappropriate or too dangerous to risk the burning of them.¹⁴²

3.147 CSIRO also noted the constraints:

Execution of hazard reduction burning is problematic in many areas due to constraints of smoke management, resources and opportunity (i.e. prescription 'window'). In a number of forest types, such as tall, wet montane eucalypt forests successful execution can be limited by the low flammability of surface fuels in general hazard reduction prescription windows. With the expected warmer and drier conditions forecast under changed climate conditions in the future and the subsequent increase in the number of days of extreme fire danger ... it is expected that current 'windows' for applying prescriptions of hazard reduction burning will change and possibly narrow, meaning less opportunity to conduct safe and effective hazard reduction burns. This will require reassessment of the current operational limits (i.e. work hours, smoke levels, etc) of conducting hazard reduction burning.¹⁴³

3.148 Mr Phil Cheney indicated that a proper fuel reduction program is expensive, but ultimately worth the price:

Prescribed burning is a rolling process that is continuous. In Western Australia, for example, it occupies some 21 per cent of the annual man hours of the relevant department. So it is a big commitment that has to be put in—and it is costly; there is no doubt about that. But I believe that cost is relatively small compared to the costs of suppression...¹⁴⁴

3.149 The Western Australia Department of Environment and Conservation stated that less resource intensive aerial prescribed burning had proved effective there:

141 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 80

142 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 81

143 CSIRO, *Submission 15*, p. 11

144 Mr Phil Cheney, *Committee Hansard*, Canberra, 12 March 2010, p. 13

A technique for lighting prescribed fires by dropping incendiaries from aircraft under specific conditions of fuel and weather was conceived and developed in Western Australia. Not only did this allow more area to be prescribed burnt under the desired (prescribed) fuel and weather conditions, it was much safer and less expensive than using ground crews.¹⁴⁵

3.150 Issues relating to land management resources are examined further in Chapter 5.

Fuel reduction strategies

3.151 Evidence addressing specific fuel reduction strategies fell into two categories:

- (i) prescribed burning methods; and
- (ii) grazing as an alternative.

Prescribed burning methods

3.152 The committee heard a range of evidence on effective prescribed burning strategies, including:

- discussion on burning targets based on area by hectare or percentage of landscape;
- local risk-based approaches balancing risk to property, available resources and ecological considerations; and
- details of existing prescribed burning programs that are claimed to have been successful in mitigating the damage caused by bushfires.

3.153 Mr Phil Cheney told the committee that to be effective prescribed burning needed to be conducted at a rate of 'around eight per cent of the burnable forest per annum on a rolling basis', undertaken by 'an organisation that is pretty skilled in both understanding fire behaviour and applying prescribed fire'.¹⁴⁶ Mr Cheney suggested:

...my practical experience is—from looking at what it takes to slow down a high-intensity fire—that you need to burn around eight per cent of the burnable country per annum. That is not to say you burn everything, because there are certain ecotypes that you do not want to burn, but you should burn eight per cent of the burnable country. There is a lot of forest that falls into that category. It has to be around 70 per cent of that area burnt, and it has to be in big blocks of greater than a thousand hectares. That is the practical reality of stopping a bushfire.¹⁴⁷

145 DEC, *Submission 50*, p. 4

146 Mr Phil Cheney, *Committee Hansard*, Canberra, 12 March 2010, p. 13

147 Mr Phil Cheney, *Committee Hansard*, Canberra, 12 March 2010, p. 19

3.154 CSIRO explained that the vegetation type dictated the frequency required for burns to be effective:

The length of time fuel hazard reduction remains effective in assisting suppression of unplanned fires depends upon the number and type of fuel layers involved, and time since fire, as governed by the rate of accumulation of these fuels and the time that it takes for the key layers to build up to their full potential for the site. This 'effectiveness time' may be relatively short (less than 1 year) for fuels with a simple structure, such as annual grasses, or it may be many years in more complex fuel types such as tall forests with complex understoreys...¹⁴⁸

3.155 Professor Kanowski supported increased fuel reduction burns but was reluctant to advocate a blanket target:

...the answer in quantitative terms is very much a question of the part of the landscape that you are dealing with. It is different in south-western WA to what it might be in south-eastern Australia and different again in Queensland.¹⁴⁹

3.156 The Nature Conservation Council of NSW also cautioned against blanket targets across different vegetation types:

It would not be eight years for every vegetation community. Some grasslands might need to be burnt more often and then you have wet sclerophyll forests that probably, for ecological reasons, need to be burnt less often. It is probable that, if you took a blanket approach to all the different vegetation communities, at least across New South Wales, you would really affect the biodiversity values of those communities and you might not alter fuel significantly anyhow.¹⁵⁰

3.157 Western Australian Fire and Emergency Services Authority (FESA) said that different regions require different approaches:

Every region has a different fuel load of vegetation... That is why we cannot just implement this statewide immediately; the fact is that we have to focus on those zones and say, 'Right, get the science right for that area and then come in and teach people and then move to the next.' It is not something that you can say that one fits all about.¹⁵¹

3.158 Officers from DEC told the committee that medium and long-term prescribed burning plans are developed on the basis of three major considerations:

1. Risk analysis: identifies values at risk, ignition potential fuel load/fire behaviour and capacity to control small fires.

148 CSIRO, *Submission 15*, p. 9

149 Professor Peter Kanowski, *Committee Hansard*, Canberra, 12 March 2010, p. 33

150 Nature Conservation Council of NSW, *Committee Hansard*, Canberra, 12 March 2010, p. 62

151 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 73

2. Biodiversity requirements: burn programs are tailored to suit local habitats.
3. Regeneration burns: prioritising burns made necessary following mining or harvesting.¹⁵²

3.159 Information was provided about the 'Canobalas Bush Fire Model', otherwise referred to in evidence as a risk-planning model. A 'tenure-blind' approach is used through co-operation between a particular region's responsible fire and land management agencies, as well as other relevant organisations such as conservation groups, farmer bodies and catchment management authorities. The bushfire management committee for that area classifies the landscape, according to risk, into one of the following three zones:

- an asset protection zone around the immediate vicinity of assets;
- a strategic fire advantage zone where it is possible to reduce fuel frequently, for example through cultivated breaks or livestock grazing; or
- a land management zone covering the remaining part of the landscape.

3.160 After risks have been identified and analysed, a fuel reduction plan is formulated, implemented and then audited. The aim of the plan is to control burn to achieve a mosaic pattern of fuel reduction across the landscape regardless of whether the land is managed as national park, forestry or privately owned land, while recognising the need to prioritise the protection of areas containing assets of value.

3.161 Mr Graham Brown indicated to the committee that this risk planning approach is now being introduced to 68 zones across New South Wales, which involves bushfire management committees in each zone developing and implementing their own risk plans.¹⁵³

3.162 The Volunteer Fire Fighters Association of New South Wales described a similar approach at Kurrajong Heights, using a cyclical mosaic burning pattern:

Kurrajong Heights has got 18 blocks that we burn. We try to burn two of those blocks on a yearly basis, which means that it takes about nine years to get around our zone. The secret with this is to create a mosaic pattern of burning on different time frames ... the 2001 fire was the worst fire to impact at Kurrajong Heights. The fire came into [two reduced fuel] areas. Those fuel loads were four years of age and it took six days to travel five kilometres. The very same fire ran 30 kilometres in a day and burnt down homes on Blaxlands Ridge. It is just the difference between having a plan prepared and managed at the local level. It is so simple.¹⁵⁴

152 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 11

153 Mr Graham Brown, *Committee Hansard*, Canberra, 14 May 2010, pp 36-40

154 Volunteer Fire Fighters Association of New South Wales, *Committee Hansard*, Canberra, 12 March 2010, p. 49

3.163 FESA informed the committee that an interagency bushfire management committee had been established in WA to take a co-operative and tenure-blind approach to mitigation.¹⁵⁵ Officers stated that:

The aspect of properly managed fuel or prescribed burning is something that we are now wanting to get a lot more cohesive and strategic about across the public and private lands, the plantations and the unallocated Crown land. That is the intention of our interagency bushfire committee, in which we are now sharing all of those values at risk.¹⁵⁶

3.164 That committee is undertaking an analysis of bushfire threat areas across WA to determine what fuel management arrangements will apply in future.¹⁵⁷

3.165 Forest Fire Victoria Inc advocated the national use of a publication called *Forest Fire Behaviour Tables for Western Australia*, otherwise referred to as the 'red book'. They stated:

Until Australia adopts the red book as the way to go about your prescribed burning, we will still be stuffing it up. We will still have fires that are too hot or fires that do not burn. The red book says how you should do it. What [author George Peet] said to me as we walked across the road at Manjimup was, 'Look, all we're doing is to gather this information because the people who know how to burn have made so many mistakes in learning how to burn that we can't afford to make those mistakes anymore.'¹⁵⁸

3.166 The Western Australian 'red book' contains information on fire behaviour under different circumstances, including climatic conditions, vegetation type, moisture content, fuel quantity and type, and available burning time.¹⁵⁹

3.167 The Commonwealth's role in facilitating the implementation of effective strategies for conducting prescribed burns is examined later in the chapter from paragraph 3.181.

Grazing

3.168 Where prescribed burning is not appropriate or practical, some organisations proposed grazing as an alternative. Victorian Lands Alliance suggested that:

The beneficial impact cattle grazing can have on reducing fine fuels to aid fire management on public land I do not believe has been adequately covered. Some landscapes are just clearly not suited to fuel reduction burning. Apart from mechanical removal, the only other options are grazing

155 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 66

156 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 73

157 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 74

158 Forest Fire Victoria Inc, *Committee Hansard*, Melbourne, 25 March 2010, p. 69

159 Sneeuwjagt, R and Peet, G. *Forest Fire Behaviour Tables for Western Australia*, Department of Conservation and Land Management, 3rd Edition, 1985

or do nothing. Noted fire ecologist Dr Kevin Tolhurst states that cattle can remove the dangerous fine fuels that drive fire intensity. Grazing is the only fuel reduction method apart from forestry activity that actually earns money to the state via licence fees. It is a fuel reduction method that pays.¹⁶⁰

3.169 They particularly recommended its use in the Barmah State Forest, where red gums are very fire sensitive and very little prescribed burning is done.¹⁶¹

3.170 The Mountain Cattlemens Association of Victoria stated that cattle grazing areas of the high country were less severely affected during the alpine fires of 2003, 2006 and 2009. Their submission argued that an absence of grazing in these areas enables the buildup of long dry matted grass that 'will explode in an intense environmentally damaging fire'.¹⁶² They noted that re-introducing grazing to the Victorian high country would not prevent wildfire, but would reduce their intensity by reducing fuel loads.¹⁶³

3.171 The Mountain Cattlemens Association of Victoria also recommended that further research be conducted on grazing as a fire management technique:

Given the imperative that fire management is the cornerstone of public land management in Victoria and the stated first priority of public land managers, a strong case exists for the State and Federal Government to commission a truly independent scientific study to establish an evidence based view of the link between grazing and fuel reduction on all types of public land in Victoria including National Parks.¹⁶⁴

3.172 In 2005 a Victorian Government taskforce found that grazing cattle in the Alpine National Park causes environmental damage and does not affect fuel reduction and wildfire behaviour.¹⁶⁵ The practice was subsequently banned there in 2005, when existing national park leases were not renewed, though it has been allowed to remain in neighbouring state forest areas.¹⁶⁶

3.173 Dr Richard Williams informed the committee that research he had conducted led to the conclusion that: 'there was no detectable impact of grazing history on either

160 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, p. 40

161 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, p. 40

162 Mountain Cattlemens Association of Victoria, *Submission 55*, pp 6-7

163 Mountain Cattlemens Association of Victoria, *Submission 55*, p. 8

164 Mountain Cattlemens Association of Victoria, *Submission 55*, p. 14

165 Alpine Grazing Taskforce, *Report of the investigation into the future of cattle grazing in the Alpine National Park*, Victorian Department of Sustainability and Environment, May 2005, p. 5

166 Mountain Cattlemens Association of Victoria, *Submission 55*, p. 7. See also ABC news website, 'Victoria ends cattle grazing in Alpine National Park', 24 May 2005, accessed on 15 June 2010 at <http://www.abc.net.au/news/stories/2005/05/24/1375799.htm>

the incidence of fire—the rough proportions were not statistically different—nor the severity'.¹⁶⁷

Proposals for reform

3.174 The committee received considerable evidence on the inadequacy of prescribed burning measures being implemented by state (and to a lesser degree local) land management agencies. However, identifying practical and achievable solutions to be implemented at the Commonwealth level remains a significant challenge. Evidence to the committee emphasised that federally driven change is needed to ensure the following:

- land management agencies establish and maintain a co-ordinated, long term and considered approach to fuel reduction across the landscape; and
- the fuel reduction activities of land management agencies are subject to oversight and input at a national level.

3.175 Victorian Lands Alliance argued for a long-term, planned, prescribed burning program:

Fuel reduction burning must be undertaken in a programmatic manner for Victoria to maximise its fire management opportunities. Fuel reduction burning over the landscape needs to achieve long-term risk minimisation and biodiversity benefits, and that cannot be successfully achieved by three-year planning, which is the current planning that we undertaken within Victoria. Ten-year adapted management programs are required, and these need political and funding support to achieve this. The planning that is required extends past one electoral cycle, and until we get past the idea that we can plan for and manage it in three years I think we will continue to fail.¹⁶⁸

3.176 VFF also stressed that prescribed burning needs to be 'a long-term objective':

...it is no good doing a spate of prescribed burning over the next three years because there is some public pressure to do so and then ease back on it. It has to be an ongoing program.¹⁶⁹

3.177 VFF's submission recognised the limitations of a hectare-based target, proposing that a risk based approach could achieve the transparency sought via such targets:

The benefit of a hectare based target is that it is transparent and measurable; however if only token consideration is to be given to the area target an alternative system that is transparent and provides the community with

167 Dr Richard Williams, *Committee Hansard*, Canberra, 14 May 2010, p. 33

168 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, p. 39

169 VFF, *Committee Hansard*, Melbourne, 25 March 2010, p. 95

detailed information of the fire risk factors within forests must be implemented.

The development of a prescribed burn plan that takes a risk based approach to establish priorities and urgency of reducing fuel loads would assist in providing this transparency. Triggers for burns could be based on risk factors such as the type of vegetation, terrain, fuel load and the proximity to population and private land. The relevant Department with responsibility for managing the particular piece of land should be required to publically report a fire risk rating for discrete areas of crown land.

The lower the level of risk for any particular area, the lower the priority to conduct a prescribed burn. As the risk factors increase, the priority and urgency for a prescribed burn also increases.

This approach would also direct the level of risk that would be acceptable in conducting a prescribed burn. If the level of wildfire risk to private property is low, there would be time to wait for the weather conditions necessary for a prescribed burn at a lower level of risk. As the risk of wildfire to people and property increases a higher level of risk is acceptable when conducting the prescribed burn.

This system also emphasises the wisdom in taking preventative measures before risk becomes too great. If burns are consistently conducted at low risk points, fuel loads are less likely to achieve high risk levels.¹⁷⁰

3.178 VFF also called for broad input into management of public lands:

An additional step that could assist would be the establishment of regional fire committees with representative from landholders, Government land managers, Catchment management Authorities and the CFA. This committee would provide recommendations, advice and guidance on the management of crown land in order to manage fire risk.¹⁷¹

3.179 The strategies above referred to above from paragraph 3.152, particularly the Canobalas Bush Fire Model, broadly reflect these Victorian perspectives about the need for a more co-ordinated, long-term and considered approach to fuel reduction, tailored for each region on the basis of local characteristics and risk imperatives.

3.180 In their submission to the inquiry the Western Australian Fire and Emergency Services Authority (FESA) commented that:

The effectiveness of bushfire mitigation would be enhanced if the multiple agency and jurisdictional arrangements were abandoned. The principal or pre-eminent fire agency should be enabled to manage bushfire preparedness, regardless of tenure or ownership.

One central agency must be made responsible through the State statutes to coordinate and approve the regional and strategic fire reduction strategies.

170 VFF, *Submission 28*, p. 9

171 VFF, *Submission 28*, p. 9

The onus for developing the strategies and then implementing the strategies should quite rightly remain the responsibility of the local government and the local land owners/managers or managing authority. Where the local government, local land owners/managers or managing authority did not undertake the work the pre-eminent fire agency must have the statutory authority and resources to undertake that work in a timely manner and where appropriate recover the cost of that work from the local land owners/managers or managing authority.¹⁷²

3.181 To ensure that land managers meet their responsibility to manage fuel loads effectively, a number of organisations recommended that the Commonwealth government be responsible for monitoring the implementation of fuel reduction measures. The Rural Fire Service Association of NSW proposed greater Commonwealth responsibility for ensuring that the states are meeting benchmarks and performance targets.¹⁷³ VAFI also called for a national framework to impose greater accountability on the states:

...having a national framework that looks at fuel hazards and appropriate levels of fuel reduction and which could actually compare results to plans would be of benefit and improve the transparency and accountability of land management.¹⁷⁴

3.182 Victorian Lands Alliance recommended that reduction activities be monitored:

Monitoring the benefits and impacts of fuel reduction burning and inevitable bushfire through research is essential and must be mandated and ongoing.¹⁷⁵

3.183 They also suggested that targets be established to ensure accountability:

As accountability has been an ongoing issue for the achievement of fuel reduction burning targets, clearly defined targets must be set, with a minimum target of 385,000 hectares, as recommended by the Victorian parliamentary inquiry in 2008. The government and/or the land manager in Victoria clearly have a reluctance to commit to a target. I think that the community is sending a clear signal that they want to see targets so that there is some accountability.¹⁷⁶

3.184 Australian Forest Growers queried the accountability of land management agencies under the current structures:

172 FESA, *Submission 39*, p. 7

173 Rural Fire Service Association of NSW, *Committee Hansard*, Canberra, 12 March 2010, pp 86-87

174 VAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 52

175 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, p. 39

176 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, p. 39

Where you rely on a state government agency to monitor and also to implement fuel reduction, often they get lost in their own bureaucracy. No-one is standing there saying, 'You're not achieving your goals or your performance indicators.'¹⁷⁷

3.185 They proposed that the Commonwealth should have a stronger monitoring role: 'there needs to be some national organisation that looks at...the effectiveness of fire preparedness in every state'.¹⁷⁸ As referred to earlier as part of the committee's discussion on national co-ordination from paragraph 1.102, Australian Forest Growers recommended that a new auditing body be established to report to federal Parliament on a number of fire preparedness measures, including 'the extent of pre-season fuel reduction'.¹⁷⁹

3.186 The Bushfire Front Inc stated that auditing is the Commonwealth's most important role:

...probably the most important thing is that the Commonwealth can provide a system of auditing and public reporting on actual performance in terms of bushfire management. The situation at the moment is that state agencies around Australia who are responsible for bushfires audit and report on themselves, or else they are not audited and reported upon by people that know anything about it. The Commonwealth could set up a system that says, 'This is an ideal bushfire management system; this is best practice; this is the way the states are performing against it.' It could provide an independent audit and make it public. That has never been done yet, and until it is done people will be able to get away with doing anything.¹⁸⁰

3.187 Australian Forest Growers explained that their recommendation stemmed from frustration at previous inaction:

...this has arisen from an ongoing frustration that out of every inquiry you seem to get a recommendation that we need to be more careful about controlling the build-up of fuel load. Everyone nods sagely and they go back to their departments and fail to meet their own performance criteria. So, if they are not being audited at a state level, then our only other avenue seems to be the federal level. I think you can probably do that without intervening in the states' rights to manage land.¹⁸¹

3.188 Mr Nairn reiterated the select committee's call for prescribed burning activities to be published and audited.¹⁸² The recommendation from that committee was as follows:

177 Australian Forest Growers, *Committee Hansard*, Melbourne, 25 March 2010, p. 83

178 Australian Forest Growers, *Committee Hansard*, Melbourne, 25 March 2010, p. 86

179 Australian Forest Growers, *Submission 16*, pp 6-7

180 The Bushfire Front Inc, *Committee Hansard*, Perth, 29 April 2010, p. 19

181 Australian Forest Growers, *Committee Hansard*, Melbourne, 25 March 2010, p. 87

182 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 3

The Committee recommends that the Commonwealth seek to ensure that the Council of Australian Governments seek agreement from the states and territories on the optimisation and implementation of prescribed burning targets and programs to a degree that is recognised as adequate for the protection of life, property and the environment. The prescribed burning programs should include strategic evaluation of fuel management at the regional level and the results of annual fuel management in each state should be publicly reported and audited.¹⁸³

Committee view

3.189 Fuel load is the only contributor to fire intensity that land managers are able to control to any degree and prescribed burning is the most effective way to minimise fuel loads at a landscape level. Opponents of prescribed burning have not proposed suitable alternatives for reducing fuel loads and would therefore tolerate continually increasing fuel in the landscape, condemning fire prone communities and the environment to ever more serious fires.

3.190 The committee accepts that there is disagreement and uncertainty about the effect fuel reduction has on fire behaviour in extreme hot and windy weather. As the CSIRO noted, there are unanswered questions as to the extent of prescribed burning that would be required to modify fire behaviour on extreme fire days, and obvious problems with conducting fire behaviour experiments under such conditions. However, the fact that fuel loads are known to affect fire behaviour under more benign conditions is in the committee's opinion a good enough reason to recognise the value of prescribed burning programs. Reduced fuel loads can aid fire suppression efforts when fires start under moderate conditions, allowing fire fighters to gain control of them before conditions become unfavourable. Similarly, bushfires running uncontrolled during extreme conditions can be more readily brought under control when the weather moderates if fuel reduction measures have been undertaken.

3.191 There are also legitimate claims about the diminishing returns from prescribed burning over time, recognising that burns are unable to be conducted too frequently because of ecological and resourcing reasons. Even so, a long term prescribed burning program using a mosaic approach to fuel reduction will ensure that neighbouring parts of the landscape will have been burned more recently than others, assisting fire suppression efforts when fires reach those recently burned areas.

3.192 A precautionary approach must also be taken when considering the effectiveness of prescribed burning for protecting assets. Without discounting the importance of hazard reduction measures at the interface between built assets and the bush, fuel reduction measures taken to reduce fire intensity in the landscape are an important element in mitigating bushfire risk. Houses are less likely to be ignited from

183 House of Representatives Select Committee on the Recent Australian Bushfires, *A Nation Charred: Inquiry into the Recent Australian Bushfires*, October 2003, p. 89

random ember attack if the intensity of the fire catapulting those embers ahead of the fire front has been reduced.

3.193 The committee is firmly of the view that it is not an option to neglect prescribed burning in the landscape because its effectiveness cannot be quantified. To do so would be to allow fuel levels to reach untenable levels and make suppressing bushfires in even moderate conditions much more difficult than it should be.

3.194 The committee does not underestimate the considerable difficulties confronted by land managers trying to implement an effective prescribed burning strategy. Community resistance to prescribed burning is often unhelpful, engendering a highly risk-averse approach from land managers that counters effective strategies. Land managers in areas with certain vegetation types also have to deal with constraints imposed by short windows of opportunity in which to conduct burns, as well as having their efforts diminished by neighbouring land management agencies that do not see fuel reduction as a priority, or who do not have the resources for the task.

3.195 However, the committee is of the firm view that all fire prone communities in Australia should be part of a well considered, risk-based and co-ordinated 'tenure blind' prescribed burning program, devised on a region-by-region basis with the co-operation of all responsible land managers. Risk planning strategies recognise that different regions and different vegetation types require a tailored approach, taking into account bushfire risks to communities and the pattern and frequency of burning that can mitigate these risks, bearing in mind constraints imposed by needing suitable conditions to burn and the need to manage ecological values appropriately.

3.196 The committee realises that there may be biodiversity costs where prescribed burns of certain vegetation types are conducted on a frequent basis. These factors should certainly be taken into account when burn strategies are being developed, but need to be balanced against the ecological consequences of high intensity fires that are more likely to occur if hazard reduction burns are too infrequent or not carried out at all. There is nothing worse for protecting biodiversity than an intense bushfire tearing through the landscape. Nothing survives. Prescribed burning is therefore an important part of maintaining biodiversity in fire prone areas.

3.197 The Commonwealth's limited land management responsibilities mean that its role in developing and implementing fuel reduction programs is also limited, which is properly the role of the relevant land manager and/or fire agencies. Consequently, practical solutions on fuel reduction able to be implemented by the Commonwealth are concerned with providing technical and scientific expertise to assist with risk planning, and taking a monitoring role to ensure that the states and territories' public land management agencies are developing and implementing effective prescribed burning programs.

3.198 The committee agrees with the evidence provided during the inquiry that the Commonwealth should be more involved in ensuring that managers of public land are meeting their obligations to protect communities for bushfire risks, by monitoring

progress on the implementation of effective fuel reduction programs in high bushfire risk areas. At present, land management agencies are not adequately accountable for their bushfire preparedness, particularly in respect of fuel reduction. The committee therefore recommends that the Commonwealth seek agreement from the states and territories that would enable it to evaluate the adequacy of fuel reduction programs being applied by public land management agencies in high bushfire risk areas, and audit their implementation against the program's stated objectives. In the committee's opinion, these programs should be based on the region-by-region, co-ordinated risk planning model described above if they are to be considered effective.

Recommendation 5

3.199 The Commonwealth seek agreement from the states and territories that would enable it to evaluate the adequacy of fuel reduction programs applied by public land management agencies in high bushfire risk areas, and audit their implementation against the program's stated objectives.

3.200 The committee further recommends that the Commonwealth publish all fuel reduction plans and related audit findings on a national database, so that communities living in bushfire prone areas are properly informed about the adequacy of bushfire mitigation strategies in their surrounding landscape.

Recommendation 6

3.201 The Commonwealth publish all fuel reduction plans and related audit findings on a national database.

3.202 Finally, the committee notes that while grazing would not provide a comprehensive solution to fuel hazard reduction deficiencies, where appropriate it should be considered by public land management agencies as part of each region's fuel reduction strategy. The committee also supports further research in alpine country environments to establish the relative long term benefits to those areas of grazing, prescribed burning, or management without fuel reduction.

Additional risk management approaches

3.203 Although mitigating bushfire risk through fuel reduction is contentious, it is well recognised that additional bushfire risk management strategies are needed to protect built assets and those who inhabit them. During the inquiry, consideration of these strategies focussed on the measures that enable communities to be more resistant to the effects of catastrophic bushfires.

3.204 Australasian Fire and Emergency Service Authorities Council (AFAC) commented in their submission that communities need to accept shared responsibility:

AFAC believes managing risk and reducing loss is a shared responsibility between government, householders, property owners and land managers.

Fire agencies and some land management agencies have statutory responsibilities for managing bushfires. However, the steps that

householders and business owners take to prepare for bushfires are crucial to the protection of their life and property. Communities need to be assisted in building their resilience to be able to better cope with bushfires.¹⁸⁴

3.205 The following issues relating to community resilience were explored:

- Improving communities' understanding of their bushfire risk.
- The appropriate imposition of planning controls to protect communities from bushfires.
- Insurance arrangements that provide appropriate risk management incentives to households.

Improved risk information

3.206 One important strategy for protecting lives and built assets is to equip communities to better understand the risks bushfires present in their area. However, evidence to the committee suggested that general awareness and understanding about fire in the community was declining. Mr Phil Cheney commented on the general lack of experience with fire:

...fire has passed out of the consciousness of most people ... Very few people light a fire. They are often not allowed to light a fire just to burn off rubbish in their backyard, for which there are all sorts of reasons put up, most of them spurious in my view.¹⁸⁵

3.207 Emergency Management Australia (EMA) also noted that changing demography has meant a poorer understanding of fire risks by those living at the urban-rural interface.¹⁸⁶

3.208 AFAC commented that the task of educating people moving into fire prone areas is complex:

We have to get past the idea that a brochure is going to change people's behaviour and that the complexity of it is a lot more than that when people have so many other things going on in their lives. A long-term and quite highly skilled approach is needed.¹⁸⁷

3.209 Mr Justin Leonard argued that community understanding of the interaction between landscape risk and design risk is critical:

The ... most important component is community education where the occupant of that structure completely understands the nature of his built

184 AFAC, *Submission 48*, p. 9

185 Mr Phil Cheney, *Committee Hansard*, Canberra, 12 March 2010, p. 15

186 EMA, *Committee Hansard*, Canberra, 12 March 2010, p. 28

187 AFAC, *Committee Hansard*, Melbourne, 25 March 2010, p. 13

house or his design and the risk of his landscape and has the relevant tools to be able to self-assess and come up with a specific understanding of his risk in his landscape.¹⁸⁸

3.210 According to Mr Leonard, the extent of this understanding would underpin a householder's 'stay or go' decision:

...the occupant, in order to make an effective decision about whether they should be leaving the night before or early in the morning of an impending high fire danger day, needs to understand how vulnerable they are to a fire that would arrive under those conditions. They need to understand the fundamental assumptions of fire weather intensity that were inherent in the decisions that led to their house design and how it was built. If they do not actually have that knowledge, they more or less fall into the category where they must leave well and truly ahead of any impending fire event. So a vulnerability assessment and a detailed understanding of your own circumstances are an inherent part of, or go hand-in-hand with, that policy doctrine.¹⁸⁹

3.211 CSIRO's submission said that better information about risk could assist communities to make informed decisions:

There is potential for an improved house loss risk index to be developed and used to better inform communities of the potential for a fire under given fire weather conditions to cause life and property loss. Accompanied by an integrated education policy this tool could assist individuals and communities to understand:

- the potential worst case weather conditions in their region,
- the capacity to prepare and adapt to their regionally specific weather conditions, and
- the significance of forecast weather conditions in relation to the level to which they are prepared, so that an informed decision can be made to stay and defend or leave well before the fire arrives.¹⁹⁰

3.212 Professor Neal Enright advocated a more realistic assessment of risk of asset destruction and threat to life:

If [high fire danger] conditions are going to become more frequent then we have to look at how people assess risk and respond to risk. Some of the local councils are probably partly at fault here because they want ratepayers and they have allowed building in locations that are perhaps not particularly fire safe and do not meet building codes that are suitable for the circumstances. We need to ask what level of individual responsibility people are prepared to accept, what levels of community responsibility

188 Mr Justin Leonard, *Committee Hansard*, Melbourne, 25 March 2010, p. 74

189 Mr Justin Leonard, *Committee Hansard*, Melbourne, 25 March 2010, p. 80

190 CSIRO, *Submission 15*, p. 17

local councils are going to front up and accept and what demands they are going to make on people when they move into those areas.¹⁹¹

3.213 The committee notes that the Western Australian Fire and Emergency Services Authority (FESA) has begun analysis in this area to assist fire agencies assess bushfire risks:

In 2003 FESA developed the 'Rural Urban Bush Fire Threat Analysis (RUBTA)'. The purpose of this analysis tool is to provide a system that fire managers can use to quantify decisions associated with bush fire hazards, risks and values to determine the threat that a bush fire would pose.

It is expected that the RUBTA tool will be applicable in situations where bush land and communities interface. This may include several streets in the metropolitan area, or a brigade zone, or local government authority area. The expectation is that the hazards, risks and values analysed and the resultant threat determined by use of this analysis tool can be applied with equal success in all areas. This analysis tool is not designed to be applied in isolated areas that contain little residential or commercial development.

As most bush fires are caused by human activity, either by deliberate actions or carelessness, risk can be equated with human activity and available fuels. For the development of this analysis (RUBTA), a zone is any area that is being assessed. It can be a local government area, brigade area, or a subdivision.¹⁹²

3.214 Concerns were also raised about confusion in the community about fire because of inconsistent or inaccurate use of terminology. The Bushfire Front Inc stated that:

A major issue in community education is terminology. It is common in Australia for bushfire terms to be used incorrectly ("back burn" used to mean "prescribed burn") or vaguely ("frequent fire"). To help overcome this problem The Bushfire Front has developed a standard glossary... There is an opportunity to take a leadership role in this, and to promote the development and provide custodianship for an Australia-wide bushfire terminology, thus ensuring consistent and accurate use of critical words and terms.¹⁹³

3.215 The Bushfire Front Inc recommended a national bushfire terminology be adopted Australia-wide.¹⁹⁴

191 Professor Neal Enright, *Committee Hansard*, Perth, 29 April 2010, p. 85

192 FESA, *Submission 39*, p. 10

193 The Bushfire Front Inc, *Submission 48*, p. 4

194 The Bushfire Front Inc, *Submission 48*, p. 5

Planning regulations

3.216 In conjunction with households taking their own measures in response to bushfire, discussion also focussed on the imposition of planning regulations that can mitigate the effects of uncontrolled bushfires on lives and assets in high-risk areas. This includes hazard reduction at the urban interface and more fire resistant building design. In particular, there were concerns about the adequacy and enforcement of existing planning regulations and the emerging demand for bushfire bunkers.

3.217 The 2005 COAG report stated that:

...land use planning that takes into account natural hazard risks is the single most important mitigation measure for preventing future disaster losses (including from bushfires) in areas of new development. Planning and development controls must be effective, to ensure that inappropriate developments do not occur.¹⁹⁵

3.218 The Queensland Department of Community Safety noted recent development trends and environmental constraints that had increased bushfire risk around dwellings:

In the past, urban development was often surrounded by a cleared rural buffer. More recently, urban development is moving into rural areas and natural vegetation. Additionally, there has been a tendency to subdivide large bush blocks on the urban fringe.

Environmental controls generally prevent the clearing of native vegetation. Where rural land is subdivided, revegetation with native species often creates the same bushland environment without adequate means to manage the bushfire risk. Future disasters in these areas are inevitable unless adequate precautions are taken.¹⁹⁶

3.219 Mr Justin Leonard explained that trees near houses are not necessarily a fire risk in themselves, stating that 'trees on their own do not burn'. He indicated that the fuel they create needs to be managed:

They are certainly a source of fine fuel debris and may allow accumulation of that under them, but that fuel can be managed and it can co-exist with the tree, so to speak. I certainly would not advocate having trees so close that when their branches drop in a bushfire they knock a hole in your roof, because that is not particularly effective. But in fact trees between you and a continuous unmanaged forest environment are actually quite useful in attenuating radiant heat, attenuating the wind loads and also filtering out ember attack between you and the fire.¹⁹⁷

195 Ellis, S. et al, *COAG National Inquiry on Bushfire Mitigation and Management*, March 2004, p. xxiv

196 Queensland Department of Community Safety, *Submission 12*, p. 8

197 Mr Justin Leonard, *Committee Hansard*, Melbourne, 25 March 2010, p. 74

3.220 The Planning Institute of Australia told the committee that reducing hazards at the interface reduced demands on building design:

If we have sufficient cleared areas around buildings, the demands on the structures in terms of the techno fix are much lower. That is why we can either manage the fuel loads or increase the resistance. It is a matter of striking an appropriate balance between those two things.

...

I think we do have to accept that if people want the trade-off of being closer to vegetation then they have to accept that part of that trade-off is substantially increased building costs as they move up through the AS requirements. At the end of the day, the issue is whether it is appropriate for us to mandate and legislate these things or to provide some personal discretion to people.¹⁹⁸

3.221 The Institute added that the implementation of that balance could be improved with flexible arrangements:

...what we are trying to do is balance competing issues within the overall framework of what is affordable—because everything costs money. I think we can provide building codes and planning regimes that provide first cut at those balances in a much better and much more affordable way than we have done in the past. We know enough to do this; we are just not integrating it all.

Once we do that, if somebody wants to go outside one of those solutions then they have to put their case. That is when they call in the fire expert consultant and say: ‘We don’t want to fit that box. We want to do this. We think we can do that safely because of X, Y and Z. We found this alternative solution that meets the objectives of the standard and the objectives of the BCA, but it’s a different solution.’ ...What that allows is the ability in every circumstance for an optimised solution and standardised solutions that have been worked through to provide a reasonable balance of cost versus effectiveness in the context of the risk we are trying to manage.¹⁹⁹

3.222 Mr Justin Leonard told the committee that because most house losses occurred on catastrophic fire risk days where fire suppression is difficult, asset design is critical:

...if the issue of urban asset vulnerability and urban design is not solved then we still have a fundamental problem where fires, no matter what broadacre fuel management regime is implemented, will turn up at urban assets, and we will lose houses and we will lose lives. That is of course exacerbated by the potential climate predictions that we will see a greater

198 Planning Institute of Australia, *Committee Hansard*, Melbourne, 25 March 2010, p. 36

199 Planning Institute of Australia, *Committee Hansard*, Melbourne, 25 March 2010, p. 36

prevalence of more days of extreme fire danger and, potentially, days when the fire danger is more extreme than we have seen historically.²⁰⁰

3.223 Requirements for the construction of buildings in bushfire prone areas are specified by Standards Australia in AS3959-2009, the purpose of which is to reduce the risk of buildings igniting while a bushfire passes through. Construction requirements vary depending on the bushfire risk the property faces, determined following a site assessment.²⁰¹ Formal implementation of AS 3959-2009 occurs through its adoption into the Building Code of Australia (BCA).

3.224 However, the Australian Building Codes Board notes that while AS 3959 provides for construction standards offering bushfire resistance in accordance with the assessed level of risk, it does not fire-proof houses built to the standard:

...compliance with AS 3959 will not guarantee that a building will survive a bushfire event on every occasion due to the unpredictable nature and behaviour of fire and the difficulties associated with extreme weather conditions. Construction standards are an important part of what should be a holistic approach to risk mitigation that includes planning controls, ongoing building and vegetation maintenance, occupant ability and preparedness, education campaigns and emergency response.²⁰²

3.225 Some evidence advocated preventing future development in fire-prone areas altogether. For example, Dr Bob Such MP stated that potential housing sites in fire-prone areas should be quarantined under planning regulations.²⁰³ Conservation Council of WA argued that more stringent restrictions are needed:

...we are in a situation where there are more and more assets, homes, being built in high fire-risk areas—not just in forest but in coastal heath. In Western Australia the local governments have the ability to identify fire zones, under legislation, but they do not do it. We are getting more and more subdivisions in high fire-risk areas.²⁰⁴

3.226 In evidence to the committee the Planning Institute of Australia warned that lessons about bushfire probability were not being learned:

We are still recreating the problems—the same thing in the same place. I cite the case of Warrimoo in the Blue Mountains of New South Wales, where some dwellings have burnt five times since 1957. When will we get the point? Some areas—and I think we must accept this—may never be able to be made safe from these catastrophic events. In Australia we have a

200 Mr Justin Leonard, *Committee Hansard*, Melbourne, 25 March 2010, p. 73

201 Victorian Bushfires Royal Commission, *Interim Report 2*, 'Priorities for building in bushfire prone areas', November 2009, p. 10

202 ABCB website, 'Bushfires, Buildings and the BCA', accessed on 28 May 2010 at <http://www.abcb.com.au/index.cfm?objectid=8BD32A94-B393-11DE-B2630050568C0CD7>

203 Dr Bob Such MP, *Submission 10*, p. 3

204 Conservation Council of WA, *Committee Hansard*, Perth, 29 April 2010, p. 29

history of shifting communities that get flooded—Gunnedah, Nowra, Maitland—yet we will not even go there in terms of bushfire vulnerable communities.²⁰⁵

3.227 The Institute expressed concerns about the haste to re-build in areas affected by bushfires:

At present, there is an increasing move by governments to exempt a range of developments from planning approvals, such as in the context of post-bushfire reconstruction. The effect of this approach is that the role of land use planning in providing input into the re-building process would be removed, generally resulting in little or no regard for critical and considerations including:

- the siting of a dwelling (of vital importance when one considers the impact of topography on fire behaviour);
- access for emergency vehicles; vegetation management; the need to critique existing subdivision layouts (including the need to plan road networks to better facilitate efficient evacuation of such communities);
- building styles and design; and
- water supply.²⁰⁶

Naturally, many people who have lost their homes through bushfire want to re-build quickly. The speed of re-building, however, can hamper efforts for a strategic analysis, giving due consideration to 'lessons learnt' and the implementation of risk management practices.

3.228 They also suggested that the Commonwealth provide assistance to owners of older dwellings in high risk areas to retrofit their homes to the existing construction standard.²⁰⁷

3.229 The Institute of Architects of Australia observed that restrictions on the rights of property owners to build as they wish are inconsistently applied:

The community generally accepts the value of these regulations and the need for compliance to prevent the possibility of death or injury, even where the statistical risk to the safety of occupants is low, or very low.

It seems inconsistent with the general policy of safety based regulation ... that the risk to occupants of bushfire, where that risk is enhanced by an extraordinarily dangerous location, could fall outside the scope of such regulation, given that setting standards of construction cannot realistically eliminate this risk.²⁰⁸

205 Planning Institute of Australia, *Committee Hansard*, Melbourne, 25 March 2010, p. 32

206 Planning Institute of Australia, *Submission 19*, p. 4

207 Planning Institute of Australia, *Submission 19*, p. 5

208 Institute of Architects of Australia, *Submission 30*, p. 6

3.230 The Institute of Architects of Australia indicated that a more stringent approach be taken if supported by the available evidence:

While the Institute strongly advocates that any such decision to regulate the right to build should only be made on sound research evidence, if the Senate Select Committee finds there is such a case for more extensive regulation to be made on the basis of research, then the Institute considers it a necessary and appropriate part of protecting our community.²⁰⁹

3.231 The Planning Institute of Australia recommended that an assessment of high risk communities be incorporated into state and regional planning regulations and that vulnerable developments such as schools and aged care facilities be restricted from being built in areas where evacuation would be difficult.²¹⁰ They advocated a national position to reflect this:

The submission also noted that consideration should be given to developing a national planning policy position regarding the location of new “vulnerable” land uses such as hospitals, aged care facilities, tourist facilities and schools, among others. That is, the establishment of these types of facilities should not be permitted within high or extreme bushfire prone areas, as evacuation of such facilities during a bushfire could prove difficult and dangerous.²¹¹

3.232 Mr Justin Leonard also commented that special measures are required in some instances:

There is definitely a strong case for special consideration and a special strategy for retrofitting or building new facilities for aged care and infirm care hospitals that are defined as being exposed to bushfire risk. Because of the inherent inability of the occupants, and the fact that sometimes you get two days warning of an impending fire attack and sometimes you get two minutes warning, you more or less have to consider that the shelter strategy will have to be an important consideration in future events. So they have to have an effective, robust strategy that combines building detailed design, land management and emergency reaction.²¹²

3.233 The Planning Institute of Australia advocated a national framework integrating existing bushfire mitigation knowledge into the planning and development system. This would involve seeking the agreement of the states to incorporate into their planning systems newly developed national risk management strategies for natural hazards, including bushfires.²¹³ The Institute was critical of the application of existing planning measures:

209 Institute of Architects of Australia, *Submission 30*, p. 6

210 Planning Institute of Australia, *Submission 19*, p. 3

211 Planning Institute of Australia, *Submission 19*, pp 2-3

212 Mr Justin Leonard, *Committee Hansard*, Melbourne, 25 March 2010, p. 81

213 Planning Institute of Australia, *Submission 19*, p. 2

While planning tools exist to assess risks and mitigate against bushfire hazards, the effectiveness of such measures is limited by the enforcement, management and communication between various planning regimes, fire authorities and the community that will determine the effectiveness of these tools. From a planning perspective there is a perceivable lack of interaction, awareness, enforcement and management between various planning regimes which is threatening the efficient application of all existing planning tools regarding bushfires.

...

a considered approach to risk mitigation and management forms the basis of approvals permitting development of land in high-risk areas in the first instance. PIA believes that better planning for risk identification, risk management and mitigation of bushfires requires actions at all levels of government. Specifically, the key actions relate to governance; development assessment, approval and compliance processes for subdivision, site planning and building; community education and engagement and professional education and training for those involved in planning processes across a variety of agencies.²¹⁴

3.234 Enforcement of existing regulations was also the subject of concern. Conservation Council of WA suggested to the committee that current national standards are not being adequately applied at the local level:

...there are national building codes that provide for different building standards for areas that are declared as fire prone areas. Those building codes are available for implementation by local councils and by authorities, but that relies on the identification of fire prone areas. In Western Australia, I think there are only two shires that have declared fire prone areas for the application of those building codes. As a result of that, you get ... [advertisements for fire prone dwellings] with no indication to the potential purchaser that it is a dwelling in a fire prone area. There are some disincentives to the actual identification and listing of fire prone areas for the application of those building codes. It may be that it has an effect on property prices and it may be that it becomes more expensive to develop land in those areas for those reasons, but that absolutely needs to be looked at ... as a first priority.²¹⁵

3.235 FESA provided a similar view:

The planning and building codes in Western Australia are deficient in that the declaration of bush fire prone areas is left to the local government authority to declare areas bush fire prone. The declaration of bush fire prone areas generally occur when the local government updates its town planning or regional planning scheme. This occurs only every five or 10 years depending on the scheme.

214 Planning Institute of Australia, *Submission 19*, p. 6

215 Conservation Council of WA, *Committee Hansard*, Perth, 29 April 2010, pp 29-30

In Western Australia most local governments have not declared their municipal areas or portions of the municipal areas bush fire prone. By not declaring the municipal areas bush fire prone proves problematic for building surveyors who wish to impose the "Australian Standard 3959 - Construction in bushfire prone areas" which would increase the survivability of the building if attacked by a bush fire. There are a number of local governments who have declared portions of their municipal areas bush fire prone and they should be commended. When a municipal area declares a bush fire prone area the Building Code of Australia applies, as does "Australian Standard 3959 - Construction in bushfire prone areas". It is the absence of the declaration of the bush fire prone areas that is holding back the protection of the community. By unilaterally declaring their municipal areas bush fire prone may act as a deterrent for a local government as it may lead to increase building costs, or a reduction of lots in a zone leading a reduction in rates.²¹⁶

3.236 The Planning Institute of Australia raised the problem of local enforcement beyond initial construction:

At the local level, issues of enforcement and compliance can impact upon land use and management in bushfire-prone regions. This can include conditions on permits not being followed up or enforced by the relevant authority. For example, screens that assist in protecting against ember attack may be removed by some residents following receipt of their occupancy permit. There is a need to ensure compliance over the life of the development in order to maintain the level of protection anticipated by the bushfire development requirements. This, however, may not always be practicable due to individual resourcing limitations of the relevant authority.²¹⁷

3.237 The Institute stated that even best practice planning regulations have limited value if they are unable to be enforced:

We ... recognise the perennial problem of follow-up on planning requirements. Put a requirement on a permit—fine—put 30 requirements on a permit, but who is going to check that the clearing is done, the buildings are maintained, the preventative measures are in place and that the fire planning is being done. Local government does not have the resources to do this, and this is a serious issue that we need to address: the follow-up.²¹⁸

3.238 The committee also considered the emerging and controversial issue of private fire refuges used as a shelter from bushfire attack, or 'bushfire bunkers'. The loss of life that occurred on Black Saturday has spurred debate about the safety implications of bushfire bunkers and how they may be appropriately regulated, as

216 FESA, *Submission 39*, p. 14

217 Planning Institute of Australia, *Submission 19*, pp 3-4

218 Planning Institute of Australia, *Committee Hansard*, Melbourne, 25 March 2010, p. 32

there are currently no technical standards for private bushfire bunkers in the Building Code of Australia.

3.239 The Institute of Architects of Australia warned of a potential surge in demand for bunkers, without suitable understanding of their safety:

It is imperative that the community understand that within Australia there are no prescribed standards or regulations for the construction of fire refuges. To the Institute's knowledge, there is also no known research based evidence within Australia supporting the safe design of fire refuges.

We submit that this is a critical issue as it is apparent community concern is driving this issue with the potential for further disaster where people may make futile purchases or have a false sense of safety which could ultimately lead to future loss of life. The architecture profession has experienced an increase in inquiries about fire refuges for current and future projects and anecdotal evidence suggests that some businesses are already advertising 'fire bunkers'.²¹⁹

3.240 They recommended that further 'research, testing and modelling done to determine both their effectiveness and the safety features they need to provide', which would inform an Australian standard on fire refuges.²²⁰ The Planning Institute of Australia suggested in evidence that bunkers are most effective when incorporated within dwellings and able to be accessed from within and outside.²²¹

3.241 The Planning Institute of Australia recommended that a national standard for bunkers be developed, including consideration of location, fire ratings for walls and doors, life supporting amenities, and maintenance of surrounding vegetation.²²² AFAC also supported a national standard for bunkers, with the caveat that:

...bunkers are not and should not be relied upon as a substitute for adequate preparation of an existing home and appropriate mitigation measures at the planning and building stage.²²³

3.242 In November 2009 the Victorian Bushfires Royal Commission released an interim report which made the following recommendation:

The Australian Building Codes Board continue to progress the development of a standard for bushfire bunkers, that addresses matters including, but not limited to, fire resistance, structural strength, resistance to high winds, maintenance of tenable conditions, minimum functional size, maximum period of occupancy, visual communication with outside, siting, access and

219 Institute of Architects of Australia, *Submission 30*, p. 7

220 Institute of Architects of Australia, *Submission 30*, p. 7

221 Planning Institute of Australia, *Committee Hansard*, Melbourne, 25 March 2010, p. 35

222 Institute of Architects of Australia, *Submission 30*, pp 5-6

223 AFAC, *Submission 49*, p. 8

egress and signage, and make it publicly available no later than 30 April 2010.²²⁴

3.243 Since then the Australian Building Codes Board (ABCB) has developed 'a national performance-based standard for the design and construction of private bushfire shelters'. According to the ACBC:

The Standard has been developed as a performance-based document. Release of the document in early 2010 will enable State and Territory building regulators to use it as a basis for the regulation of private bushfire shelters prior to consideration for inclusion by the ABCB in BCA2011. The document will enable building designers and approval authorities to make informed professional judgements regarding the most appropriate means of mitigating life safety risk by the use of private shelters during a bushfire event.²²⁵

3.244 The ABCB have also cautioned against an over-reliance on bunkers as 'a stand-alone solution to mitigating bushfire risk'.²²⁶

3.245 Finally, evidence from Victorian organisations referred to potential regulatory conflicts stemming from state vegetation laws. The Victorian lands Alliance complained that local vegetation regulations regularly inhibit the protection of assets:

Excessive regulation that restricts native vegetation removal and management overlays for activities, such as roadside burning by CFA brigades, are as effective as a total ban by preventing the practical implementation of these activities. This is prohibition by default.

It is not uncommon for local CFA brigades, staffed by volunteers, filling out forms on multiple occasions, sometimes weeks in advance, seeking municipal permission for the same burn area when the weather on the nominated burn day turns unfavourable for conducting a burn. Some smaller brigades have ceased conducting roadside burns because of the paperwork and road safety compliance measures the brigade must undertake for each burn. Obviously, this is counter-productive for fire prevention in local communities.

...

It is not uncommon for restrictive local council vegetation clearing by-laws, administered by over-zealous council officers to result in:

- Compliance with the regulation, which results in minimal fire protection for the property in question and /or adjoining properties.

224 Victorian Bushfires Royal Commission, *Interim Report 2*, 'Priorities for building in bushfire prone areas', November 2009, p. 9

225 ACBC, *Performance Standard for Private Bushfire Shelters*, Part 1, 2010, p. 1

226 ACBC, *Performance Standard for Private Bushfire Shelters*, Part 1, 2010, p. 1

- No clearing of native vegetation by landowners because of the complexity and perceived low fire protection value of such regulations, which increases the risk for all in that community.
- Refusal by the landowner to abide by the regulation which can result in prosecution. Numerous Victorian landowners have suffered this fate in trying to protect their properties resulting in fines of up to \$50,000 in individual cases.
- Apathy in the community from conflicting messages from [authorities], for example CFA advice to have a wide clearance around buildings from native vegetation, whereas some local councils severely restrict the amount of vegetation [allowed to be] cleared.²²⁷

3.246 VFF also complained that native vegetation regulations in Victoria are too cumbersome to enable property owners to take measures to reduce the risk of bushfire destroying their assets.²²⁸

Insurance arrangements

3.247 Insurance is an integral part of bushfire risk management, not because it protects assets from being destroyed by fire, but because it has an important effect on the risks people are prepared to take to defend their properties. By providing property owners with the knowledge that their assets will be replaced in the event they are destroyed in a bushfire, adequate insurance cover encourages people to take sensible choices about self-protection in the critical moments of a bushfire disaster.

3.248 The Queensland Department of Community Safety indicated that insurance is a personal choice for consumers and made the following suggestions for improving insurance arrangements:

In the aftermath of natural disasters there has been much debate about whether insurance should be compulsory. Putting aside the financial ramifications for insurance companies, it is difficult to imagine any government pursuing a compulsory insurance scheme as bushfires are only one of the many natural disasters potentially impacting on communities. For many individuals, insuring their private home and other possessions is a personal choice and decisions about insurance cover are made based on a perceived level of risk and available and affordable insurance policies.

There is scope to work with the Insurance Council of Australia and industry to provide consumers with more flexible insurance options that may lead to a wider public acceptance, including:

- working with the insurers to explore broader cover under their policies and identify and provide consumers with access to more reliable tools for calculating rebuilding costs;

227 Victorian Lands Alliance, *Submission 34*, p. 16

228 VFF, *Submission 28*, pp 5-7

- facilitating better communication between insurers and their clients to improve understanding of insurance coverage need; and
- continued promotion of appropriate community education messages about underinsurance and non insurance.²²⁹

3.249 FESA suggested that insurance companies provide incentives for householders to prepare for bushfires:

Incentive schemes for increased property preparedness similar to those related to security measures are an aspect that the Insurance industry should consider. It would be another way of assisting fire agencies to encourage appropriate community response to bushfire preparedness.²³⁰

3.250 Mr Justin Leonard suggested that the insurance industry, like the community generally, lacks the 'tool kit' to assess appropriate premium variations that reflect the relative risks associated with different mitigation measures taken by householders.²³¹ He suggested an alternative incentive mechanism, based on mandatory disclosure of a house's vulnerability when it is being sold:

...something like a mandatory disclosure of the level of risk that an individual has or a vulnerability assessment of them is a potential process that someone could explore. For example, legislation is coming in where you have to compulsorily declare what the energy rating of your house will be. If you do not have an assessment that says my house is a three-star or a six-star house then it is basically declared as a zero star. Whenever you sell that house, you must declare its rating. The market then becomes highly perceptive as to 'I'm going to buy a three-star minimum house when I go and purchase,' and so all of the zero star and unassessed houses lose perceived value in the market. You could certainly explore similar ways of encouraging a large uptake of a formal vulnerability assessment method so that the community starts to become quite focused on that as being a very important part of dealing with the inevitable nature of the environment they are living in.²³²

3.251 Most evidence to the committee regarding fire insurance concerned those jurisdictions that fund emergency services in large part through levies on home and/or business insurance premiums. Presently, Victoria and NSW impose a fire levy on home and business insurance premiums and the Tasmanian government applies a levy on business insurance premiums.²³³

229 Queensland Department of Community Safety, *Submission 12*, pp 15-16

230 FESA, *Submission 39*, p. 26

231 Mr Justin Leonard, *Committee Hansard*, Melbourne, 25 March 2010, pp 76-77

232 Mr Justin Leonard, *Committee Hansard*, Melbourne, 25 March 2010, p. 77

233 Insurance Council of Australia website, accessed on 15 June at <http://www.insurancecouncil.com.au/Default.aspx?tabid=1291>

3.252 Evidence to the committee criticised these arrangements for creating a disincentive to insure. The NSW Rural Fire Service Association said that:

...taxation relief should be provided to those who choose to insure their properties. This would not only ease the burden on policy holders but will serve as an incentive to insure.

Furthermore it would result in savings for the government which has traditionally in times of natural disasters supported appeals etc directed at assisting the recovery process and in fact “bailing out” the uninsured.²³⁴

3.253 For example, Victorian Lands Alliance stated:

I think that all members of the community need to equitably take responsibility for insuring. With the current methods of funding, which I am sure you are well aware, the fire services levy funds a lot of the CFA activities, and that is borne by those who choose to insure. I think that if there were price signals that encouraged people to take more responsibility then that would be better than what we have.²³⁵

3.254 VFF were very critical of the fire services levy:

It is totally inequitable. It actually acts as a disincentive to people to insure. It is a totally inappropriate way to fund fire services. It means that people who are paying the fire services levy are paying for those who do not, and that is a disincentive for them to insure.²³⁶

3.255 VFF told the committee that the funding arrangements are in need of reform:

The Victorian Farmers Federation has long advocated reform of the funding arrangements for Victoria's fire services, in particular, the abolition of the fire services levy on fire and property insurance premiums.

Victorian farmers support reforming the fire services levy because of the clear inequities of the system where the Country Fire Authority provides a protective and emergency response service for the whole community but is being paid for only by those who insure. The levy makes it more expensive for farming businesses to manage risk by raising the cost of insurance and provides an incentive for people to under-insure (or not insure at all).

In addition to paying for the service through insurance, farmers experience the inequity of the current system when they serve as Country Fire Authority volunteers, donating their time and resources for the benefit of the community, including those community members who do contribute and those who do not.

...

234 NSW Rural Fire Service Association, *Submission 36*, pp 1-2

235 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, p. 43

236 VFF, *Committee Hansard*, Melbourne, 25 March 2010, p. 94

The most obvious way to increase the affordability of insurance coverage is to remove the fire services levy from insurance policies and fund fire services through a broader based and more equitable system that all who benefit from the provision of fire brigades contribute.²³⁷

3.256 VFF suggested Victoria adopt a levy model of the sort used in WA:

Our preferred model would be something akin to the Western Australian model where it would be charged on a capital improved value—a site value or a capital improved value minus the site—basically ensuring that the built asset applied to all landholders, and collected through a central state body.²³⁸

3.257 Dr Bob Such MP submitted:

Change the law regarding levies on insurance premiums so that all residents and property owners pay an Emergency Services Levy, as per South Australia, so that all citizens contribute to the adequate funding of emergency services, including fire fighting, not just those who insure!²³⁹

3.258 The select committee chaired by Mr Gary Nairn also considered this issue, stating that 'taxing on premiums is an impediment to its affordability. That committee made the following recommendation:

The Committee strongly recommends that the New South Wales, Victorian and Tasmanian Governments abolish the Fire Levy tax they impose on home and business insurance premiums.²⁴⁰

Committee view

3.259 The committee recognises that improved fuel reduction alone will not protect communities from the devastating effect of bushfires. People living in areas of fire risk need to fully appreciate the nature of the risk they face and the actions available to them to mitigate that risk.

3.260 The committee agrees with CSIRO that a useful starting point for households would be a better understanding of their own risk via a house loss risk index. On the basis of this knowledge, individual households would be better motivated to implement measures to increase the resistance of their home to ignition and make adequate preparations for a catastrophic fire passing through.

3.261 The committee is of the view that local governments in fire prone regions are best placed to provide this information to households as part of their regular

237 VFF, *Submission 28*, p. 14

238 VFF, *Committee Hansard*, Melbourne, 25 March 2010, p. 101

239 Dr Bob Such MP, *Submission 10*, p. 2

240 House of Representatives Select Committee on the Recent Australian Bushfires, *A Nation Charred: Inquiry into the Recent Australian Bushfires*, October 2003, p. 258

communication with their communities. Such an initiative would require Commonwealth agencies such as the CSIRO and the Bureau of Meteorology, in conjunction with relevant state fire agencies and local, state and territory government planning authorities, to assist with the development of fire risk index. Starting with Australia's highest risk bushfire regions, the committee recommends that the Commonwealth consult with local, state and territory government planning authorities on the development and dissemination of a house loss risk index.

Recommendation 7

3.262 The Commonwealth consult with local, state and territory government planning authorities on the development and dissemination of a house loss risk index for households in Australia's highest risk bushfire areas.

3.263 The committee also agrees that inconsistent use of bushfire terminology can cause confusion in the community and does not assist people in taking steps to mitigate their personal bushfire risk. The committee therefore recommends that the government work with the states and their agencies to ensure consistent terminology is used when communicating with the public.

Recommendation 8

3.264 The Commonwealth Government work with the states and their agencies to ensure consistent terminology is used when communicating with the public.

3.265 The increasing desire of people to live in close proximity to natural bushland raises a number of important issues about the development and implementation of appropriate planning regulations. In this field, the committee recognises that the Commonwealth again has a limited role, which is entirely appropriate given the local nature of planning decisions. It is not for the Commonwealth Government or its agencies to dictate where people may or may not be permitted to build houses. However, the committee encourages local planning authorities to take a prudent approach to allowing development in areas where fire poses an extreme risk and evacuation would be difficult.

3.266 Local planning authorities also need to take seriously the risks of inadequate enforcement of existing regulations, taking a rigorous approach to compliance as is reasonable within their budgetary limits. Furthermore, they need to ensure that native vegetation laws are not enforced in such a way as to limit the ability of households to take sensible bushfire hazard reduction measures in the immediate vicinity of their property.

3.267 The committee shares the concerns of the Planning Institute of Australia with regard to vulnerable land uses such as hospitals, schools and aged care facilities. Although many such facilities already exist in fire prone areas, local authorities need to consider in depth the potential implications of constructing these facilities in locations where it would be difficult for those within these facilities to reach safety if a fire threatened their building.

3.268 The committee supports the introduction of a national standard for bushfire bunkers and reiterates the view that bunkers should not be relied on as a substitute for appropriate mitigation measures.

3.269 With regard to insurance, the committee is of the view that people living in fire prone areas should adequately insure their assets against the risk of destruction from bushfires. This not only encourages individuals to make sensible choices about their personal safety, but reduces inequities between the insurers and non-insurers when post-disaster assistance is being distributed. Insurance companies could assist with a greater take-up of insurance by providing premium incentives for households that take bushfire preparedness measures in and around their insured asset.

3.270 Finally, the committee notes continuing concerns about the imposition of a fire levy on insurance policy holders in some states. Such an arrangement is inequitable and discriminates against households and businesses who take out full insurance against bushfire damage. The committee considers that it would be more equitable if fire services are funded by levying property owners directly.

Chapter 4 – Co-ordinating fire suppression

Introduction

4.1 This chapter briefly examines issues relating to the effectiveness of fire suppression arrangements in Australia, recognising that co-ordinating fire suppression (or incident control) is primarily the responsibility of the various state-based fire agencies. The committee heard evidence on the following two related aspects of bushfire incident control:

- Co-ordinating the roles of different agencies during bushfire emergencies.
- Managing decision-making responsibilities between local fire fighters and centralised incident control.

4.2 Evidence to the committee emphasised that an early response to bushfire ignition is critical in minimising the damage bushfires cause. For instance, CSIRO stated:

...despite mitigation actions some bushfires will start, so improving the success of initial response to fire will be critical to reduce the chances of large fires developing.¹

4.3 Australian Forest Growers cited the Canberra fires in 2003 as an example of the dangers of leaving small fires to burn:

There is a pertinent need to attack fires rapidly with the aim of keeping them small. The ACT fires of 2003 could have been extinguished on the first day if the crews attending had been allowed to work overtime that night.

...

The deployment of crews immediately in the event of possible fires, and withdrawal of them if later there is no need, is preferable to waiting until there is a large bushfire event before deploying a large fire fighting force.²

4.4 When considering evidence on the roles and responsibilities of different agencies and different levels of hierarchy, the committee has done so within the context of the crucial importance of early response to successful fire suppression.

4.5 Another important aspect of bushfire suppression is the ability for fire fighters to physically access fires and other strategic locations via the existence and proper

1 CSIRO, *Submission 15*, p. v

2 Australian Forest Growers, *Submission 16*, pp 5-6

maintenance of fire trails. This issue is discussed in Chapter 5 in the context of the adequacy of resources devoted to bushfire management.

Co-operation across responsible agencies

4.6 As described in Chapter 1, fire suppression responsibilities are determined by each state's land management and fire agency responsibilities. In the first instance, fire suppression is the responsibility of the agency with control over the land. Incident control arrangements then become more complex when fires escape and require multiple agencies to co-ordinate the suppression effort.

4.7 During recent major bushfires, co-ordination between agencies has attracted substantial criticism, which has been detailed at length in the earlier Nairn inquiry and the recent Victorian Bushfires Royal Commission. This inquiry has not sought to reproduce this evidence or re-investigate past failures. Instead, the committee has considered evidence on what contributes to effective inter-agency co-ordination.

4.8 Tasmania was cited as an example of successful interagency co-operation. Professor Peter Kanowski highlighted Tasmania as 'one of the most successfully integrated sets of bushfire management arrangements between different land tenure managers and the private sector'.³

4.9 Former chief officer of Tasmania Fire Service, Mr John Gledhill, suggested that Tasmania does not have the 'turf boundaries that quite often occur in other places'.⁴ Although there is a protocol in place in Tasmania enabling effective co-operation between the various responsible agencies to occur, Mr Gledhill emphasised that good working relationships are critical for the written protocol to be effective during an emergency:

It probably happened a lot easier in Tasmania because it is a small place that does not involve a lot of people, but at the end of the day I think the critical thing is the will of the people to work together. It is very fundamental. Interpersonal relationships really underpin the whole thing. One of the areas that I was very keen to promote was facilitation of people working together and associating together outside of a work context. Those sorts of relationships really are powerful ways of getting the cooperation you need when emergencies occur.⁵

4.10 He provided the following example to the committee:

It is at the stage now where, regardless of what the land tenure is, whoever is deemed to be the most appropriate person to manage that incident will be appointed. I can recall that even probably nearly 10 years ago, when we had a significant fire on the edge of Hobart burning in an urban interface area,

3 Professor Peter Kanowski, *Committee Hansard*, Canberra, 12 March 2010, p. 34

4 Mr John Gledhill, *Committee Hansard*, Melbourne, 25 March 2010, p. 3

5 Mr John Gledhill, *Committee Hansard*, Melbourne, 25 March 2010, p. 4

we had a Forestry Tasmania officer as the incident controller, and the fire involved houses as well as trees. That was a significant move forward, and it was an indicator of the will to get over the turf boundaries. In a legal, technical sense it should have been the Fire Service in charge of that incident, but for a number of reasons—including that it interfaced with the forest—it was deemed that a Forestry Tasmania person was a more appropriate person to have in that position.⁶

4.11 Mr Gary Nairn also indicated that Tasmania best managed conflicts between various state departments and agencies over control:

One thing that was really prominent from the evidence we received was the conflict between various state departments and agencies—who controls what? We looked at this in a number of states and found that Tasmania was probably the standout state ... They had got their act together and established what was called an interagency fire management protocol.⁷

4.12 He contrasted Tasmania's arrangements with those in other states, commenting that the various Tasmanian agencies 'knew exactly where they all stood when fires broke out'.⁸ The report of the select committee stated:

It appears to the Committee that the adoption of the inter-service protocol in Tasmania has been instrumental in the development of a culture of cooperation that is focussed entirely on controlling wildfires regardless of who owns and manages the land. This compares to the culture in New South Wales, Victoria and the Australian Capital Territory where there is still an element of competition and, at times, confusion and conflict, over 'ownership' of fires.⁹

4.13 Mr Nairn stressed the importance of cultural attitudes, rather than the exact nature of the inter-agency protocols established:

You can start to specify and say, 'In this sort of circumstance, this agency will take the lead' et cetera. However, if all agencies agree how a fire should be managed without worrying about being necessarily in control then the culture is created during the time they operate under such a protocol. It does away with the emperor type feeling that some people in high places might get—that their organisation is the only organisation that knows anything about this and they will control it, come what may. That is the type of bad culture that was clear from the evidence we got.¹⁰

4.14 Mr Nairn expressed disappointment to the committee that the select committee's recommendations about inter-agency co-operation were not implemented:

6 Mr John Gledhill, *Committee Hansard*, Melbourne, 25 March 2010, p. 5

7 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 2

8 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 2

9 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 2

10 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 8

...we recommended to all the states that, rather than go off and reinvent the wheel, go and have a look at Tasmania and do something about it. Tragically, I do not believe that has occurred at all since 2003, and I understand from recent reports of the Victorian royal commission that the conflict between the various departments and agencies in Victoria has been highlighted. I think that is absolutely appalling, given that it was highlighted to the extent that it was in my inquiry and report.¹¹

4.15 Western Australian arrangements were raised during the inquiry, with Western Australian Fire and Emergency Services Authority (FESA) recently being granted the right to take operation control of fire suppression on local government and state government owned land such as state forests and national parks.¹² The Western Australian Department of Environment and Conservation (DEC) told the committee that the new arrangements had not yet affected them directly:

The government expects, as it obviously is entitled to do, that there will be full collaboration, close co-operation and, if you like, seamless operation between us, FESA and local government authorities and, indeed, within the state emergency management arena are more broadly. That legislative change was made fairly late last year, before the last season. There was not a circumstance during the summer just gone where a fire that we were in control of was subjected to that ability for FESA to take control of it, as I understand, but that legal ability is now there is a consequence of a parliamentary committee's report and the decision the government made.¹³

4.16 However, officers noted that FESA had exercised its control over local government managed fires.¹⁴ This change has implications for the decision-making responsibility of local people, which are discussed below from paragraph 4.24.

4.17 As with jurisdictional boundaries within states, bushfires also do not recognise the separation of fire fighting responsibilities across state boundaries. These problems were most evident during the Canberra bushfire disaster in January 2003, when fires left to burn in NSW in moderate conditions contributed to the fires that ultimately devastated some of Canberra's western suburbs.

4.18 The select committee's report on that fire found that opportunities were not initially taken to extinguish fires when conditions were suitable, and that there were co-ordination deficiencies between NSW and ACT agencies that meant available

11 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 2. Mr Nairn's evidence related to recommendation 25 of that report, House of Representatives Select Committee on the Recent Australian Bushfires, *A Nation Charred: Inquiry into the Recent Australian Bushfires*, October 2003, p. xxiv

12 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 15

13 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 15

14 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 15

resources were not best utilised once the fire reached Canberra.¹⁵ The committee recommended that Emergency Management Australia facilitate better co-operation across state borders:

The Committee recommends that Emergency Management Australia initiate a process involving Australasian Fire Authorities Council and the Australian Assembly of Volunteer Fire Brigades Association to review the coordination of cross border fire fighting arrangements and inter-state deployment of fire fighting resources. The review should specifically consider training on the full range of equipment and procedures likely to [be] encountered, standardisation of equipment and procedures, communication and the provision of information about local characteristics such as access to water.¹⁶

4.19 Emergency Management Australia (EMA) outlined the work the Commonwealth is now doing to assist with better co-ordination between state jurisdictions:

...we have also offered to the jurisdictions—which has been accepted by some and not yet by others—to be a coordinating body between them. If you say Victoria, for example, has another experience as they did last year, if they come to us and say, ‘We need a whole range of resources from other jurisdictions’, we have agreed to say, ‘We will go out and source those for you and get them from there to you, to save you having to do that activity, but you will still obviously have control of them, use of them, et cetera.’ That has been seen again as another proactive step.¹⁷

4.20 Australasian Fire and Emergency Service Authorities Council (AFAC) commented that the Commonwealth had an important role in co-ordinating different agencies. However:

I think the Commonwealth at EMA would have a very hard time having a very hands-on role. I think you would not be able to do it.¹⁸

4.21 The committee notes that all Australian fire and land management agencies have adopted the Australasian Inter-service Incident Management System (AIIMS), which has been established to integrate the 'activities and resources from multiple agencies for the resolution of any emergency situation' through a consistent incident management system.¹⁹ AFAC commented that:

15 House of Representatives Select Committee on the Recent Australian Bushfires, *A Nation Charred: Inquiry into the Recent Australian Bushfires*, October 2003, p. 106 and p. 180

16 House of Representatives Select Committee on the Recent Australian Bushfires, *A Nation Charred: Inquiry into the Recent Australian Bushfires*, October 2003, p. 185

17 EMA, *Committee Hansard*, Canberra, 12 March 2010, p. 26

18 AFAC, *Committee Hansard*, Melbourne, 25 March 2010, p. 19

19 AFAC, *Submission 39*, p. 10

The increasing frequency and complexity of multi-agency operations across state and territory boundaries and the growing demands of emergency management, means there needs to be a universally understood and consistently applied incident management system. AIIMS provides the single management structure that facilitates the bringing together of all resources, from one or several organisations, to work co-operatively and cohesively in resolving an incident.

It is AFAC's strong belief that Australia needs a nationally consistent Incident management system so agencies can work together during emergency events. While reviews and analysis of the system are always ongoing and welcome it must be understood that any proposed changes that will affect the structure or operation of AIIMS must be done nationally in consultation with all parties.²⁰

Committee view

4.22 The committee agrees with AFAC that it is not practical for the Commonwealth to have a more direct role in improving co-operation between fire agencies during bushfire emergencies, either within states or across state boundaries. The Commonwealth can assist with co-ordinating resources and developing standard operational systems across jurisdictions, but it is not for the Commonwealth to dictate to individual fire agencies the manner in which they co-operate with their intrastate counterparts or those across state borders.

4.23 The committee does strongly endorse the Tasmanian approach to inter-agency co-operation during bushfire emergencies, though, and suggests that all fire agencies ensure they have similar protocols in place to enable successful co-ordination. Communication between different agencies and their on-the-ground personnel needs to be seamless to ensure the best protection for the community and fire fighters. The committee also notes that while written protocols are important in this regard, just as important during an emergency is a willingness to co-operate and yield authority and control over resources where required. No written protocol can instil the co-operative attitude required to ensure it is successfully executed during a bushfire emergency. It is incumbent on those in positions of authority within these agencies to develop good working relationships prior to a crisis so a co-operative approach does eventuate when needed.

Local control during bushfires

4.24 A related and more controversial topic is the continuing debate about the distribution of decision-making authority once a bushfire escapes the control of local fire fighters. The committee received considerable complaint about the negative consequences of restrictions on local decision-making and local action once control of a bushfire suppression effort had passed to a centralised incident control structure. The basis for this complaint was that the inability of locals on the ground to exercise their

20 AFAC, *Submission 39*, p. 10

local knowledge and respond quickly to changing circumstances hampers bushfire suppression. Evidence also suggested that local landowners are being prevented from tackling initial outbreaks because of bureaucratic interference.

4.25 Mr Nairn commented that this had also been a critical issue during the select committee inquiry into the 2002-03 bushfires:

One of the overwhelming views that I got out of the inquiry was the importance of local knowledge. Everywhere we went they said really the people in the region, those people on the ground—whether they were just individuals involved in the local fire service, companies involved in the timber industry or people looking after the parks and things—really have the knowledge about that particular area. As you would know, with differing landscapes, differing climates and differing vegetations, you can get different things happening when fire starts. One of the criticisms that a lot of people had of their incident control systems and some of the authorities that were supposedly managing the fire was that they did not have the local knowledge. A lot of local people felt that they were patted on the head and told: ‘We’re the experts from head office. Don’t worry about it. Let us.’²¹

4.26 The select committee report recommended that:

The Committee recommends that the Commonwealth, through COAG and the Australasian Fire Authorities Council, initiate an overhaul of the incident management systems used by bush fire agencies in Australia to better incorporate local knowledge and expertise and better understanding of the needs and circumstances of local rural communities in the management of major fire events.

The Committee also recommends that this overhaul should aim to:

- Refine the system to facilitate setting up simple command and control structures, closer to the fire ground, in tune with the ever changing local fire ground conditions and needs of local communities;
- Include training of incident management personnel on how to engage and involve local people in planning and management of fires;
- Establish national models for community fire planning and provide for the integration of community fire plans into incident management; and
- Include national reporting of the success of incident management of fires as a means of auditing the cost effectiveness or incident operations.²²

21 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 5

22 House of Representatives Select Committee on the Recent Australian Bushfires, *A Nation Charred: Inquiry into the Recent Australian Bushfires*, October 2003, p. 169

4.27 The view summarised by Mr Nairn above reflects the opinions provided to the committee during this inquiry. Australian Forest Growers suggested that local people had been marginalised: 'the carpet has just been ripped out from under local controllers and the early intervention of local brigades'.²³

4.28 In evidence before the committee in Perth the WA Farmers' Federation (WAFF) emphasised the benefits of having properly equipped local people to deal with initial outbreaks before they escalate.²⁴ Forest Fire Victoria Inc also spoke of the importance of local action early:

Fundamentally, firefighting on extreme fire days like Black Saturday is totally and utterly ineffective. The only time when firefighting in severe conditions is effective is in initial attack—and there it is very effective—and in mopping up and the tedious firefighting when the weather gets better. Initial attack means local response. Local response means the farmers with a ute and something on the back. Action is being taken almost everywhere to exclude those people from the initial response.²⁵

4.29 Australian Forest Growers concurred:

...the earlier you can get to the fire and deal with it, the easier it is to control it. The longer you leave a fire, the bigger it becomes and the more difficult it becomes, and then it can take weeks to put out. Our view is that the more rapid the response, the more rapid the firefighting effort, the better chance you have of getting a fire out. ...There is no doubt that people did react very quickly to the Black Saturday events: they were extraordinary circumstances. As a general rule, the quicker you can get to a fire, the more engaged the local firefighters can become, the more chance you have of getting it out while it is small.²⁶

4.30 They stated that this requires allowing landowners to be able to act with greater autonomy:

...it is important to give the people who own the land the responsibility to deal with the fire. We think that the people who own the land have an incentive to get it out quickly. I think your question was kind of whether you put it in a state agency's hands or leave it in the landowner's hands. Our view would be that the landowner has an incentive to get that fire out quickly. If it goes into state hands, that incentive to get it out quickly is not quite as great.²⁷

4.31 WA Farmers' Federation complained that workplace safety imperatives were stifling volunteers seeking to protect their own properties:

23 Australian Forest Growers, *Committee Hansard*, Melbourne, 25 March 2010, p. 91

24 WAFF, *Committee Hansard*, Perth, 29 April 2010, p. 46

25 Forest Fire Victoria Inc, *Committee Hansard*, Melbourne, 25 March 2010, p. 67

26 Australian Forest Growers, *Committee Hansard*, Melbourne, 25 March 2010, p. 86

27 Australian Forest Growers, *Committee Hansard*, Melbourne, 25 March 2010, p. 86

When we get farmer volunteers, their aim is to get the fire out as quickly as possible and to save as much property as possible. What we have got creeping into some of the thinking from FESA is that safety is the absolute ultimate: with anything you do, if it is going to involve some sort of personal risk, you do not do it. For most of the farmer volunteers protecting their property is actually akin to personal risk because if we lose feed at the beginning of summer, for instance, for the next six or eight months, that is actually all of our viable income gone. So there is definitely some tension between the people who are running the fire organisations on what the priority should be.²⁸

4.32 The Volunteer Fire Fighters Association of New South Wales told the committee that the NSW fire service had become too bureaucratised:

The Rural Fire Service now has about 700 paid staff. There is \$70 million going just in wages. We have this enormous bureaucracy. To have fires managed properly, you need to bring it back to the local level. The local person is the expert in this area. If we could deal with fires at the local level, we would have much better results. The bureaucracy is just too big.²⁹

4.33 Mr Brian Williams of the Volunteer Fire Fighters Association of New South Wales indicated that local knowledge was more responsive to incidents as they developed:

In my own area, I like to be in control of the fire. I have had a lifetime of experience there and I know the area best. To be perfectly honest, when we had section 44 fires threatening us, the control centre would be sending out an incident and action plan to work with for the day. On many days I did not open it, because it is 12 hours out of date when you get it. It is just nonsense. The guy on the ground calls the shots. It is really that simple.³⁰

4.34 The Association of Volunteer Bushfire Brigades of Western Australia indicated that local brigades have retained a level of control until fires become too difficult to handle. They told the committee that a good working relationship exists between local brigades and the Department of Environment and Conservation.³¹ However, WA Farmers' Federation told the committee that communication between locals and command centres could be improved in that state:

There is always a bit of a contest between the FESA hierarchy and the local bushfire hierarchy being the fire control officer. I think that is what he is referring to there. It is getting better. Really, the only way for that to

28 WAFF, *Committee Hansard*, Perth, 29 April 2010, p. 48

29 Volunteer Fire Fighters Association of New South Wales, *Committee Hansard*, Canberra, 12 March 2010, p. 44

30 Volunteer Fire Fighters Association of New South Wales, *Committee Hansard*, Canberra, 12 March 2010, p. 45

31 Association of Volunteer Bushfire Brigades of Western Australia, *Committee Hansard*, Perth, 29 April 2010, p. 39

improve is more communication between the volunteer side and FESA. FESA recognise that without the volunteers they really have not got a force.³²

4.35 Mr John Gledhill commented that there needs to be a point where control over fighting a fire needs to shift as the situation escalates:

Certainly Tasmania is not immune to the situation where volunteers feel that they have had their fire taken away from them and they have been roughly treated by someone in a higher authority. That happens and that is just one of those things you have to work around. But there is an understanding by most that that is the system within which we work, and the resourcing and the appointment of people is subject to change. As an incident grows there should be the expectation that people may well change.³³

4.36 The Rural Fire Service Association of NSW suggested that a consistent statewide approach was needed:

...it was inevitable that, after some of the major events that took place, there needed to be a change in culture to try and look at having some universal approach across the state. There were different levels of fire equipment, to start off with. Junee might have had a council with a high or low rate base, because the allocations are based primarily on the ability of the councils to raise their statutory contributions. So you had inequities developing from shire to shire. You had differences in enthusiasm. You might have had an honorary fire control officer in one shire and a part-time or full-time fire control officer in another shire. There was a need to look at the councils, the decentralised nature of the organisation, and come up with a structure which still recognised shire and council boundaries but had an overarching degree of accountability and levels to meet the need.³⁴

Committee view

4.37 The committee understands that bushfire emergencies do require a formalised incident control structure to ensure that suppression measures in one area are not countering efforts in another or risking the lives of fire fighters. However, it appears on the basis of evidence to this committee that this objective is impeding the legitimate actions of fire fighters on the ground, who are attempting to deal with changing conditions in the most effective way. The benefits of a centralised incident control management structure are totally nullified if fires are allowed to burn out of control while local fire fighters wait for the approval to respond by those likely to be unfamiliar with local and up-to-date conditions. The committee is of the view therefore that bushfire agencies should review their incident control management

32 WAFF, *Committee Hansard*, Perth, 29 April 2010, p. 48

33 Mr John Gledhill, *Committee Hansard*, Melbourne, 25 March 2010, pp 6-7

34 Rural Fire Service Association of NSW, *Committee Hansard*, Canberra, 12 March 2010, p. 83

systems to 'better incorporate local knowledge and expertise and better understanding of the needs and circumstances of local rural communities in the management of major fire events'.

4.38 The committee makes further comment on the resources available to landowners to tackle initial bushfire outbreaks in the next chapter.

Chapter 5 - Resources for bushfire management

Introduction

5.1 The issue of resources for bushfire management has already been addressed to some extent during this report, mainly in the context of how effectively available resources are utilised to prevent, mitigate and suppress bushfires. In Chapter 3 from paragraph 3.141 the committee also discussed the problem of conducting prescribed burns with limited personnel within the short windows of opportunity allowed by suitable weather conditions, as well as incomplete scientific research and information about the effectiveness of prescribed burning from paragraph 3.36. In Chapter 4 the committee referred the importance of local fire fighters being adequately equipped to provide an early attack response from paragraph 4.24.

5.2 This chapter will further examine issues concerning the limitations of the resources available to agencies responsible for bushfire management in Australia, and how they can be better resourced to carry out their roles. Specifically, the final section of the committee's report will examine the following:

- Whether the allocation of resources between bushfire mitigation and suppression activities has been well prioritised.
- The availability of skilled personnel and volunteers to perform important bushfire management responsibilities.
- Improving the information and knowledge available to agencies responsible for bushfire management.
- Ensuring the equipment, access, infrastructure and technology needed for bushfire suppression and emergency management is adequate.

Resource priorities

5.3 Evidence to the committee indicated a general concern about the prioritisation of expenditure on fire suppression capabilities, particularly for expensive fire fighting equipment, over more cost effective mitigation strategies. There was a widely held view that this is a disturbing trend that increases the burden of expenditure without actually addressing the factors contributing to catastrophic bushfire events.

5.4 Officers from the WA Department of Environment and Conservation (DEC) commented on the economic benefits of mitigation:

...investment in prevention and preparedness is a lot cheaper than relying only on suppression and acting after the event.¹

1 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 14

5.5 National Association of Forest Industries (NAFI) described 'a shift in emphasis from fire prevention to fire suppression' as one of the current inadequacies of public land management.² Victorian Lands Alliance suggested that expenditure was out of proportion:

The focus of expenditure on fire suppression over fire prevention is delivering poor financial and environmental outcomes for Victoria. As best we can tell, the funding for suppression is 10 times greater than for prevention in Victoria, but the problem is not a failure of suppression but a failure of effective prevention. Resourcing of equipment and technology for suppression has never been greater, but the American approach has failed to protect Victoria.

Victoria's fires have cost the taxpayer \$1.8 billion in suppression and recovery in the last seven years, and this is a matter of public record. The budget for fuel reduction burning is \$52.7 million over the next five years. I repeat: \$1.8 billion is what the Victorian taxpayer is being asked to foot in less than 10 years. University studies have shown that for every dollar spent on prevention, \$22 can be avoided in suppression costs.³

5.6 Mr John Gledhill, former chief officer of Tasmania Fire Service, noted:

We are spending more and more money on technological solutions, but in my opinion technology is not the total answer; it is part of it ... there are a whole range of different components to managing fire, from community education to fuel reduction. There are a whole range of components. The actual firefighting is probably the least effective of all the tools, and yet we put great expectations on it being the answer.⁴

5.7 The Bushfire Front Inc also referred to 'a failure by authorities to focus on bushfire prevention, preparedness and damage mitigation, as well as on suppression'.⁵ Noting that high intensity fires caused by hot windy conditions and high fuel loads make suppression 'impossible', they added:

...to prevent really serious damage it is necessary to put in place a system that minimises the risk of a small number of large, high intensity fires. Any other system will only cope with the large number of relatively mild fires that are easily suppressed and do little damage.⁶

5.8 NAFI advocated an approach based on mitigation measures:

...preventative land management through fuel reduction, vegetation thinning and related activities such as maintenance of access trails and firebreaks can

2 NAFI, *Submission 13*, p. 1

3 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, p. 40

4 Mr John Gledhill, *Committee Hansard*, Melbourne, 25 March 2010, p. 2

5 The Bushfire Front Inc, *Submission 48*, p. 1

6 The Bushfire Front Inc, *Submission 48*, p. 1

have a beneficial impact in reducing the likelihood and severity of natural fires.⁷

5.9 Forest Fire Victoria Inc suggested that the Productivity Commission undertake a study of 'the true cost of wildfires in Australia'.⁸

5.10 There was also some concern raised about the cost of aerial fire fighting equipment and its perceived prioritisation over on-ground equipment. For example, the Volunteer Fire Fighters Association of New South Wales suggested resources may be more effectively utilised for prevention activities:

The current budgetary allowance for bushfire mitigation in New South Wales at the present time—through the state Fire Mitigation Works Fund, the state government allocated \$3 million for the mitigation of hazards on bushfire-prone lands and the maintenance of fire trails. That is \$3 million. If you look at the state budget allocated for aviation fire suppression, you will see we are looking at \$70 million. There is quite a disproportionate gap there. Are we now moving from a prevention mentality to a suppression mentality?⁹

5.11 This issue is discussed in further detail later from paragraph 5.88.

Committee view

5.12 The committee holds the view that the problem of ever more intense bushfires in Australia will not be addressed by ever greater expenditure on the latest fire suppression equipment. Catastrophic bushfires that have been further intensified by heavy fuel loads in the landscape have little respect for great sums of money devoted to the latest fire fighting technology. In the battle of an intense blaze against the most expensive technology, fire will inevitably win. The economic heavy lifting needs to occur before the task of suppression begins, to ensure the equipment available to fire fighters can be effective and can offer some value for money.

5.13 In Chapter 3 the committee recommended that public land management agencies be held accountable for their bushfire hazard reduction planning and implementation. If implemented this would provide a greater incentive for those agencies to direct resources towards that important mitigation activity.

5.14 The committee is also of the view that the Commonwealth needs to ensure that any funding assistance it provides for bushfire suppression is not being rendered ineffective by land management agencies' inadequate fire preparedness. The committee therefore recommends that further Commonwealth funding for bushfire

7 NAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 23

8 Forest Fire Victoria Inc, *Committee Hansard*, Melbourne, 25 March 2010, p. 61

9 Volunteer Fire Fighters Association of New South Wales, *Committee Hansard*, Canberra, 12 March 2010, p. 54

suppression be made conditional on state fire agencies agreeing to the Commonwealth evaluating and auditing their fuel reduction programs.

Recommendation 9

5.15 Further Commonwealth funding for bushfire suppression be made conditional on state fire agencies agreeing to the Commonwealth evaluating and auditing their fuel reduction programs.

Personnel

5.16 Bushfire management depends critically on the availability of qualified staff to perform bushfire management tasks and a great many volunteers to perform fire fighting and other bushfire management roles. The inquiry elicited a number of responses indicating concern about both these categories of essential personnel.

Qualified expertise

5.17 Evidence to the committee suggested that land managers with bushfire expertise are declining due to changes in land tenure and deficiencies in training arrangements.

5.18 On land tenure shifts, Australian Forest Growers noted that:

The areas of commercial management in public forests has rapidly decreased in recent years, such that in most states there is a far smaller proportion of production forests than there are parks, reserves and other areas.¹⁰

5.19 National Association of Forest Industries (NAFI) also suggested that state government tenure provided the most resourcing difficulties:

I do not think it is such an issue for our commercial forests because we have a commercial imperative to protect our resource. In the situation where you have state governments, I think there is evidence around that there has been a decline.¹¹

5.20 Professor Peter Kanowski commented that increased state responsibilities for land management have not been matched with additional funds:

I think it is the case that the resources that state agencies have to commit to land management activities have decreased in most states. It has been a consequence of the increasing business orientation of forestry management agencies and the expansion of the national park estate without a concomitant expansion of their resourcing. I think there are underlying issues there that are potentially problematic. That is not to say that the people in those agencies do not do a good job with the resources they have

10 Australian Forest Growers, *Committee Hansard*, Melbourne, 25 March 2010, p. 82

11 NAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 28

got, but I think, if you look at our relative resource commitment compared to three or four decades ago, we are underinvesting in natural resource management rather than investing adequately.¹²

5.21 Victorian Association of Forest Industries (VAFI) argued against further reducing native forestry in Victoria on the basis that forestry operators provide better protection from catastrophic wildfire.¹³ They provided the following example:

...three areas of greatest risk of wildfire right now are the areas of the Otways, the Dandenongs and far East Gippsland. Far East Gippsland of course encapsulates Bendock, Orbost and Cann River. If you remove the industry from Orbost, Cann River and Bendock right now, there will be no ability to fight a fire and it will spread right throughout.¹⁴

5.22 Training arrangements were also a matter of concern. Professor Kanowski told the committee that the 'numbers of undergraduate students choosing to study forestry has declined substantially over the last decade'. He estimated that only 30-35 students would graduate with a university forestry qualification this year, short of the 50-100 per year required.¹⁵

5.23 Forest Fire Inc complained that forestry research and study had declined markedly since the closure of the CSIRO Division of Forestry and Forest Products, and the amalgamation of ANU and Melbourne University's forestry programs into broader faculties.¹⁶

5.24 The Bushfire Front Inc was critical of the lack of practical experience offered through formal training courses:

...the formal education probably only provides the scientific background; learning the ropes on the job is the most critical thing. Because there has been a decline in professional agencies that are involved in bushfire management in terms of their numbers and their staff, the young people coming in are not getting the mentoring that they used to get from the old hands that was so important.¹⁷

5.25 Australian Forest Growers also advocated the benefits of forestry students getting practical experience:

...it does not matter how well educated you are, you still have to get out there and learn what fires do in the real world and have people involved in seeing and understanding fire behaviour. Learning in a more controlled

12 Professor Peter Kanowski, *Committee Hansard*, Canberra, 12 March 2010, p. 37

13 VAFI, *Committee Hansard*, Melbourne, 25 March 2010, pp 50-57

14 VAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 57

15 Professor Peter Kanowski, *Committee Hansard*, Canberra, 12 March 2010, p. 38

16 Forest Fire Victoria Inc, *Committee Hansard*, Melbourne, 25 March 2010, p. 68

17 The Bushfire Front Inc, *Committee Hansard*, Perth, 29 April 2010, p. 21

environment under prescribed burning conditions is much more preferable than learning on the run when there is a fire coming over the hill at you.¹⁸

5.26 Their submission claimed a decline in practical experience amongst land managers:

In the past, most state forestry land was managed by foresters with fire experience and training. More recently, these people have been replaced by graduates in various forms of environmental sciences with much shallower knowledge of fire behaviour. There is no better school of bushfire management than that of active fire control. AFG considers it essential that all public service fire managers be qualified by considerable practical experience before attaining a fire management position.¹⁹

5.27 VAFI noted that forestry workers provide a useful knowledge and skill resource working in conjunction with other agencies:

DSE have a memorandum of understanding with VicForests, and contractors for VicForests and also VicForests staff are available to respond to a fire and can be coordinated within a very short time frame to be in position and ready to assist. I think the other benefit apart from providing human resources—where people actually have local knowledge of those forest areas and the access tracks there—is that DSE staff often participate in the high-intensity regeneration burns that VicForests undertake and, in doing so, DSE fire officers gain experience with higher intensity fires.²⁰

5.28 They also noted:

The equipment is an important point as well, because the native forest act provides for in-location equipment—bulldozers, tankers and so forth—that are actually suitable for forest terrain and have, for instance, safety equipment to prevent trees falling on them. The government could certainly procure equipment for firefighting from, say, earthmoving businesses or elsewhere, but it certainly would not be available within the same time frame and would not be as suitable for working in those forests. Furthermore, when you are talking about the forest industry, it is not just about having the equipment but also about having operators of that equipment who have the skills and the knowledge to use it effectively. That is particularly important in first response to fires.²¹

5.29 The Western Australia Department of Environment and Conservation offered a different perspective:

...we still have a substantial workforce of both front-line firefighters and incident control personnel, both centrally and throughout the south-west

18 Australian Forest Growers, *Committee Hansard*, Melbourne, 25 March 2010, pp 88-89

19 Australian Forest Growers, *Submission 16*, p. 3

20 VAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 55

21 VAFI, *Committee Hansard*, Melbourne, 25 March 2010, p. 56

and, to a lesser extent, the rest of the state. There are challenges in staff attraction and retention these days. There are fewer people coming through in the forestry profession, but I would argue at least in part that the forestry profession is not the only one that brings this sort of capacity. I would like to believe that it is the fact that our people are based in land management that is the important factor, rather than that they have a particular training qualification before they come into that function.²²

5.30 Victorian Lands Alliance gave evidence about the important training prescribed burns provide:

Most people in Victoria who are on a volunteer basis would have come up through the CFA ranks. Most of those people would have cut their eye teeth on burning on roadsides as part of hazard reduction for local towns. That is used jointly as a training exercise. That is vastly reduced now because of the protocols that are put on hazard reduction burning on roadsides because of native vegetation laws and conservation laws. Many local brigades simply will not go through the paperwork that is required for traffic management and meeting the protocols of the department. They do not undertake that sort of burning so those people do not learn to burn from a young age.²³

5.31 The Bushfire Front Inc proposed the establishment of 'a national-level bushfire management training facility, which bushfire people from all over Australia can attend, and achieve national-level accreditation'.²⁴

Volunteers

5.32 Volunteers are an integral part of bushfire management and were the subject of considerable discussion during this inquiry. In particular, contributors were concerned that in future sufficient numbers of volunteers would not be available to perform essential tasks.

5.33 Australian Forest Growers expressed concern about the availability of volunteers with increased mechanisation in rural industries:

The nature of volunteer fire fighters has changed. In the past, fire fighters were farmers, logging contractors and forestry workers with years of fire experience and accustomed to hard work. As more native forest areas have been withdrawn from forestry management, and as farms have become bigger and more mechanised requiring less labour, the pool of physically fit, healthy and experienced fire fighters has diminished.²⁵

22 DEC, *Committee Hansard*, Perth, 29 April 2010, p. 6

23 Victorian Lands Alliance, *Committee Hansard*, Melbourne, 25 March 2010, p. 47

24 The Bushfire Front Inc, *Submission 48*, p. 5

25 Australian Forest Growers, *Submission 16*, p. 4

5.34 WA Farmers' Federation (WAFF) told the committee that declining rural populations have an effect on local capability:

...we have fewer and fewer people on the ground. As we get bigger and bigger farms, that is how we have beaten the terms of trade: everybody just buys another farm. So you halve the population, you halve the number of farms, so you have half the number of vehicles at a fire—but you are still burning the same area of country.²⁶

5.35 The Western Australian Fire and Emergency Services Authority (FESA) stated:

...a number of factors are impacting on volunteerism that are specific to regional Western Australia. This includes:

- declining rural populations;
- many of those people moving from the city to live "in retirement" in rural areas do not volunteer as its not part of their new lifestyle;
- ageing volunteer workforce;
- fly in - fly out arrangements for many people; and
- younger generations less interested in volunteering.²⁷

5.36 The Queensland Department of Community Safety informed the committee of research examining volunteers leaving fire agencies:

Research suggests that Australian volunteer-based fire agencies lose between 6.7% and 8.3% of their total volunteer firefighter memberships annually. Reasons for leaving volunteering include work and family needs, moving away from the area, dissatisfaction with their role as volunteers in the organisation, dissatisfaction with the organisation and age and/or health issues.

Volunteers have also cited concerns about the possible negative impacts of climate change on the frequency and severity of large fires which would inevitably require greater demands on volunteers' time and the current economic uncertainty.²⁸

5.37 The department indicated that they had introduced a number of measures to mitigate the reasons why people may cease volunteering:

The complex legal and administrative requirements for volunteers (for example police records checks, insurance, financial accountability, workplace health and safety) create additional financial impost for government. In Queensland, the impact of these requirements on volunteers has been minimised through:

26 WAFF, *Committee Hansard*, Perth, 29 April 2010, p. 53

27 FESA, *Submission 39*, p. 15

28 Queensland Department of Community Safety, *Submission 12*, p. 9

- comprehensive QFRS motor vehicle insurance policy covering privately-owned vehicles and machinery made available to brigades;
- Queensland Government Insurance Fund protection for volunteers, indemnifying them against liability while they are engaged in authorised activities;
- grant indemnities and legal assistance in relation to civil proceedings, inquiries and investigations; and
- workers' compensation in the event of injury sustained during authorised activities.²⁹

5.38 However:

Volunteer shortfalls can be attributed to a range of other factors including a decline in rural and remote populations, an increase in transient populations, and a shortage of people to undertake paid work in regional and remote centres.³⁰

5.39 The NSW Rural Fire Service Association indicated that volunteers are becoming disillusioned with bureaucratic control from those with no fire fighting experience, as well as being required to suppress fires in national parks without having any input into land management practices there.³¹

5.40 The WA Farmers' Federation suggested that universal levy payments were affecting attitudes to volunteering:

In the last 10 years, with the advent of ESL—the Emergency Services Levy in Western Australia, which now funds quite a lot of the bushfire fighting and the FESA—I think we are detecting a slight change in the attitude of landowners in that, whereas before volunteering was their only input and they were happy to do it, some people are now saying, 'We pay an ESL now, so it's up to FESA and those sorts of people to look after us,' which is in my view quite short-sighted.³²

5.41 Mr Robert Webb told the committee that attracting bushfire-ready volunteers to the Rural Fire Service is difficult in areas within three hours' drive of Sydney, because of the increasing number of absentee owners purchasing land in those regions. He indicated that while absentee owners may join the service, they will often not have adequate training or be present on their property when fires occur.³³

29 Queensland Department of Community Safety, *Submission 12*, p. 11

30 Queensland Department of Community Safety, *Submission 12*, p. 11

31 NSW Rural Fire Service Association, *Submission 26*, pp 5-6

32 WAFF, *Committee Hansard*, Perth, 29 April 2010, p. 44

33 Mr Robert Webb, *Submission 57*, pp 2-3

5.42 The committee also considered incentives to assist with the recruitment and retention of volunteers. FESA advocated a previous proposal to offer volunteers a tax rebate:

At the March and October 2005 meetings of the Ministerial Council for Police & Emergency Services Management (MCPPEM), the WA Minister for Police and Emergency Services submitted a research paper by PKF Chartered Accountants that assessed a number of tax options to provide tangible recognition and support for Australia's emergency service volunteers. The preferred option was a national tax rebate for emergency service volunteers was developed following national consultation and gained broad support from all jurisdictions.

The tax rebate option was considered the better option as:

- It is available to all eligible volunteers regardless of their tax profile unlike the tax deduction option.
- It is a readily apparent benefit.
- The initial and ongoing administrative work required of volunteers and the emergency services agencies is minimal compared to the other options.
- Legislation is easier to implement, as there is already a template in existence.
- The Australian Taxation Office compliance activities would not be as great as the other options.

Volunteers who satisfied the eligibility criteria would be entitled to a capped tax rebate of \$300, generally offset against tax payable, but refundable regardless, so those volunteers who are unemployed or under the tax-free threshold would not be disadvantaged.³⁴

5.43 Mr Robert Webb proposed that governments employ private fire fighting and hazard reduction services to address poor hazard reduction practices and declining volunteer fire fighting numbers.³⁵ The Rural Fire Service Association of NSW told the committee that casual employees were being utilised to assist with controlled burns, through a state mitigation support services initiative:

Casual employees of the service are engaged to prepare fire lines so that brigades may undertake the burning activity without the impost of preparing the fire lines as well.³⁶

5.44 The notion of paying volunteers directly for fire fighting services was not generally supported in evidence to the committee. The Volunteer Fire Fighters Association of New South Wales advocated additional incentives to support

34 FESA, *Submission 39*, p. 17

35 Mr Robert Webb, *Submission 57*, p. 6

36 Rural Fire Service Association of NSW, *Committee Hansard*, Canberra, 12 March 2010, p. 82

volunteers who devote time to fighting fires, without providing direct payment, which could 'compromise the ethos of volunteerism in Australia'.³⁷

5.45 The Rural Fire Service Association of NSW commented:

The feedback I have got in my short time involved with the volunteer firefighters is that if you want to kill off the volunteer culture and you want to get rid of the volunteers, the quickest way to do it is to make them take pay for the work they do.³⁸

5.46 Victorian Farmers Federation (VFF) told the committee that volunteer fire fighters 'do not do it for any financial recompense', saying:

...We do it for altruistic reasons and for security reasons in terms of our own property. In fact I think it would become a bureaucratic nightmare to work out who had done what and how much.³⁹

5.47 VFF's Mr Gerald Leach told of the ethos of volunteers in his farming community:

...it is amazing how quickly 30 or 40 neighbours can arrive on the scene. Some are not even known to have been there but they come, they put the fire out and then they get back to doing what they want to do. ... I have not come across a volunteer firefighter who has even indicated that they would be interested in [being paid].⁴⁰

5.48 The Association of Volunteer Bushfire Brigades of Western Australia also stated that their volunteers did not support being paid for their services.⁴¹

5.49 The committee notes that in September 2009 the Ministerial Council for Police and Emergency Management endorsed the 'National Action Plan for the Attraction, Support and Retention of Emergency Management Volunteers'. The plan proposed eleven 'national actions' to this end, which include as higher priorities:

- improving subsidisation of training, activities and equipment for volunteers;
- improving leadership training emergency management volunteers;
- developing alternative learning approaches to ease time pressures for emergency management volunteers;

37 Volunteer Fire Fighters Association of New South Wales, *Committee Hansard*, Canberra, 12 March 2010, p. 46

38 Rural Fire Service Association of NSW, *Committee Hansard*, Canberra, 12 March 2010, p. 89

39 VFF, *Committee Hansard*, Melbourne, 25 March 2010, p. 102

40 VFF, *Committee Hansard*, Melbourne, 25 March 2010, p. 102

41 Association of Volunteer Bushfire Brigades of Western Australia, *Committee Hansard*, Perth, 29 April 2010, p. 42

- develop a national volunteer employer recognition scheme to recognise and reward employer support for volunteers;
- increasing community awareness about the role and value of emergency management volunteers;
- improving youth participation in the sector; and
- addressing insurance and legal protection issues that inhibit the attraction and retention of volunteers.⁴²

Committee view

5.50 The committee is very concerned about Australia's future capacity to perform necessary bushfire management tasks. Implementing adequate prescribed burning programs across fire prone landscapes will be very difficult to achieve in the future unless a declining skills base and volunteer numbers is addressed. We need to maintain depth of knowledge and practical experience of fire behaviour to ensure adequate prescribed burning will be possible, particularly on the public lands that now constitute an increased proportion of the landscape.

5.51 The increase in national park space from areas previously devoted to commercial forestry necessitates a greater investment by governments in land management capacity. It is not appropriate for state governments to remove an industry that actively managed bushfire risks on the land under their control and not employ the skilled personnel required to continue to manage bushfire risks on those lands.

5.52 However, state land management agencies need a sufficient pool of qualified people with practical bushfire training to meet this obligation, which is an area in which the Commonwealth may legitimately be involved. The committee therefore recommends that the Commonwealth assist the states with bushfire training for land managers and volunteers by co-ordinating curriculum development and delivery of a national bushfire accreditation course, to be delivered by the relevant state agencies. Such an arrangement would offer extensive qualifications tailored for full-time employees of land management and fire agencies, as well as minimal, flexible and subsidised options for volunteers. Courses would have a strong practical component, provided with the co-operation of state land management and fire agencies and their experienced personnel.

42 Volunteer Action Plan Reference Group, National Action Plan for the Attraction, Support and Retention of Emergency Management Volunteers, September 2009, pp 3-5, accessed on 2 June 2010 at <http://www.ema.gov.au/www/emaweb/emaweb.nsf/Page/RWPA527034D5EF15BCBCA2576AC001BC557>

Recommendation 10

5.53 The Commonwealth assist the states with bushfire training for land managers and volunteers by co-ordinating curriculum development and delivery of a national bushfire accreditation course, to be delivered by the relevant state agencies.

Recommendation 11

5.54 The Commonwealth organise the co-operation of state land management and fire agencies to provide the practical training aspect of the curriculum as part of a national bushfire accreditation course.

5.55 The committee recognises that changing demographics in rural areas of Australia pose a significant challenge to the attraction and retention of fire service volunteers and welcomes the efforts being made through COAG to ensure volunteer participation is maximised. However, those in charge of the organisations for whom bushfire volunteers give their time need to take primary responsibility for ensuring their continuing attraction and retention. Volunteers do not make their contribution for financial reward, but it is inevitable that volunteer fire fighters will be more inclined to cease their involvement if they feel their contribution is not valued by the organisations they assist. A major aspect of this is the disillusionment many volunteers feel about the lack of decision-making authority they as locals may exercise during bushfires, particularly when attempting to apply local knowledge in responding to changing conditions. It is the responsibility of bushfire agencies to address these legitimate concerns within their ranks by reviewing incident control management systems, as the committee suggested in the previous chapter at paragraph 4.37.

Information

5.56 The committee also examined the resources devoted to bushfire research, the effectiveness of this research, and the way information gleaned from research is provided to those that need it. The Bushfire Co-operative Research Centre (CRC) commented that research at a national level is needed, even though the effects of bushfire are generally local:

...in a country where so much of the landscape burns every year, bushfire is still too often regarded as a local issue. From a community fire management perspective that may make sense, but to gain a deeper understanding of the bushfire threat we must continue to co-ordinate and support the best national and international scientific minds and cultivate a new generation dedicated to this issue.⁴³

5.57 Central to bushfire research in Australia, the Bushfire CRC was established in 2003 with a strong focus on bushfire-related social research, particularly 'community

43 Bushfire CRC, *Submission 7*, p. 11

safety as a key component of bushfire management'.⁴⁴ Their submission noted the work the CRC had done since its establishment:

New decision support tools have been implemented in areas such as smoke management, aerial suppression, prescribed burning, community engagement, fire weather forecasting, volunteerism and fire-fighter health and safety. ...

In tandem with researchers, fire and land management agencies have gained a significantly improved insight into the way people face the bushfire threat. Central to this research is the need for a better understanding of what drives human behaviour before, during and after a bushfire. And industry now looks to the Bushfire CRC for advice on better materials for building houses, fencing, water tanks and other structures.⁴⁵

5.58 The Bushfire CRC's research priorities have been largely determined by fire and land management agencies, with some evidence provided to the committee criticising these current arrangements.⁴⁶ Forest Fire Victoria Inc claimed that research is currently 'dominated, funded and controlled by the fire agencies'.⁴⁷ As a consequence, it is 'inefficient and ineffective':

So what do we do about it? I think the Commonwealth has a huge role to play here. The important thing about research is that you must have a lot of it in different places and different styles. I think the US model is really very good. The US Forest Service is a major research organisation. The various states have their own research people, and the university system is a lot more healthy than it is here. I am adjunct senior research fellow in geography and environmental science at Monash and I have had several PhD students studying this fire area. And, boy, I know how difficult it is to get even modest funding to do any particular work. The university research system is really on its knees; Australia is going backwards.⁴⁸

5.59 The Bushfire Front Inc also expressed their dissatisfaction:

We are not satisfied with the way the CRC is operated, nor are we satisfied with the way a lot of fire research is done in academic institutions around Australia. We want to see a situation where research is taken out of the universities, decentralised back to the states and placed in the hands of practical scientists who are trying to improve the standard of bushfire management, as opposed to a lot of the research that is being done, which seems to us to hinder good management and work against it.⁴⁹

44 Bushfire CRC, *Submission 7*, p. 4

45 Bushfire CRC, *Submission 7*, p. 4

46 Bushfire CRC, *Submission 7*, p. 13

47 Forest Fire Victoria Inc, *Committee Hansard*, Melbourne, 25 March 2010, p. 68

48 Forest Fire Victoria Inc, *Committee Hansard*, Melbourne, 25 March 2010, p. 68

49 The Bushfire Front Inc, *Committee Hansard*, Perth, 29 April 2010, p. 19

5.60 They added that fire authorities having influence over the CRC meant an emphasis on suppression rather than land management:

Generally the principal interest of the fire authorities around Australia is in fighting fires after they start, not in land management. The biggest change that needs to be made to the CRC is to redress that balance so that the agencies and the people who are experienced in and know about land management have a more telling input into the research priorities of the CRC than do the people who are just interested in fighting fires after they start.⁵⁰

5.61 FESA in WA supported the work of the CRC and the need for continued funding.⁵¹ However, officers from FESA said:

...from a Western Australian point of view, we would like to see some of the research being not so ... east coast-centric. We are very unique over here in WA and we would like to see some more localised research occurring. We believe that broadening it into the streams that have been discussed at agency level for some time is definitely the way to go.⁵²

5.62 The Australian Institute of Architects commented that research on the contribution of design and location to the destruction, damage or survival of built assets did not seem well co-ordinated or easily accessible to the architecture industry.⁵³

5.63 Evidence to the committee included suggestions for further bushfire research projects. The Queensland Department of Community Safety emphasised the importance of further research spatial fuel monitoring:

Continuing research and operational efforts are required to achieve successful fire management, particularly in relation to spatial fuel monitoring processes that will allow fire agencies to establish the areas of highest fire risk as well as the effectiveness of fire mitigation and vegetation recovery.⁵⁴

5.64 The Bushfire Front Inc indicated that research on historic burning practices be prioritised:

Senators should seek to ensure the Federal Government continues to provide leadership and funds for bushfire research, and for the transfer of research into operations. From the standpoint of addressing the concerns of people opposed to prescribed burning, a critical research issue is to clarify pre-settlement fire frequency through studies of grass trees and modelling

50 The Bushfire Front Inc, *Committee Hansard*, Perth, 29 April 2010, p. 20

51 FESA, *Committee Hansard*, Perth, 29 April 2010, pp 74-75

52 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 74

53 Australian Institute of Architects, *Submission 30*, p. 5

54 Queensland Department of Community Safety, *Submission 12*, p. 6

natural fire occurrence and development in the absence of suppression. The most critical operational issue is the development of high quality fire behaviour guides for all forest types.⁵⁵

5.65 The committee notes a recommendation from the COAG inquiry, which called for the Commonwealth and states to contribute additional funding for gathering fire regime information.⁵⁶

5.66 CSIRO informed the committee that better risk information for homeowners is required:

Some fires will inevitably threaten homes, so an improved house loss risk index is needed to better inform communities of the potential for a fire under given fire weather conditions to cause life and property loss.⁵⁷

5.67 Mr Gary Morgan, CEO of the Bushfire CRC, commented that further knowledge is indeed required:

The leaders of the fire agencies and land management and emergency service agencies tell us that the knowledge that they have now and the methods of today will not sustain them into the future, given the predicted environmental and demographic changes we are expected to see over the next decade. They want new knowledge, and they seek it from directed but independently conducted research.⁵⁸

5.68 Funding for the Bushfire CRC was due to expire in 2010, until given a brief reprieve following the Victorian bushfires in February 2009:

The Bushfire CRC is now being funded by the federal government until 2013 to provide short-term research into the current issues arising from the Victorian bushfires royal commission.

...

The Bushfire CRC is currently engaged in favourable discussions with politicians and bureaucrats on possible models for future national approaches to bushfire related research; however, the main obstacle remains federal funding. Hopefully, for our communities and our firefighters, our discussions can be concluded positively and soon.⁵⁹

5.69 Over the next three years Bushfire CRC's research will focus on the following areas:

55 The Bushfire Front Inc, *Submission 48*, p. 4

56 Ellis, S. et al, *COAG National Inquiry on Bushfire Mitigation and Management*, March 2004, pp 66-67

57 CSIRO, *Submission 15*, p. v

58 Bushfire CRC, *Committee Hansard*, Melbourne, 25 March 2010, p. 11

59 Bushfire CRC, *Committee Hansard*, Melbourne, 25 March 2010, p. 11

- Understanding risk: includes seeking a better understanding of the community's expectations about balancing the protection of life and other values, risk assessment and decision-making, and fuels and risk planning at the interface.
- Communicating risk: includes considering effective communication with affected communities, and human behaviour under stress.
- Managing the threat: includes research on incident co-ordination, the effects of fire in the landscape, and improving human resource management.⁶⁰

5.70 The Bushfire CRC informed the committee that it was also undertaking a project to comprehensively identify conflicts in legislation that inhibit effective bushfire management. Mr Gary Morgan of the Bushfire CRC said:

...there are clearly conflicts in different legislation, and that inhibits some of the best outcomes, particularly for planning as against suppression and prevention type actions.⁶¹

5.71 He also referred to the effect conflicting legislation had on those operating on the ground:

If it starts at the top when we have laws that are in conflict, the whole thing falls down. The poor people on the ground do not know which way to go, and it depends on who is yelling the loudest at the time. That is not good policy and it does not mean we have good implementation. We will always have trouble if that continues. I think that is where the Commonwealth can take strong leadership.⁶²

5.72 The committee heard that the CRC was trying to identify where legislative problems exist:

We recognise this as being a fairly critical part of how we manage safety into the future. It is an area where we will be undertaking research in the coming three years, looking at all the conflicts in the various layers of government, from federal government to state government to local government, but also, importantly, across the portfolio areas, whether it is in land management, public safety, emergency response or wherever. There is legislation that conflicts across all of those layers of government and portfolio understandings. Trying to get an understanding of which piece of legislation has authority over which other piece of legislation is actually quite difficult. It is a fairly major piece of work we intend to do over the next three years to try and get a better handle on how that might be managed better.⁶³

60 Bushfire CRC, *Bushfire CRC Extension Research – Update to Senate Committee*, document tabled at the committee's public hearing in Melbourne on 25 March 2010, see Appendix 3

61 Bushfire CRC, *Committee Hansard*, Melbourne, 25 March 2010, p. 16

62 Bushfire CRC, *Committee Hansard*, Melbourne, 25 March 2010, p. 19

63 Bushfire CRC, *Committee Hansard*, Melbourne, 25 March 2010, pp 14-15

5.73 However, beyond the three year extension of Bushfire CRC funding, there is uncertainty over the future of bushfire research in Australia. The Bushfire CRC stated that:

It is imperative that the nation commit to an on-going fire and land management agency-led research capability that is able to meet its future needs.⁶⁴

5.74 The Australian Fire and Emergency Services Council (AFAC) has proposed the establishment of a new co-operative research centre to meet longer term research objectives, the 'CRC Fire – Environment and Society'.⁶⁵

Committee view

5.75 Effective bushfire management practices depend on a strong and well co-ordinated research basis, with information from that research being shared with those responsible for implementing bushfire management measures. There is currently some debate about whether the current CRC model is the most appropriate structure for bushfire research, and the committee understands the frustrations of those who would prefer to see a decentralised model clear of fire agency control. However, the poor revenue opportunities arising from bushfire research makes a centralised co-operative research model, driven by the end users of this research, more cost effective than decentralised research activities. As long as the research priorities are not disproportionately skewed to certain aspects of bushfire management over others, then this model should be favoured.

5.76 The committee strongly holds the view that more research is required to assist land management agencies and the Commonwealth make well informed decisions about effective fuel reduction practices, including developing technology and analytical techniques to enable a more accurate assessment of fuel risks and fuel reduction effectiveness across the landscape. The committee supports the COAG inquiry's recommendation on the need for better information on fuel loads and fire behaviour, which was incorporated in recommendation 5.1 of the inquiry:

The Inquiry recommends the provision of additional resources jointly by the Australian Government and the state and territory governments for the following purposes:

- to accelerate the research necessary for the characterisation of fuel loads and dynamics for Australian ecosystems (both natural and exotic), the characterisation of fire behaviour and ecological responses, the development of 'burning guides' from this information, and the compilation of this information and knowledge in nationally accessible databases

64 Bushfire CRC, *Submission 7*, p. 12

65 Bushfire CRC, *Submission 7*, p. 9

- the establishment of a national network of long-term ecological research sites to provide a basis for long-term monitoring of the impacts of fire regimes and fire events.⁶⁶

5.77 The committee also suggests that further research be undertaken to facilitate a comprehensive analysis of individual house risk from catastrophic bushfire, which would encourage communities to better prepare for bushfires at the asset level.

Recommendation 12

5.78 The Commonwealth encourages further research into prescribed burning and its effectiveness and into alternative bushfire mitigation approaches through improved bushfire risk understanding at the asset level.

5.79 The committee supports the Commonwealth funding a single national bushfire research institute over the long term to co-ordinate and provide the information required by land management and fire agencies across Australia, as well as communities in fire prone areas. In particular, research into fuel hazard reduction and household fire risk should be prioritised, reflecting the areas of knowledge that most urgently need to be improved. The committee therefore recommends that at the conclusion of the Bushfire CRC funding agreement, a new national bushfire research institute be permanently established to meet the nation's future research needs, funded jointly between the Commonwealth and agency end users.

Recommendation 13

5.80 At the conclusion of the current Bushfire CRC funding agreement the Commonwealth establish a new permanent bushfire research institute.

5.81 The committee recognises that prescribed burning must not only be effective in reducing the effects of catastrophic bushfire, but that an effective prescribed burning strategy must be economically justifiable. Therefore, the committee recommends that the Productivity Commission be tasked to assess the economic effects of recent major bushfires on the Australian economy to determine the cost effectiveness of prescribed burning as a mitigation strategy.

Recommendation 14

5.82 The Productivity Commission be tasked to assess the economic effects of recent major bushfires on the Australian economy to determine the cost effectiveness of prescribed burning as a mitigation strategy.

66 Ellis, S. et al, *COAG National Inquiry on Bushfire Mitigation and Management*, March 2004, p. 66

Fire suppression infrastructure

5.83 In addition to the personnel resources necessary to combat destructive bushfires, the committee also considered various infrastructure requirements. These included:

- fire fighting equipment and access;
- mapping (or spatial data infrastructure); and
- fire warning systems.

Fire fighting equipment and access

5.84 Evidence to the committee regarding fire fighting equipment and access raised concerns about the declining equipment resources provided by the forestry sector, fire trail access and the prioritisation of aircraft suppression.

5.85 Australian Forest Growers suggested that the withdrawal of native forest areas had reduced the availability of useful fire fighting equipment:

There has ... been a loss of suitable equipment such as heavy bulldozers and skilled operators for rapid construction of fire-lines, reinforcement of existing firebreaks and creation of back burning lines.⁶⁷

5.86 Victorian Lands Alliance also suggested that the shift of land from forestry to the national park estate has reduced the equipment and access necessary for effective suppression:

The correlation of a decline in the area of forest available to timber harvesting to the current 9 percent of the available forest and the decline in track access and maintenance is hard to ignore, [as] is the undeniable consequence of less timber industry funding of roads and tracks that is not subsequently replaced by government funding.

The decline in the availability of heavy machinery in the bush, near fire ignition points, is overlooked by many. However, it is this type of machinery and the skilled bush operators who are experienced in working a heavy dozer down a spur that can mean the difference between early containment or a major conflagration.

The ability to access fire on a track network capable of carrying fire tankers, the ability to have machinery that can quickly form fire breaks or cut new access tracks can be crucial and whilst not the sole domain of the timber industry, the decline in the machinery and personnel available on the spot or at short notice has affected fire suppression.⁶⁸

67 Australian Forest Growers, *Submission 16*, p. 4

68 Victorian Lands Alliance, *Submission 34*, p. 11

5.87 Mr Robert Webb argued that changes to the type of equipment available to local brigades had diminished volunteers' capacity to 'undertake critical rapid response and direct attack'. He explained that previous arrangements were effective by allowing early suppression by landowners near the point of ignition:

Throughout the 1980's and 90's many local brigades were outfitted by the NSW RFS with tanker trailers and slip on units. They were extremely useful in that they were at all times positioned on land owner's properties and were spread across the district. The machines were maintained by the property owner with some funds provided by the RFS and may have been used for other purposes outside the bushfire period. When a fire was smelt, reported or sighted, the telephone "phone tree" plans were activated, UHF communications were utilized and farmers would hook on to their full tanker trailer with approximately 600 litres of water in it.

In the 20 years that the brigade provided these tanker trailers I recall attending at least 15 fires (mainly lightning strikes) where the tanker trailer and its rapid response capabilities enabled the operator/s to suppress the fire in its infancy. The brigade trucks and larger equipment were always generally 20 minutes to half an hour behind. Once they arrived they were mainly used to mop up and black out. Many of these fires were unreported and therefore unrecorded as an incident by the RFS. This was because the local farmers would put the fire out and go home to carry on with their farming activities. I recall at least three fires on days that I would estimate back then to have had an FDI well above 50. If it were not for these smaller units these fires would have most definitely turned into long, protracted, costly campaigns.⁶⁹

5.88 However, Mr Webb informed the committee that in NSW resources had been shifted away from smaller units to larger tankers to the detriment of an early strike capability:

Unquestionably the resources now afforded our local RFS brigades in terms of new modern appliances are second to none. The concern I have is that the equipment provided is too large and cumbersome to provide effective rapid response in this area. These expensive resources sit in brigade sheds for nine to ten months of the year, completely under utilized. In addition it worries me that the skill and license required to operate this heavy machinery is lacking within our brigade and other brigades. It concerns me that there are many brigade areas where these vehicles may remain in the shed in a bushfire situation as there may be no one qualified or willing to operate the vehicle.⁷⁰

5.89 VFF told the committee that its members had complained that fire trails had not been properly maintained by state land management agencies. Their submission noted:

69 Mr Robert Webb, *Submission 57*, p. 4

70 Mr Robert Webb, *Submission 57*, p. 5

Adequate access into crown land is essential in being able to safely direct fire crews into fires at their commencement in an effort to extinguish blazes at the earliest possible opportunity. While the use of aerial fire fighting has greatly enhanced fire suppression capability, on the ground crews are needed to ensure blazes are extinguished.

Construction and maintenance of access tracks at regular intervals and of appropriate standards are necessary across all areas of crown land. The spacing of tracks should be based on the level of inherent fire risk to private property.⁷¹

5.90 The committee notes that the Commonwealth has contributed funding to the construction and maintenance of fire trails through the Bushfire Mitigation Program.⁷²

5.91 As flagged above at paragraph 5.10, there were concerns raised about the cost-effectiveness of aerial fire fighting and the value in prioritising funding for this capability. The Commonwealth's contribution to aerial fire fighting is outlined in chapter 1 at paragraph 1.98.

5.92 The Volunteer Fire Fighters Association of New South Wales suggested that a cost-benefit analysis be conducted on the use of aircraft for fire suppression:

It is on the public record in the RFS annual report that the budget for aviation has substantially escalated to a point where one could reasonably argue that there are other sections of the rural fire service operational wing that may be missing out on valuable resources. I would be advocating that there be an examination federally of the use of aircraft in bushfires across the Australian landscape to determine their best application and to ensure that there are economies of scale and that the public are getting the best value for their taxpayer dollar.⁷³

5.93 Australian Forest Growers commented that:

There has been a recent trend to use very expensive equipment (such as large water tanker helicopters). While it is recognised that aerial attack of fires has been a beneficial change over the last 15 years it is essential for cost benefit analyses to be applied to equipment purchases. Results of such analyses may reveal a need for more on-ground equipment and less expensive aerial bombers (fixed wing or smaller helicopters) being deployed.⁷⁴

5.94 They recommended:

71 VFF, *Submission 28*, pp 10-11

72 Attorney-General's Department, *Submission 38*, p. 3. This program has been incorporated into the Natural Disaster Resilience Program.

73 Volunteer Fire Fighters Association of New South Wales, *Committee Hansard*, Canberra, 12 March 2010, pp 53-54

74 Australian Forest Growers, *Submission 16*, p. 6

AFG recommends that greater deployment of resources be made to on-ground attack, and that well controlled aerial water bombing capability be restricted to early intervention at source and to protection of built assets such as houses.

AFG recommends that further expenditure on aerial water bombing are only made based on the results of a careful review of the costs and effectiveness of that tactic when used in established bushfires remote from built up areas.⁷⁵

5.95 CSIRO stated that aircraft need to be deployed early:

Aircraft have three main advantages over ground suppression resources: speed, access, and observation... When ground travel response times are significant or safe access is difficult, aircraft have the ability to reach the fire early in its development and to initiate suppression. In such situations aircraft can be used to hold or slow fire spread to restrict the growth of the active fire perimeter until ground suppression forces arrive. However, once a forest fire has become fully developed, aircraft become less effective at restricting the spread of the fire, primarily due to the increased speed of the fire and the time taken for the aircraft to refill and return to the fire (i.e. turn around time)...⁷⁶

5.96 CSIRO's submission also recognised that aerial suppression will not be effective without ground crews to mop up:

Aircraft cannot extinguish a bushfire without the support of ground crews... While an aircraft can drop water, retardant or chemically-enhanced water (using additives such as surfactants or water enhancing gels), these can only reduce the fire behaviour temporarily; unless directly attacked by supporting ground crews during this period, the fire will eventually burn through, around or over the drop, particularly if the fire is spotting heavily. Aircraft cannot mop-up burning and smouldering fuels which are a primary source of re-ignition...⁷⁷

5.97 McDermott Aviation P/L agreed that initial air attack capability is critical:

Protection of assets during periods of extreme fire risk can only be achieved if wild fire ignitions are attacked quickly and with maximum available resources. Even where pre-fire mitigation actions such as fuel reduction burning have been carried out, weather conditions on days of extreme fire danger will assist a small fire to build rapidly to an uncontrollable state. Work done by the Australian Bushfire CRC and researchers in other countries clearly shows that the initial attack is critical to controlling and

75 Australian Forest Growers, *Submission 16*, p. 6

76 CSIRO, *Submission 15*, p. 12

77 CSIRO, *Submission 15*, p. 13

extinguishing a wildfire and that use of aircraft in this initial attack phase significantly increases the chances of successful result.⁷⁸

5.98 The submission added:

Aircraft are a relatively expensive resource available to fire managers and we believe there is often a reluctance to use aircraft in the first instance in an attempt to save money. This is a false economy.⁷⁹

5.99 Other suggestions for improving funding for fire fighting equipment were forthcoming. AFAC suggested that the system of pooling aerial fire fighting resources be extended:

AFAC has begun the process of investigating expanding the National Aerial Firefighting Centre (NAFC) model for sharing aircraft to all hazards and a variety of resources.

NAFC was formed by the Australian States and Territories in July 2003 to provide a cooperative national arrangement for contracting and operating aircraft for bush firefighting. It achieves this by facilitating the coordination and procurement of a fleet of highly specialized firefighting aircraft that are readily available for use by state and territory emergency agencies across Australia.

NAFC plays a key role in ensuring the sharing of aerial firefighting resources between fire agencies throughout Australia. By pooling resources governments in all jurisdictions get the maximum value for money and ensure that Australians are protected by the best aerial firefighting equipment possible.

The national fleet receives funding support from the Australian Government as well as State and Territory Governments. The NAFC model for sharing aerial resources has worked well and AFAC believes there is merit in establishing a similar system to share other resources, including fire appliances, equipment, fire fighters and emergency service workers.

It is widely recognised that it is impractical for individual AFAC member agencies to maintain all of the resources required to deal with major emergencies. It is during such events that efficient, reliable resource sharing arrangements between jurisdictions become critical as they are the mechanism that provides access to the surge capacity necessary for dealing with peak loads or unusual situations. Although there are many examples of effective resource sharing by AFAC member agencies, there remains a number of issues that could best be resolved by the implementation of a national approach to dealing with them.⁸⁰

78 McDermott Aviation P/L, *Submission 9*, pp 1-2

79 McDermott Aviation P/L, *Submission 9*, p. 2

80 AFAC, *Submission 49*, p. 12

5.100 WA Farmers' Federation suggested that the Commonwealth provide additional funding for private fire fighting equipment.⁸¹

Mapping

5.101 The co-ordination of spatial data infrastructure was also raised during a public hearing in Canberra. Mr Gary Nairn related his experience of assisting out-of-town brigades during the 2003 Canberra bushfires:

I found that their lack of maps and things was appalling. They had me photocopying the one and only map of the area to hand out to brigades that had come from northern New South Wales and other places and so did not know the area around Canberra at all to try and help them find where they had to go. I said, 'Why haven't we got more copies of this?' The answer was, 'Well, we have run out and we don't know how to get them.'⁸²

5.102 He suggested that there needs to be better national co-ordination of spatial data infrastructure:

Spatial data infrastructure is bringing together the large cross-section of data that exists already in the states and territories, making sure that it is of similar standards and interoperable to enable access to that—and that could be for property boundaries, road centre lines, vegetation and different datasets. Various things are happening in the states, but there is no national coordination of this.⁸³

5.103 He contrasted Australia's approach to that of Europe:

Europe have put forward what is called the INSPIRE Directive, Infrastructure and Spatial Information in the European Community, which is driven at high political levels because they can see the advantages of having a spatial data infrastructure across the whole of Europe. They are going inter-country and we are struggling with getting it happening across our nation. It is an infrastructure which ultimately will be extremely valuable for all sorts of industries and particularly for emergency management and other risk management.⁸⁴

5.104 The inquiry Mr Nairn chaired made the following recommendation:

The Committee recommends that Geoscience Australia take responsibility, in conjunction with Emergency Management Australia, for developing a national spatial data policy to coordinate the development of data systems, the collection of data and the sharing of data between all the emergency response agencies across Australia, and that both agencies participate in the development and delivery of spatial information systems as part of a

81 WAFF, *Committee Hansard*, Perth, 29 April 2010, p. 49

82 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 3

83 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 4

84 Mr Gary Nairn, *Committee Hansard*, Canberra, 12 March 2010, p. 4

national approach to emergency planning and management data. The first priority in policy development and of systems should be related to bushfire hazards.⁸⁵

5.105 In response to a question on notice about progress on that committee's recommendations, Mr Nairn stated that:

In some respects this is being carried out through the Office of Spatial Data Management (OSDM) within Geoscience Australia. However, it does not have the funding to effectively fully implement the recommendation and therefore the optimum situation for national spatial information is some way off.⁸⁶

5.106 The COAG inquiry also commented on the need for quality and consistent mapping data:

The quality and currency of digital mapping databases are critical for the provision of up-to-date mapping products. The Inquiry supports and encourages state and territory and Australian Government initiatives to digitise existing spatially explicit data and develop digital mapping databases according to nationally agreed procedures and standards and to make these products available in operationally useful form. The inquiry strongly supports the role of national bodies and representative groups in facilitating nationally consistent and accessible spatial data and data products.⁸⁷

Fire warning systems

5.107 Finally, the committee considered the latest approaches to alerting communities about imminent bushfire danger. This was a major problem during the 2009 Victorian bushfires, when some residents were not warned of the severe and imminent nature of the bushfire threat they faced.

5.108 The Commonwealth recently established a national emergency warning system that will be used in all states and territories except Western Australia. Emergency Management Australia (EMA) informed the committee that:

The national emergency warning system, Emergency Alert System, became available on 30 November 2009. The system integrates with a secure central telephone number database, called the Location Based Number Store, and enables states and territories to send emergency warning messages to fixed line telephones and to mobile services. The emergency

85 House of Representatives Select Committee on the Recent Australian Bushfires, *A Nation Charred: Inquiry into the Recent Australian Bushfires*, October 2003, p. xxvi

86 Mr Gary Nairn, *Response to question on notice*, Appendix 3, p. 8

87 Ellis, S. et al, *COAG National Inquiry on Bushfire Mitigation and Management*, March 2004, p. 60

alert was first used on 17 December last year for bushfire warnings in both New South Wales and Victoria.⁸⁸

5.109 Western Australia has opted for a separate system called StateAlert, which operates in a similar way, automatically delivering emergency warnings to home phones and mobile phones on the basis of their billing address.⁸⁹ However, FESA told the committee that alert systems should not be used in a way that encourages complacency:

We certainly do not rely on this system to notify people of a fire in their area unless it is an emergency. We still rely on all the normal processes of making sure people are well informed before a fire season of what their risks are and are aware. We do not want them to start relying on technology to make them fire savvy.⁹⁰

5.110 FESA also indicated that warning systems are of limited value for people in the vicinity of an outbreak, where the best warning comes from people on the ground.⁹¹

5.111 Sentinel Alert provided a submission to the committee outlining their alternative fire warning system utilising integrated radio, satellite and GPS technology. Transmitters mounted on existing towers send signals to home receiver units, carrying warnings graded by the local fire control officer in accordance with the severity of risk, or by central command where incidents are widespread.⁹²

5.112 Sentinel Alert noted the failings of SMS warnings during the Victorian bushfires:

...over two million SMS messages were sent in that particular incident, but it took hours for them all to be sent. That is not because of incompetence, but the SMS messaging system is piggybacked onto a communications medium which was never designed for emergency warnings; it was designed as a social/business network.⁹³

5.113 Sentinel Alert advocated for the Commonwealth to trial their system across the country.⁹⁴

88 EMA, *Committee Hansard*, Canberra, 12 March 2010, p. 23

89 StateAlert website, accessed on 3 June 2010 at <https://statealert.wa.gov.au/Vox/publicuser/>

90 FESA, *Committee Hansard*, Perth, 29 April 2010, p. 69

91 FESA, *Committee Hansard*, Perth, 29 April 2010, pp 68-69

92 Sentinel Alert, *Committee Hansard*, Perth, 29 April 2010, pp 59-60; Sentinel Alert, *Submission 54*, p. 10

93 Sentinel Alert, *Committee Hansard*, Perth, 29 April 2010, p. 59

94 Sentinel Alert, *Committee Hansard*, Perth, 29 April 2010, p. 57

Committee view

5.114 The committee shares concerns about declining equipment for ground attack while funding for increasing Australia's aerial fire fighting capacity seems to be given highest priority. An aerial capacity is of little value if adequate ground resources are not available to mop up, meaning that the Commonwealth's substantial investment in fire fighting aircraft will not be cost effective. The committee supports AFAC's recommendation that the Commonwealth co-ordinate a national approach to the pooling of ground fire fighting resources across agencies and jurisdictions to maximise the efficiency of their use.

Recommendation 15

5.115 The committee recommends that the Commonwealth co-ordinate a national approach to the pooling of ground fire fighting resources across agencies and jurisdictions to maximise the efficiency of their use.

5.116 The committee is also of the opinion that private landholders need to have the capacity to attack bushfires early using their own fire fighting equipment. This front line capability improves the effectiveness of aerial fire fighting resources by providing an additional and essential mopping up capability and can in some instances prevent larger and more expensive fire fighting efforts being needed when control of the fire is lost. The committee is of the view that local communities should take responsibility for being equipped to take reasonable measures to protect themselves and their assets when fires are ignited. The committee further notes that the Commonwealth provides tax deductions for the cost of fire fighting equipment when it constitutes a business cost for landowners.

5.117 The Committee also notes that comprehensive and consistent mapping data across Australia is essential to effective bushfire management, and encourages the Commonwealth to continue to fund the national co-ordination of mapping data systems, collection and sharing.

5.118 Finally, the committee welcomes the introduction of a national warning system for bushfires and suggests that continued work be done to overcome the capacity limitations associated with using a telephone based system. The effectiveness of this new system should be continually reviewed following each bushfire season. The committee is also of the view that warning systems are never fail proof and should not be relied on as the primary source of information about possible fire threats or as a substitute for prior bushfire preparedness.

Senator the Hon. Bill Heffernan
Chair

APPENDIX 1

Submissions Received

Submission Number	Submitter
1	T Bowring & Associates Pty Ltd
2	Bushfire Waterbombers
3	P.J O'Brien
4	Forest Fire Victoria Inc.
5	Mary Sexton
6	Institute of Foresters of Australia
7	Bushfire CRC
8	Nature Conservation Council
9	McDermott Aviation Pty Ltd
10	The Hon. Bob Such MP
11	CONFIDENTIAL
12	Department of Community Safety
13	National Association of Forest Industries
14	Gail Osmak
15	CSIRO
16	Australian Forest Growers
17	The Stretton Group
18	People's Review of Bushfires
19	Planning Institute Australia
20	National Civic Council
21	John Morrissey
22	Hotspots Fire Project
23	Volunteer Bush Fire Brigades WA
24	Noeline Franklin
25	Australian Plantation Products and Paper Industry Council
26	NSW Rural Fire Service
27	Peter Phillips
28	Victorian Farmers Federation
29	Tropical Savannas Management Cooperative Research Centre; North Australian Indigenous Land Sea Management Alliance
30	Australian Institute of Architects
31	The Australian Veterinary Association
32	The Western Australian Farmers Federation (Inc.) (WA Farmers)

- 33 Blue Shield Australia
- 34 Victorian Lands Alliance
- 35 The Hon. Gary Nairn MP
- 36 NSW Rural Fire Service Association
- 37 Friends of the Box-Ironbark Forests (Mount Alexander Region) Inc
- 38 Attorney-General's Department
- 39 Government of WA Fire and Emergency Services Authority
- 40 Bob Hogarth
- 41 Arthur Hallman
- 42 Victorian Association of Forest Industries
- 43 Bruce Hingle
- 44 CONFIDENTIAL
- 45 Department of the Environment, Water, Heritage and the Arts (DEWHA) &
Department of Families, Housing, Community Services and Indigenous
Affairs (FAHCSIA)
- 46 Volunteer Fire Fighters Association, NSW (VFFA)
- 47 CONFIDENTIAL
- 48 The Bushfire Front Inc
- 49 Australasian Fire and Emergency Service Authorities Council (AFAC)
- 50 Department of Environment and Conservation, WA Government
- 51 Sporting Shooters Association of Australia (Victoria) Inc. (SSAA Vic)
- 52 The Hon. Judith Moylan MP
- 53 Colin Ely
- 54 Sentinel Alert Pty Ltd
- 55 Victorian Mountain Cattleman
- 56 Firewatch Australian Pty Ltd
- 57 CONFIDENTIAL
- 58 John Reynolds
- 59 Aifur Pty Ltd

APPENDIX 2

Public Hearings and Witnesses

FRIDAY, 12 MARCH 2010, CANBERRA

- ANDERSON, Mr Trevor, Policy Manager,
Rural Fire Service Association
- CANNON, Mr Peter Joseph, President,
Volunteer Fire Fighters Association of New South Wales
- CHENEY, Mr Noel Phillip (Phil)
- EARLY, Mr Gerard, Deputy Secretary,
Department of the Environment, Water, Heritage and the Arts
- FINLAY, Dr Carol Christine
- HAINSWORTH, Mr Alasdair Horace William, Section Head, Public, Marine
and Agricultural Weather Services,
Bureau of Meteorology
- HUNT, Ms Sally, Project Coordinator, Hotspots Fire Project,
Nature Conservation Council of New South Wales
- KANOWSKI, Professor Peter James,
Professor of Forestry, Fenner School of Environment and Society, Australian
National University
- MCKINLAY, Mr Brian, President,
Rural Fire Service Association
- MILLS, Mr Graham,
Bureau of Meteorology Research Centre
- NAIRN, the Hon. Gary
- OLAH, Mr Peter, Executive Director,
Rural Fire Service Association
- PARKER, Ms Waminda, Project Strategist, Hotspots Fire Project,
Nature Conservation Council of New South Wales
- PEARCE, Mr Antony Charles, Director-General, Emergency Management
Australia,
Attorney-General's Department
- REEVES, Mrs Anne, Member,
Nature Conservation Council Bushfire Advisory Committee; and
Executive Member,
Nature Conservation Council of New South Wales

- SCHOLZ, Mr Andrew, Member,
Volunteer Fire Fighters Association of New South Wales
- SCHOLZ, Mr Michael, Executive Member, Region East,
Volunteer Fire Fighters Association of New South Wales
- SULLIVAN, Dr Andrew Lawrence, Senior Research Scientist; Team Leader,
Bushfire Dynamics and Applications, CSIRO Sustainable Ecosystems,
Commonwealth Scientific and Industrial Research Organisation
- WILLIAMS, Mr Brian, Vice-President,
Volunteer Fire Fighters Association of New South Wales

THURSDAY, 25 MARCH 2010, MELBOURNE

- ATTIWILL, Professor Peter, Member,
Forest Fire Victoria Inc
- BROWN, Ms Naomi, Chief Executive Officer,
Australasian Fire and Emergency Service Authorities Council
- DALIDAKIS, Mr Philip Alexander, Chief Executive Officer,
Victorian Association of Forest Industries
- FORD, Mr Graeme David, Executive Manager, Policy,
Victorian Farmers Federation
- GEDDES, Mr David, Past National President,
Australian Forest Growers
- GLEDHILL, Mr John
- HANSARD, Mr Allan, Chief Executive Officer,
National Association of Forest Industries
- HODGSON, Mr Athol, President,
Forest Fire Victoria Inc
- LEACH, Mr Gerald (Gerry), Chair, Land Management Committee,
Victorian Farmers Federation
- LEONARD, Mr Justin Earl, Research Scientist,
Commonwealth Scientific and Industrial Research Organisation
- MARTY, Ms Lisa, Deputy Chief Executive Officer,
Victorian Association of Forest Industries
- MORGAN, Mr Gary William, Chief Executive Officer,
Bushfire Cooperative Research Centre
- PACKHAM, Mr David Roy, Vice-President,
Forest Fire Victoria Inc

- RAGG, Mr Warwick Charles, Chief Executive, Australian Forest Growers
- RHEESE, Mr Max, Secretary, Victorian Lands Alliance
- RYAN, Mr Michael, Victorian Chair, Institute of Foresters of Australia
- STEPHENS, Mr Michael, Deputy Chief Executive Officer, National Association of Forest Industries
- THORNTON, Dr Richard Peter, Deputy Chief Executive Officer and Research Director, Bushfire Cooperative Research Centre
- WITHERBY, Mr Angus Wakefield, Member, National Education Committee, Planning Institute of Australia

THURSDAY, 29 APRIL 2010, PERTH

- CAMPBELL, Mr Francis John, Member, The Bushfire Front Inc.
- CAMPBELL, Mr Michael, Vice-President Meat Section, Western Australian Farmers Federation
- CAPORN, Mr David, Executive Director, Community Development Portfolio, Fire and Emergency Services Authority of Western Australia
- CARTER, Mr Murray Douglas, Manager, Fire Management Services Branch, Western Australian Department of Environment and Conservation
- DATODI, Mr Raymond Francis, Director, Engineering, Sentinel Alert Pty Ltd
- ENRIGHT, Professor Neal, Professor in Plant Ecology, School of Environmental Science, Murdoch University
- GROOMBRIDGE, Mr Sean, Director and Chief Executive Officer, Sentinel Alert Pty Ltd
- HAMENCE, Mr Brian Victor, Member of State Management Committee, Association of Volunteer Bush Fire Brigades of Western Australia; Fire Control Officer, Shire of Bridgetown Greenbushes
- HARRISON-WARD, Ms Josephine Charlotte, Chief Executive Officer, Fire and Emergency Services Authority of Western Australia
- HYNES, Mr Craig Anthony, Chief Operations Officer, Fire and Emergency Services Authority of Western Australia

- McCRAW, Dr William Lachlan, Principal Research Scientist, Western Australian Department of Environment and Conservation
- McKINNEL, Dr Frank, Member, The Bushfire Front Inc.
- McNAMARA, Mr Keiran James, Director-General, Western Australian Department of Environment and Conservation
- PARK, Mr Dale, Senior Vice-President, Western Australian Farmers Federation
- ROOCKE, Mr Paul Andrew, Development Engineer, Sentinel Alert Pty Ltd
- SCHULTZ, Dr Beth, Forests and Fire Campaigner, Conservation Council of Western Australia
- SNEEUWJAGT, Mr Richard John, Principal Fire Projects Officer, Western Australian Department of Environment and Conservation
- SOUSA, Mr Christopher, Member, Association of Volunteer Bushfire Brigades of Western Australia
- UNDERWOOD, Mr Roger, Chairman, The Bushfire Front Inc
- VERSTEGEN, Mr Piers, Director, Conservation Council of Western Australia

FRIDAY, 14 MAY 2010, CANBERRA

- BROWN, Mr Graham Robert, Farmers Representative, Canobolas Bushfire Management Committee
- COMMINS, Mr Christopher Philip, President, Mountain Cattlemen's Association of Victoria
- DRISCOLL, Dr Don Anthony, Fellow, Fenner School of Environment and Society, Australian National University
- STONEY, Mr Graeme, Executive Officer, Mountain Cattlemen's Association of Victoria
- WILLIAMS, Dr Richard, Senior Research Scientist, Plant Ecology, Commonwealth Scientific and Industrial Research Organisation

APPENDIX 3

Responses to questions taken on notice

- Received on 1 April 2010 from Forest Fire Victoria Inc. Answers to Questions taken on Notice on 25 March 2010;
- Received on 7 April 2010 from Attorney-General's Department – Emergency Management Australia. Answers to Question taken on Notice on 12 March 2010;
- Received on 7 April 2010 from Rural Fire Service Association (RFSA). Answers to Questions taken on Notice on 12 March 2010;
- Received on 9 April 2010 from CSIRO. Answers to Questions taken on Notice on 25 March 2010;
- Received on 14 April 2010 from the Department of Environment, Water, Heritage and the Arts (DEWHA). Answers to Questions taken on Notice on 12 March 2010;
- Received on 22 April 2010 from the Nature Conservation Council of NSW. Answers to Questions taken on Notice on 12 March 2010;
- Received on 29 April 2010 from the Victorian Lands Alliance (VLA). Answers to Questions taken on Notice on 25 March 2010;
- Received on 10 May 2010 from the Hon. Gary Nairn MP. Answers to Questions taken on Notice on 12 March 2010.

APPENDIX 4

Additional Information Received

- Received on 25 March 2010 from the Planning Institute of Australia (PIA). Speaking notes for inquiry hearing;
- Received on 25 March 2010 from Institute of Foresters of Australia. *'Australia Forestry – A Regional Journal of Forestry Science and Forest Management'*;
- Received on 25 March 2010 from the Institute of Foresters of Australia. *'Submission to the 2009 Bushfires Royal Commission'*;
- Received on 9 April 2010 from CSIRO. Submission to the 2009 Victorian Bushfires Royal Commission;
- Received on 29 April 2010 from the Fire & Emergency Services Authority of Western Australia (FESA). Copies of Guidelines and FESA publications:
 - *'Winter Burning Guide'*;
 - *'Visual Fuel Load Guide for the Kimberley Region'*;
 - *'Grass Curing Visual Guide for Western Australia'*;
 - *'Visual Fuel Load Guide for the Goldfield Region'*;
 - *'Visual Fuel Load Guide for the scrub vegetation of the Swan Coastal Plain including Geraldton Sandplains & Leeuwin Ridge Regions of Western Australia'*;
 - *'Visual Fuel Load Guide for Esperance Plains'*;
 - *'Visual Fuel load Guide for Denmark Shire'*;
 - *'Visual Fuel Load Guide for the Pilbara Region'*;
 - *'Kimberley Bush Fire – Burning Guidelines and Firebreak Location, Construction and Maintenance Guidelines, July 2007'*;
 - *'Prepare. Act. Survive. You Guide to preparing for and surviving the bushfire season'*;
 - *'Planning for Bush Fire protection guidelines'*.
- Received on 4 May 2010 from Mr David Ward. *'Appendix A: The full text of nine letters about the bushfires, written in 1846'*, *'People, Fire, Forest and Water in Wungong Catchment – David Ward 2010'*;
- Received on 11 May 2010 from The Bushfire Front inc. Glossary of Fire Terms;
- Received on 21 May 2010 from the Western Australian Department of Environment and Conservation. *'Indicative Prescribed Burn (Autumn 2010) program for the south-west forest regions managed by DEC'* maps;

Tabled Documents

12 March 2010, Canberra ACT

- Tabled by the Volunteer Fire Fighters Association Inc. (VFFA). Copies of:
 - *'The Canobalas Bush Fire Model'* paper; and
 - Volunteer Fire Fights Association Information paper.

25 March 2010, Melbourne VIC

- Tabled by the Bushfire CRC. *'Bushfire CRC Extension Research – Update to Senate Committee'* paper;
- Tabled by the National Association of Forest Industries (NAFI). Copies of:
 - opening statement;
 - *'Fire: a landscape risk management approach'* graphs;
 - *'Bushfire, Forest and Land Management Policy under a Changing Climate'* paper by Michael Stephens.
- Tabled by the Planning Institute of Australia (PIA). *'2009 PIA submission to the Victorian Bushfires Royal Commission'*.
- Tabled by the Victorian Lands Alliance (VLA). VLA notes on inquiry.

29 April 2010, Perth WA

- Tabled by The Bushfire Front. Supplementary notes for hearing;
- Tabled by the Conservation Council of WA. Copy of:
 - presentation to the Committee paper;
 - real estate newspaper clipping.
- Tabled by the Fire & Emergency Services Authority of Western Australia (FESA). Copies of:
 - opening statement;
 - *'State of the Service, December 2009'* report;
 - *'Fuel load Management Sub-Committee'* information;
- Tabled by Professor Neal J Enright. Opening statement.

14 May 2010, Canberra ACT

- Tabled by Dr Don Driscoll. *'Figure 4: Model Predications for the Crown Fire model against Time Since Fire and Weather, for three Forest Types; a) Ash, b0 Damp and c0 Dry. In all cases, the models are for a slope of 0, Topographic Position of 50%, 5 years time since logging and easterly aspect'* graphs;
- Tabled by Mountain Cattleman's Association of Victoria.
 - *'The People's Review of Bushfires, 2002-2007, in Victoria, Final Report 2009'* by Peter Attiwill David Packham, Tim Barker and Ian Hamilton;
 - Photograph's of:
 1. Watchbed Creek 2003;
 2. Snowy Plains Kosciusko;
 3. Nunniong Plateau Trial Plot;
 4. Kosciusko National Park 25 years after Cattle removed;
 5. Bogong High Plains 2003;
 6. Kosciusko National Park 20 years after Cattle removed.
- Tabled by Graham Brown. *'The Canobolas Project'* information paper.

APPENDIX 5

Previous inquiry recommendations and actions

<i>A Nation Charred: Inquiry into the Recent Australian Bushfires. House of Representatives Select Committee on the Recent Australian Bushfires (2003)</i>	
<i>Recommendations regarding the Bushfire Cooperative Research Centre (CRC)</i>	
Recommendation	Response to Recommendation
<p>Recommendation 1 The Committee recommends that the Bushfire Cooperative Research Centre establish, as part of its program to implement a single fuel classification system, a national database that provides information on current levels and rates of accumulation of fuel loads that takes into account vegetation type and climate across all tenures of land, including private land where data is available.</p> <p>Recommendation 3 The Committee recommends that the Bushfire Cooperative Research Centre establish, as part of its program to implement a single fuel classification system, standards which take into account local conditions including topography and vegetation type, for determining appropriate dimensions for asset protection zones.</p>	<p>Government Response The Australian Government supports the intent of these recommendations to develop management tools that will provide better information on current levels and rates of accumulation of fuel loads. The Bushfire CRC has advised that existing Bushfire CRC projects, particularly the fuel accumulation project, have the capacity to establish a framework for the database proposed in the Report's recommendations. Establishment and ongoing maintenance of a national database is an operational rather than a research function and is therefore outside the scope of the Bushfire CRC.</p> <p>A range of tasks which are relevant in the context of this recommendation was jointly assigned to the Augmented Australian Police Ministers' Council and the Local Government and Planning Ministers' Council as part of the COAG response to the National Inquiry on Bushfire Mitigation and Management.</p>

These Councils could further examine financial and other operational issues associated with the establishment and ongoing maintenance of the recommended national database.

The Bushfire CRC will be asked to provide advice to the Augmented Australasian Police Ministers' Council and the Natural Resource Management Ministerial Council on the possibility of accelerating research into fuel loads and dynamics and the compilation of this data into accessible databases.

The Australian Government agrees that a nationally consistent framework that would allow data on fire regime mapping to be shared between jurisdictions would be a valuable outcome. The framework needs to be developed in the context of the recommendations of the COAG *Natural Disasters in Australia: Reforming Mitigation, Relief and Recovery Arrangements* Report and the work being undertaken by Geoscience Australia as part of the Disaster Mitigation Australia Package to develop a national risk assessment framework for natural hazards. This framework should include development and provision of models, data and decision support tools.

The Australian Government will continue to develop national consistency in datasets relevant to bushfire mitigation and management under the Australian Spatial Data Infrastructure framework. Geoscience Australia is the lead agency for Spatial Data Management and provides the Australian Spatial Data Directory. Vegetation information (National Forest Inventory and National Vegetation Information System) is another key data set relevant to bushfire mitigation and management. A recent

	<p>application of the National Vegetation Information System has been to link information about vegetation types to fuel loads. The Bureau of Rural Sciences and the Department of the Environment and Heritage are lead agencies on vegetation information.</p> <p>The Bushfire CRC's research will contribute data that would assist in the establishment of standards for determining appropriate dimensions for asset protection zones and the Australian Government requests that it make such data available to those state and territory agencies which have responsibility for establishing those appropriate dimensions. A longer-term goal of the projects in the Bushfire CRC's Program A is to understand better the role of fuel types and topography. The outcome of Project VESTA being undertaken in Western Australia has provided some early results that are being validated by the current Bushfire CRC work plan.</p> <p>It is noted that the COAG National Inquiry on Bushfire Mitigation and Management addresses the issue of data and information relevant to bushfire mitigation and management in Recommendations 5.1-5.4. The Australian Government supports these recommendations.</p> <p>Mr Gary Nairn – Comment These recommendations remain extremely relevant and I understand that such a national database still does not exist.</p>
<p>Recommendation 5 The Committee recommends that the Bushfire Cooperative</p>	<p>Government Response The Australian Government accepts that access is a fundamental</p>

Research Centre determine a minimum national standard, taking into account topography and vegetation type, for adequate access to all public lands including wilderness areas of national parks for the purpose of effective fire prevention and suppression.

Recommendation 8

The Committee recommends that the Bushfire Cooperative Research Centre establish a minimum national standard that is common across all tenures of land for water access and availability for bushfire fighting.

issue which all state, territory and local authorities must address. As programs A and B of the Bushfire CRC deal with "Safe prevention, preparation and suppression" and "Management of fire in the landscape", the outcomes of these research projects will be of significant importance in addressing these recommendations. However, the issue of access to lands, including the number, size and maintenance of fire tracks, and the issue of access to water, are not part of any current research plan of the CRC. The Australian Government considers these to be areas for policy action by local, state and territory government rather than areas for research.

The CRC research programs will provide information on the intensity and rate of spread of fires under a range of conditions, which will be important contributions to the access conditions set and implemented by local, state and territory authorities. While the CRC is not a standard setting organisation, its findings on these matters will be of relevance to the appropriate state, territory and local bodies.

Access to Australian Government owned and/or managed lands and national parks is determined by the plan of management for each relevant piece of land. Development of the management plans entails extensive public consultation and input, where appropriate. Plans are designed to protect the full range of assets, including management of risks associated with bushfire and the spread of weeds and disease.

Mr Gary Nairn – Comment

I understand that a national standard is yet to be developed.

	<p>Recommendation 8 was referred to the states and territories in the Commonwealth's response and the Bushfire CRC was not given the task. I don't believe the states and territories have addressed it but it remains in my view a task that is important to address.</p>
<p>Recommendation 14 The Committee recommends that, as part of its study into improving the effectiveness of prescribed burning, the Bushfire Cooperative Research Centre establish a national database that includes areas targeted for fuel reduction, the area of fuel reduction achieved based on a specified standard of on ground verification and the season in which the reduction was achieved. The Committee also recommends that in developing this database the Cooperative Research Centre develop a national standard of fire mapping, which accurately maps the extent, intensity, spread and overall pattern of prescribed and wildfires in Australia.</p> <p>Recommendation 15 The Committee acknowledges community concerns about smoke pollution as a result of prescribed burning and recommends that the Bushfire Cooperative Research Centre pursue its proposed study into smoke modelling.</p>	<p>Government Response While the Bushfire CRC has advised that it recognizes the potential value of a detailed database on fuel reduction, the establishment and maintenance of a national database as proposed in Recommendation 14 is beyond the scope of the currently funded research program of the Bushfire CRC.</p> <p>Important work has been undertaken on fire regime mapping, particularly by the Western Australian Department of Land Information and the Cooperative Research Centre for Tropical Savannas Management, complemented by the work of the CSIRO and Geoscience Australia to develop the Sentinel system. The Sentinel Fire Mapping website is an internet-based mapping tool designed to provide timely fire location data to emergency service managers across Australia. Satellite information is accessed and processed by the Australian Centre for Remote Sensing, in Geoscience Australia, to provide the key information for the CSIRO-based Sentinel website. The mapping system allows users to identify fire locations that pose a potential risk to communities and property.</p> <p>Standards for fire mapping and database development need to be developed in conjunction with work being undertaken as part of</p>

	<p>the Disaster Mitigation Australia Package to develop a national risk assessment framework for natural hazards. This framework should include development and provision of models, data and decision support tools. The Disaster Mitigation Australia Package was recommended to COAG, along with other reform commitments and recommendations in the COAG report <i>Natural Disasters in Australia: Reforming Mitigation, Relief and Recovery Arrangements</i>. In the 2003-04 Budget the Australian Government announced new funding of \$68.5 million over 5 years for the Disaster Mitigation Australia Package. The Australian Government's commitment to the funding was conditional on the states and territories agreeing to the implementation of consistent risk assessment methodologies and a nationally consistent approach to data collection and analysis.</p> <p>The Bushfire CRC has a number of projects relating to smoke and its effects on the community and the fire fighters. The Bushfire CRC's smoke dispersion prediction project is already well advanced.</p> <p>Mr Gary Nairn – Comment Recommendation 14 –The CRC did not have funding for this project and while some related work was being done, I don't believe a national database has been prepared.</p> <p>Recommendation 15 –This was a project being undertaken by the CRC which should be completed.</p>
<p>Recommendation 16 The Committee recommends that the Bushfire Cooperative Research Centre monitor the effect of grazing on mitigating the</p>	<p>Government Response The Australian Government agrees in principle to these recommendations and requests that the Bushfire CRC</p>

return of woody weeds to recently fire effected areas across various landscapes including alpine and subalpine.

Recommendation 17

The Committee recommends that the Bushfire Cooperative Research Centre conduct further research into the long term effects and effectiveness of grazing as a fire mitigation practice.

Recommendation 18

The Committee recommends that the Bushfire Cooperative Research Centre conduct further research on the impact of weeds on the flammability of land and the most economically and environmentally appropriate way to remove weeds after fire events.

specifically address them as part of the work it will undertake with the additional \$3 million recently allocated by the Australian Government; it also understands that grazing has impacts beyond fire mitigation and that these need to be evaluated as a whole by land management agencies in developing grazing policies.

The Australian Government notes that the effect of weeds on the progression of wildfire will be captured under the Bushfire CRC's program looking at the understanding of fuel types.

It is also noted that Australian Governments will continue to implement actions under the National Weeds Strategy (launched June 1997) to eradicate weeds, including as appropriate, weed occurrences following a bushfire event. The Natural Resource Management Ministerial Council, through the Australian Weeds Committee of the Natural Resource Management Standing Committee is responsible for overseeing the implementation of the National Weeds Strategy (refer Recommendation 19).

Mr Gary Nairn – Comment

Recommendation 16 – Funding from the Federal Government was subsequently provided (2004) for a project in the Snowy Mountains. NSW National Parks and Wildlife Service would not allow access to Kosciuszko National Park for the research therefore research was carried out on private land in the Snowy Plains region which is surrounded by Kosciuszko National Park. Dr Mark Adams leads that research. It is still continuing but it requires further funding and applications to the Federal Government have been unsuccessful as far as I'm aware.

	<p>Recommendations 17 and 18 –Other than the project mentioned in relation to Recommendation 16, I am not aware of any other research in this area.</p>
<p>Recommendation 51</p> <p>The Committee recommends that (under Programs C and E) the Bushfire Cooperative Research Centre considers the following items as part of a national education program.</p> <ul style="list-style-type: none"> • Introducing bushfire skills training to schools and libraries. • Training various categories of emergency services personnel on their specific role in the event of a bushfire. • Ensuring that those in the fields of building, engineering, urban planning, forestry and science have a clear understanding of bushfire risk management including current related regulatory codes and legislation. • Counselling prospective land developers in bushfire prone areas on the risks and necessary protective planning. • Running adult education courses on protective planning (including insurance, building design and maintenance and defence techniques) in the context of bushfires. • Broadcasting protective planning issues through the media, television, Internet, radio and publications. • Structuring the community into groups and providing them with guidelines for launching an initial attack on a bushfire. • Enclosing brochures about bushfire protection with rates notices. 	<p>Government Response</p> <p>The Bushfire CRC has advised that it will consider all these items in developing its community education program. The major part of the Bushfire CRC's community education work will seek to enhance and complement the broad range of educational activities presently undertaken by state and territory agencies. The Australian Government is providing the CRC with an additional \$350,000 per annum over three years under the CRC Program to support these activities in regional areas.</p> <p>In part, Recommendation 51 has been addressed by the Prime Minister's announcement on 8 September 2004 of the allocation of \$6 million over three years (\$2 million per annum) towards the establishment of a Bushfire Awareness and Preparedness Day, managed by the Attorney-General's Department.</p> <p>It is noted that the COAG National Inquiry on Bushfire Mitigation and Management addresses the issue of school and community-based education in Recommendation 3.1 and related Finding 3.1. The Australian Government supports this recommendation.</p> <p>The Australian Government notes that COAG has requested that the Augmented Australasian Police Ministers' Council and the Ministerial Council on Employment, Education, Training and</p>

<ul style="list-style-type: none"> • Having a Bushfire Awareness and Preparedness Day (similar to Clean Up Australia Day) where the community is encouraged to undertake risk reduction with local governments coordinating the disposal of hazardous material. 	<p>Youth Affairs consider the implementation of Recommendation 3.1 and report back within 12 months. It has also requested the Augmented Australasian Police Ministers' Council to collect and share information on best practice in community bushfire education across jurisdictions in order to assist jurisdictions to adopt appropriate measures, having regard to particular risk factors and local conditions.</p> <p>Mr Gary Nairn – Comment Quite a number of these matters have been taken up in various ways including funding for a Bushfire Awareness and Preparedness Day, although I don't believe funding has been ongoing after the initial 3 year funding. Also, the experiences of the Victorian Bushfires indicate that these sorts of education and community awareness programs must continue on an ongoing basis.</p>
<p>Recommendation 53 The Committee recommends that the Commonwealth Bushfire Cooperative Research Centre's research and recommend property protection products and programs under Program D.</p>	<p>Government Response The Australian Government agrees with this recommendation and notes that the Bushfire CRC advises that it is examining these topics within the broad context of Program C which looks at the social impact and elements of preparedness of communities at risk. The Bushfire CRC's research outcomes on the effectiveness of this and other policies will assist to inform the debate.</p> <p>While the Bushfire CRC is not a testing authority, its work programs are contributing to improved understanding of the scientific basis for establishing codes and standards. The testing of products against fire and building standards is undertaken by</p>

	<p>several organisations such as the CSIRO.</p> <p>Mr Gary Nairn – Comment I understand substantial work was done by the CRC in this area.</p>
<p>Recommendation 59 The Committee recommends that Program E of the Bushfire Cooperative Centre, which is tasked with the development of the next generation of fire researchers and dissemination of the Centre’s work, be tasked further to collect and respond to feedback, particularly from the on ground volunteer levels of fire brigades, on the practicality of its outputs and their future requirements.</p>	<p>Government Response The Australian Government supports this recommendation and understands that the education program (Program E) of the Bushfire CRC will monitor the perceived effectiveness of all its outputs.</p> <p>Mr Gary Nairn – Comment Some work up to a certain level was done in this area.</p>
<p><i>Recommendations regarding the Council of Australian Governments (COAG)</i></p>	
<p>Recommendation 11 The Committee recommends that the Commonwealth seek to ensure that the Council of Australian Governments implements arrangements in which greater flexibility is devolved to local brigade captains in the issuing of permits to burn for fuel reduction and other purposes in the context of local fire management plans.</p> <p>Recommendation 13 The Committee recommends that the Commonwealth seek to ensure that the Council of Australian Governments seek agreement from the states and territories on the optimisation and implementation of prescribed burning targets and programs to a</p>	<p>Government Response In January 2005 COAG released its response to the <i>National Inquiry on Bushfire Mitigation and Management</i>.</p> <p>The Australian Government notes that COAG has asked the Augmented Australasian Police Ministers' Council and the Local Government and Planning Ministers' Council to work together to establish arrangements for sharing information and enhancing approaches to zoning and classification of fuel management areas. The Primary Industries Ministerial Council, the Natural Resource Management Ministerial Council and the Environment Protection and Heritage Council will also need to be consulted on this work to ensure consistency with approaches for the</p>

degree that is recognised as adequate for the protection of life, property and the environment. The prescribed burning programs should include strategic evaluation of fuel management at the regional level and the results of annual fuel management in each state should be publicly reported and audited.

management of environmental assets. The Augmented Australasian Police Minister's Council has been asked to report back to COAG within 12 months.

With regard to the role of brigade captains, while the proposal in Recommendation 11 is a matter for the states and territories, the Australian Government supports the recommendation and encourages relevant state and territory agencies to act on the recommendation.

The Australian Government is a significant land manager and contributor to national land management policy development and program implementation. The Australian Government recognises the principle that reducing the amount of fuel in a landscape reduces the risks associated with bushfires by the reduction in fire intensity and spread and assisting in suppression of the bushfires.

Prescribed burning regimes need to recognise the priority importance of the protection of life and property as well as the conservation of Australia's biodiversity, especially fauna and flora listed under the *Environment Protection and Biodiversity Conservation Act 1999*. The zoning approach should be implemented on all Australian Government owned and/or managed lands including national parks, and relevant Ministers will be asked to ensure this occurs.

The Australian Government agrees that the evaluation of the effectiveness of fuel reduction in reduction of risk to all assets needs to be given greater emphasis and priority. The Bushfire CRC is undertaking a major long term project on fuel reduction

and fire regimes to optimise risk management of all assets in the landscape.

While noting the COAG National Bushfire Inquiry finding that comparing targeted and actual annual gross area of fuel reduction within a state/region does not necessarily provide a good measure of risk reduction, nevertheless public reporting will assist communities to understand the extent of fuel reduction burning in their regions.

Inappropriate fire regimes (whether too infrequent, too frequent or too intense) can be a major threatening impact to biodiversity. In the case of lands managed by the Department of Defence, which constitute the greatest proportion of land owned by the Australian Government, inappropriate fire regimes can also result in training areas being unable to support preparedness training of the Australian Defence Force. These inappropriate regimes may also pose an unacceptable risk from wildfire to Defence facilities and infrastructure.

The Australian State of the Environment reports and the National Land and Water Resources Audit and other research support the conclusion that changed fire regimes are threatening ecosystems across Australia. Therefore, the Australian Government notes and supports the COAG National Bushfire Inquiry Report's findings that prescribed burning regimes need to be based on a shared understanding of the assets and the fire regime needs of the assets within the landscape. Moreover, prescribed burning regimes need to be managed in an adaptive style taking account of increasing knowledge of fire within the landscape.

	<p>Mr Gary Nairn – Comment The Commonwealth supported Recommendation 11, but basically said it was up to the states and territories. I don't believe the states and territories have made any significant changes in this regard since 2003.</p> <p>I believe Recommendation 13 is one of the most critical recommendations, and if it had been fully implemented following the 2003 fires some of the devastation in Victoria may have been averted. The recommendation hasn't been implemented and state authorities are still releasing dubious statistics.</p>
<p>Recommendation 6 The Committee recommends that the Commonwealth seeks to ensure that the Council of Australian Governments implements to a minimum standard adequate access to all public lands including wilderness areas of national parks</p> <p>Recommendation 9 The Committee recommends that the Commonwealth seeks to ensure that the Council of Australian Governments resolve to increase water access points for bushfire fighting on public land to the minimum national standard.</p> <p>Recommendation 10 The Committee recommends that the Commonwealth seeks to ensure that the Council of Australian Governments initiate consideration of the relaxation of restrictions on the movement of fire fighting equipment during declared emergencies.</p>	<p>Government Response The COAG National Bushfire Inquiry recommends that COAG adopt a statement of national principles as the framework for the future direction of bushfire mitigation and management in Australia. COAG has agreed to refer the draft national principles to the Augmented Australasian Police Minister's Council for further development. The Australian Government's Attorney-General will be asked to take these recommendations into account during the discussions on national principles.</p> <p>Access to state, territory and Australian Government owned and/or managed lands and national parks is generally outlined in plans of management developed to meet statutory requirements. The Australian Government believes that all jurisdictions, when developing plans of management for their respective national parks, wilderness and other public land ensure that appropriate definitions of access, including access to water, are included.</p>

	<p>Development of plans for national parks generally entails extensive public consultation and input, where appropriate. Plans are designed to protect the full range of assets, including management of risks associated with bushfire and the spread of weeds and disease. While the management of public lands owned by state, territory or local governments is a matter for those governments, the Natural Resource Management Ministerial Council <i>Directions for the National Reserve System – A Partnership Approach</i> (2005) provides for all national parks and other reserves in Australia to be managed in accordance with fire management plans which take into account the purpose of the reservation and management objectives of the reserve. The document notes that fire management plans need to consider, <i>inter alia</i>, public safety, the ecological role of fire, asset protection, landscape effects of fire and indigenous use of fire.</p> <p>Mr Gary Nairn – Comment Recommendations 6 and 9 were to be referred to Police and Attorney-General Ministerial Councils but if no national standard has been developed then no implementation will have occurred.</p> <p>Recommendation 10 was referred to Police and Attorney-General Ministerial Councils and should have been dealt with, but I don't know the outcome.</p>
<p>Recommendation 19 The Committee recommends that the Commonwealth seeks to ensure that the Council of Australian Governments develop a mechanism that ensures that appropriate measures are taken by</p>	<p>Government Response Australian Governments will continue to implement actions under the National Weeds Strategy (launched June 1997) to eradicate weeds, including as appropriate, weed occurrences</p>

<p>public and private land managers for the eradication of weeds following a bushfire event.</p>	<p>following a bushfire event. The National Resource Management Ministerial Council, through the Australian Weeds Committee of the National Resource Management Standing Committee is responsible for overseeing the implementation of the National Weeds Strategy.</p> <p>The next Primary Industries Ministerial Council and Natural Resource Management Ministerial Council meetings will be on 26 and 27 October 2005 respectively. It is anticipated that any work referred to the Ministerial Councils from COAG would go forward to the October meetings. The Australian Government will seek to ensure that these matters are considered at these upcoming meetings.</p> <p>Mr Gary Nairn – Comment A commitment was given and numerous related projects have continued, but I suspect no reporting by the states and territories on this subject has occurred.</p>
<p>Recommendation 20 The Committee recommends that the Commonwealth work with the states and territories through the proposed Council of Australian Governments to review the response to bushfires to ensure that principles of fire prevention and rapid and effective initial attack are adopted and implemented by all rural fire authorities and public land managers.</p> <p>Recommendation 25 The Committee recommends that the Commonwealth seek to ensure that the Council of Australian Governments seek the</p>	<p>Government Response The Australian Government supports these recommendations and acknowledges the importance of national principles for bushfire mitigation and management which underpin existing approaches and set a framework that jurisdictions should work towards.</p> <p>Such principles need to emerge from a process of consultation. Draft principles have been agreed by COAG as a starting point with further consultation and any amendments necessary to be undertaken over the next twelve months, overseen by the Augmented Australasian Police Ministers' Council. A report and</p>

<p>adoption by all states and territories of multi-agency protocols and agreements for fire management, similar to those in force in Tasmania.</p>	<p>recommendations on endorsement of a final set of principles will then be made to COAG.</p> <p>While ultimately the protocols and agreements adopted in any particular state or territory for the management of bushfires are a matter for that state or territory, the Australian Government strongly recommends the approaches outlined in Recommendations 20 and 25 with particular reference to effective initial attack on fires.</p> <p>Mr Gary Nairn – Comment Recommendation 20 was strongly supported by the Commonwealth and was taken to COAG. I don't believe it has been specifically introduced throughout rural fire services across Australia.</p> <p>Recommendation 25 was also supported by the Commonwealth, but I am not aware of any states and territories that have done anything towards putting in place this recommendation. Certainly Victoria hasn't, as conflict between agencies has been highlighted at the Victorian Royal Commission.</p>
<p>Recommendation 21 The Committee recommends that the Commonwealth seeks to ensure that the proposed Council of Australian Governments review of the bushfire management initiate with the states, as a priority, a review of the responsibilities and potential liabilities of fire controllers with a view to developing principles of indemnification for reasonable, responsible and informed decision making. This review should extend to defining</p>	<p>Government Response The Australian Government understands and supports the intentions behind these recommendations. While it notes that the COAG National Inquiry on Bushfire Mitigation and Management found that existing state and territory legislation dealing with occupational health and safety is sound and that the effort required to achieve a nationally uniform approach is not warranted, every opportunity should be taken to ultimately</p>

responsibility for occupational health and safety requirements in a way which allows practicable compliance where a reasonable degree of risk taking is urgently required to prevent the loss of life, property and environmental amenity from wildfire.

Recommendation 54

Further to recommendation 21 in chapter 4, the Committee recommends that the Commonwealth seeks to ensure that the proposed Council of Australian Governments review of the bushfire management, initiate with the states and territories, as a priority, a review of the duty of care of public and private landowners and their potential liability. This should be done with a view to developing clear and consistent principles that cover (but are not limited to) the following:

- Timely replacement/ repair of loss/damage (including to fences) resulting from fire fighting operations, suppression activities or wildfires.
- The liability of councils that imprudently approve the sale of land.
- The responsibilities and potential liabilities of fire controllers with a view to developing principles of indemnification for reasonable, responsible and informed decision making (including occupational health and safety).

achieve uniformity. The Australian Government will ensure that such a goal remains part of any future involvement of its Ministers. In other areas where volunteer firefighters may be liable, the COAG Inquiry was satisfied that volunteers do not face greater exposure than other citizens, but called on the states and territories to maintain a process of review, to ensure that judicial interpretations are reflected in policy and procedures and that volunteers are not disadvantaged, particularly when they deploy interstate.

Mr Gary Nairn – Comment

Some work has been done in these specific areas without any move towards uniformity across Australia.

Recommendations regarding the Natural Heritage Trust (NHT)¹

¹ The House of Representatives Select Committee on the Recent Australian Bushfires refers to the Natural Heritage Trust as the National Heritage Trust.

Recommendation 7

The Committee recommends that the Commonwealth through the National Heritage Trust assist the states and territories in the construction, maintenance and signage of fire trail networks.

Recommendation 12

The Committee recommends that the Commonwealth through the National Heritage Trust, offer assistance to the states and the ACT to develop specific prescribed burning guides, at least to the quality of Western Australia, for national parks and state forests throughout the mainland of south eastern Australia.

Recommendation 58

The Committee recommends that the Commonwealth require state and territory governments to have in place comprehensive bushfire management plans as a pre-requisite for accessing funding from the National Heritage Trust and like programs.

Government Response

Recommendation 7 has been addressed by the Prime Minister's announcement on 8 September 2004 of the establishment of a \$15 million Bushfire Mitigation Fund over three years (\$5 million per annum), to contribute to the construction, maintenance and signage of fire trail networks. The Bushfire Mitigation Fund is being managed through the Department of Transport and Regional Services.

The objective of the Natural Heritage Trust, as outlined in the *Natural Heritage Trust Act 1997*, is to repair and replenish Australia's natural capital infrastructure. The Trust's operations and investments focus on the repair and enhancement of Australia's natural environment and the sustainable management of its natural resources.

The COAG National Inquiry on Bushfire Mitigation and Management recognises the important role of fire management in achieving sustainable landscape management objectives and commends the Natural Heritage Trust's support for a wide range of projects that are improving fire management, mitigation and recovery. Topics include: scientific knowledge of fire regimes and impacts on biodiversity; fire management planning and practices; rehabilitation of fire trails; bushfire recovery; threatened species recovery and habitat restoration; and indigenous fire knowledge and practices.

The Inquiry further notes the good progress being made in addressing appropriate fire management practices and bushfire risk management planning through regional natural resource

	<p>management plans supported by the Natural Heritage Trust.</p> <p>Australian and state and territory governments ensure that natural resource management regional plans developed under the NHT are consistent with nationally agreed strategies as they relate to the objectives of the Trust. Recommendation 14.1 of the COAG National Inquiry on Bushfire Mitigation and Management recommends the adoption by COAG of a statement of national principles as the framework for the future direction of bushfire mitigation and management in Australia. Following national agreement of principles for bushfire mitigation and management, all Governments would ensure that new regional natural resource management plans are consistent with relevant elements of these principles.</p> <p>Further, the Natural Resource Management Ministerial Council has endorsed principles for managing protected areas in Australia, as reflected in the Directions for the National Reserve System – A Partnership Approach, statement of 2005. Consistent with this statement, the states and territories have agreed to develop management plans, including fire management plans, within 3 years. In addition, finding 6.12 of the COAG National Inquiry on Bushfire Mitigation and Management stated that 'Natural resource management regional plans developed under the Natural Heritage Trust should take bushfire management into account and be consistent with the bushfire risk management process.' All governments acknowledged this finding.</p> <p>A further opportunity to encourage appropriate consideration of fire management needs in natural resource management planning</p>
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	<p>will arise in the development of natural resource management funding arrangements to operate after conclusion of the current arrangements in June 2008.</p> <p>Mr Gary Nairn – Comment Recommendation 7 was implemented in 2004 with funding for 3 years. I'm unaware whether it has continued under the current administration. It is very difficult for predominantly local councils to continue this work without assistance from the states and Commonwealth.</p> <p>In relation to Recommendation 12, some work was done via the NHT, but in my view none have been completed to WA's standard.</p> <p>Recommendation 58 was never adequately implemented and NHT programs finished in 2008. Programs such as Caring for our Country should now be examined in this regard.</p>
<p><i>Recommendations regarding spatial information</i></p>	
<p>Recommendation 31 The Committee recommends that Geoscience Australia take responsibility, in conjunction with Emergency Management Australia, for developing a national spatial data policy to coordinate the development of data systems, the collection of data and the sharing of data between all the emergency response agencies across Australia, and that both agencies participate in the development and delivery of spatial information systems as</p>	<p>Government Response The Australian Government agrees that national consistency in datasets is essential for addressing an all-hazards approach to risk management, including bushfire risk.</p> <p>A wide range of data needs to be captured in order to full rationalise the entire emergency management process. This includes post-disaster data relating to the impact and recovery</p>

part of a national approach to emergency planning and management data. The first priority in policy development and of systems should be related to bushfire hazards.

Recommendation 32

The Committee recommends that Emergency Management Australia be required to participate in the development and delivery of spatial information systems as part of a national approach to emergency planning and management data. The first priority in policy development and of systems should be related to bushfire hazards.

Recommendation 33

The Committee recommends that the 1:100,000 national mapping program be accelerated to achieve an average life of no greater than 10 years with priority given to those areas most susceptible to national disasters.

from present-day or historical events, as well as basic exposure and vulnerability data to assess the potential impact of future events. This work needs to be coordinated with the activities identified and discussed under Recommendations 1, 3, 5, 8 and 14.

The Australian Government will continue to develop national consistency in national datasets relevant to bushfire mitigation and management under the Australian Spatial Data Infrastructure framework.

Mapping priorities will be developed in close collaboration with the national database needs addressed in Recommendations 1, 3, 5, 8 and 14. The Minister for Industry, Tourism and Resources will be requested to take Recommendation 33 into account when preparing forward budgeting.

Mr Gary Nairn – Comment

In some respects Recommendation 31 is being carried out through the Office of Spatial Data Management (OSDM) within Geoscience Australia. However, it does not have the funding to effectively fully implement the recommendation and therefore the optimum situation for national spatial information is some way off.

Recommendation 32 –These matters are still being addressed within the states and territories without any national approach.

Recommendation 33 – Some work has been done but the 10 year goal has not yet been achieved.

<p>Recommendation 23</p> <p>The Committee recommends that the Commonwealth, through the Council of Australian Governments and the Australasian Fire Authorities Council, initiate an overhaul of the incident management systems used by bushfire agencies in Australia to better incorporate local knowledge and expertise and better understanding of the needs and circumstances of local rural communities in the management of major fire events.</p> <p>The Committee also recommends that this overhaul should aim to:</p> <ul style="list-style-type: none"> • refine the system to facilitate setting up simple command and control structures, closer to the fire ground, in tune with the ever changing local fire ground conditions and needs of local communities; • include training of incident management personnel on how to engage and involve local people in planning and management of fires; • establish national models for community fire planning and provide for the integration of community fire plans into incident management; and • include national reporting of the success of incident management of fires as a means of auditing the cost effectiveness or incident operations. <p>Recommendation 24</p> <p>The Committee recommends that the state and territory bushfire agencies ensure that, on a district basis, communications are addressed within the district operations plans and that the plans</p>	<p>Government Response</p> <p>The Australian Government strongly supports the adoption of a nationally agreed Australian Inter-service Incident Management System (AIIMS) Incident Control System, while recognising operational issues such as the incident management systems used by bushfire authorities in Australia are matters for the states and territories.</p> <p>The Australasian Fire Authorities Council is currently working with member agencies towards the development of a national system for multi-agency incident coordination, using the (AIIMS) Incident Control System as the basic building block. All fire services have agreed to the national adoption of the recently reviewed AIIMS and also all state emergency services have confirmed, through the Australian Council of State Emergency Services, that they will adopt the AIIMS on a phased state by state basis. Recommendations 23 and 30 will be addressed as part of that process.</p> <p>The Australian Government understands that the Australasian Fire Authorities Council has recognised the need for standard operating procedures for aircraft operations (Recommendation 30).</p> <p>The AIIMS Incident Control System potentially allows for the identification and integration of local knowledge during fire fighting operations. Increased use of local knowledge would be more related to training in the value of this information and organisational cultural changes in accepting the value of local</p>
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<p>are capable of easy adoption to incident action plans.</p> <p>Recommendation 30 The Committee recommends that in changing the incident management systems as proposed in recommendation 23 above all bushfire agencies review concerns about difficulties in communicating operational information from the fire front to air operations.</p> <p>Recommendation 37 The Committee recommends that Emergency Management Australia work through the Australasian Fire Authorities Council to ensure that:</p> <ul style="list-style-type: none"> • A greater emphasis be placed on pre-incident and incident preparation of communication plans as a means of ensuring effective interoperability between agencies at command and tactical levels. • That the speed of transfer of operational information between agencies at command level be regularly monitored to ensure that operational objectives are not being compromised. 	<p>knowledge than occurs in the currently documented process. While this is primarily a state and territory issue, the Australian Government strongly endorses this report's emphasis on the need for utilisation of local knowledge and encourages all jurisdictions to adopt this approach.</p> <p>The COAG National Inquiry on Bushfire Mitigation and Management has also recognised this issue in Recommendation 8.2 relating to further development of the AIIMS system.</p> <p>Mr Gary Nairn – Comment Recommendation 23 – I understand that the Australasian Fire Authorities Council did address this recommendation but I am unaware how far it has been taken.</p> <p>Recommendation 24 – I'm uncertain as to implementation of this recommendation.</p> <p>Recommendation 30 – I understand technology developments have assisted substantially in improving these communications.</p> <p>Recommendation 37 – Some work has been done in this area through the Australian Inter-service Management System (AIIMS) but I understand full interoperability has still not been achieved.</p>
<p><i>Recommendations regarding communications</i></p>	
<p>Recommendation 34 The Committee recommends that Emergency Management</p>	<p>Government Response The Australian Government agrees in principle to these</p>

Australia and the Australian Communications Authority jointly with the Australasian Fire Authorities Council:

- Initiate an urgent review on a district basis, of the suitability of the current allocated radio spectrum to ensure that as far as possible, fire fighter safety is not being compromised through inadequate communications.
- Commit to the development, in conjunction with representative bodies of all emergency services, to a National Strategic Radio System.
- That the coordination of the deliberations be assigned to Emergency Management Australia.

Recommendation 41

The Committee recommends that Emergency Management Australia request the Australasian Fire Authorities Council to:

- Determine protocols and standards on a national basis for the adoption and implementation of mobile data services by all fire fighting agencies with a view to ensuring national compatibility.
- Consider the development of a 'closed user group', utilising satellite telephony, as an interim measure for achieving interoperability between member agencies on a national level.

recommendations, in particular the objective of developing a National Strategic Radio System, and the issues raised will be directed to the National Coordinating Committee for Government Radiocommunications (NCCGR), which is tasked with developing and maintaining a national strategic plan for Government radiocommunications. The NCCGR consists of representatives of the Australian Government and all state and territory governments.

The Australian Government, through the Australian Communications and Media Authority's participation in the NCCGR, gives effect to its acceptance in 2002 of Recommendation 6a of the 'Radiocommunications Review Report', that the Australian Communications and Media Authority provide technical assistance if state and territory emergency and police services seek to cooperate in establishing a national emergency services network.

Mr Gary Nairn – Comment

Recommendation 34 – While problems still occurred in this area during the Victorian bush fires, technology has progressed substantially since the 2003 Inquiry, therefore the Senate should investigate current technology opportunities to solve these problems.

Recommendation 41 – I recall that this was taken up by AFAC shortly following the release of my report (as reported to me by the Chair of AFAC), however, I don't believe national compatibility has been achieved. In fact I don't believe there can be full compatibility until the development of a national Spatial Data Infrastructure (SDI), which is much needed 'smart infrastructure' not yet recognised by organisations such as Infrastructure Australia.

Recommendation 35

The Committee recommends that:

- As a short term objective, the use of '40' channel UHF CB equipment be adopted for coordination and interoperability of communications at fire ground level.
- As a longer term objective a national communications plan be developed and incorporate the provision of low powered VHF channel allocations for the purpose of ensuring compatible fire ground communications between all agencies on a national basis.
- That the use of UHF CB between units on the fire ground be included in communications planning for intra-state and interstate deployments.

Government Response

With regard to the Citizen Band Radio Stations (CB) elements of this recommendation, the Australian Communications and Media Authority has advised that UHF CB radio is an open informal uncoordinated low-cost radiocommunications application that can be used by anyone in Australia. While anyone can use the Class Licensed CB radio spectrum, there are no provisions to reserve any particular channel for emergency service use. That lack of coordination and control might make CB unsuitable for emergency or safety communication purposes. There is the possibility that other users may not respond to emergency calls for assistance or not behave in a responsible manner at critical times (anti-social behaviour is known to occur among some users of CB radio equipment).

The Australian Communications and Media Authority has allocated specific channels in the UHF band (450 to 470 MHz) for exclusive use by police and emergency services. The Government is working with the NCCGR regarding access to, and use of, these channels for interoperable communications between agencies in times of national emergencies and natural disasters.

The remaining element of this recommendation relating to VHF communications and objectives of a national communications plan will be referred to the NCCGR.

Mr Gary Nairn – Comment

While problems still occurred in this area during the Victorian bush fires, technology has progressed substantially since the 2003 Inquiry, therefore the Senate should investigate current technology opportunities to solve these problems.

Recommendation 36

The Committee recommends that Emergency Management Australia and the Australian Communications Authority work with state and territory bush fire authorities to ensure that that district communication plans have regard for the amount of radio traffic that may be generated under the most severe conditions.

Recommendation 38

The Committee recommends that Emergency Management Australia and the Australian Communications Authority, in conjunction with the respective state and territory governments, ensure the survivability of essential communication installations during fire incidents by strategic fuel management around the assets.

Government Response

The Australian Government acknowledges the importance of good communications plans when severe events such as bushfires occur. Therefore, state and territory emergency service organisations which have responsibility in this area must adequately manage their dedicated networks on the ground during and incident to avoid congestion.

Although the issues raised in Recommendation 36 are a state and territory responsibility, they should be considered by the NCCGR. Through the Protective Security Coordination Centre as the Australian Government member of the NCCGR, Emergency Management Australia, as an observer to the National Coordinating Committee, will pursue the objectives of Recommendation 36.

While generally the issues raised in Recommendation 38 are a state and territory responsibility, the Department of Communications IT and the Arts and Emergency Management Australia will bring this matter to the attention of the National Committee for Critical Infrastructure Protection, where consideration will be given as to whether the matter needs to be passed to the Communications Sector Infrastructure Assurance Advisory Group for advice on the current plans of telecommunication providers to protect their installations during fire incidents. It should be noted that communications issues were also addressed in the COAG directed National Bushfire Inquiry.

Mr Gary Nairn – Comment

Recommendation 36 – This is also a matter that should be assessed in the light of new technology.

	<p>Recommendation 38 – This recommendation was referred to the National Committee for Critical Infrastructure Protection and subsequently highlighted to state and territory authorities.</p>
<p>Recommendation 39 The Committee recommends that the Commonwealth investigate, and where necessary, require the urgent enhancement of the provision of emergency power and telecommunications services for the purpose of restoring essential services expeditiously in areas affected by fire or other natural disaster and where necessary to place licence requirements on telecommunication providers to do so.</p>	<p>Government Response The Australian Government recognises that public networks are already designed for business continuity with redundancy and a high degree of resiliency. Providers have a capacity (although this is clearly dependent on the incident and level of damage etc.) to respond to provide extra communications capacity.</p> <p>The Australian Government does not support the proposal to require power and telecommunications providers (as part of licence conditions) to enhance existing backup power and telecommunications systems across their entire networks as this would place very significant cost burdens on providers and, consequently, consumers. For example, costs may be incurred due to provision of additional facilities in the case of telecommunications. However, further improvements to bushfire mitigation and management practices and procedures are being pursued by all jurisdictions, through the responses to the COAG Natural Disasters in Australia report and the COAG National Inquiry on Bushfire Mitigation and Management.</p> <p>Mr Gary Nairn – Comment As the placing of licence conditions was not supported by the Commonwealth there was no action taken on the second part of this recommendation. I'm unaware of any other actions with respect to the first part.</p>
<p>Recommendation 40</p>	<p>Government Response</p>

<p>The Committee recommends that, for the purpose of communications for the police, ambulance and fire brigades, any rental costs associated with the use of radio sites under the care, control or management of the Commonwealth, state, territory or local government be waived, other than for the ongoing cost associated with the use of power at the site.</p>	<p>The Australian Communications and Media Authority provides radiocommunications licence fee concessions and exemptions for certain emergency and safeguarding-of-life bodies where those bodies are staffed principally by volunteers and meet other specified criteria. While the decision to waive costs for any user of a radio site is a commercial decision for the owner of that site, the Australian Government, at the earliest opportunity, will discuss this issue with relevant parties, including through the NCCGR. The Australian Government encourages site owners to favourably consider requests by emergency service clients to waive some costs during times of emergency, in recognition of the public good provided to the community by such groups.</p> <p>Mr Gary Nairn – Comment As many operators could be involved with this recommendation it is difficult to know to what extent it has been addressed.</p>
<p><i>Recommendations regarding volunteers</i></p>	
<p>Recommendation 27 The Committee recommends that:</p> <ul style="list-style-type: none"> the Commonwealth implement a program similar to the Army Reservist Employer Support Program for the re-imburement of costs incurred by employers of volunteer fire fighters when attending bush fires for a period exceeding five days in any month; and the Commonwealth consult with the states and territories through Council of Australian 	<p>Government Response The Australian Government acknowledges the vital and significant contribution emergency services volunteers make to the safety and well-being of Australian society. Recognition is an important part of volunteering but the Australian Government recognises that proposals that seek to provide financial recognition for volunteers may not always be consistent with the volunteer ethos.</p> <p>The Australian Government does not endorse the proposal for payment to the employers of emergency services volunteers similar to the Army</p>

Governments to develop a range of measures related to local government rates, state government charges and insurance costs to provide rebates for registered volunteer fire fighters.

- the Commonwealth consider the feasibility of taxation relief on costs incurred by registered fire fighting volunteers in the line of duty.

Recommendation 28

The Committee recommends that the Commonwealth Government work with the Australasian Fire Authorities Council to review the insurance cover provided to volunteer fire fighters in all states and territories and ensure that cover is adequate for loss of life or injury and related loss of income and property lost in the line of duty.

Reservist Employer Support Program, due to the difficulties in implementing such a scheme and the potential inequities. The Australian Government notes that this position is consistent with the view expressed in the report of the COAG National Inquiry on Bushfire Mitigation and Management.

It is worth noting that the Australian Government already provides generous tax concessions to emergency services organisations. Emergency services or search and rescue teams consisting of volunteers and voluntary organisations such as bush fire brigades, which have as their central purpose the provision of direct relief to disadvantaged people, may qualify as Public Benevolent Institutions (PBIs). This will be the case there they are not arms of government and subject to government control. As PBIs, emergency services organisations are entitled to a number of tax concessions, such as income tax exemption, fringe benefit tax exemption and deductible gift recipient status.

In recognition of the valuable work of government emergency service coordination bodies, the Australian Government has introduced legislation to extend deductible gift recipient support to the coordinating bodies for fire and emergency services in each state and territory. If an organisation is a deductible gift recipient, donors are able to claim a tax deduction for most gifts made to the organisation provided that certain conditions are met.

The Australian Government acknowledges the need for greater non-monetary recognition of volunteers but does not support the proposal for tax concessions for individuals.

It is noted that the Australian Government has announced funding of \$16 million over four years to establish a National Emergency Volunteer Support Fund. This fund will boost the recruitment, skills and training base of volunteer organizations at the front line of emergency management. Arrangements for the establishment of this Fund are well advanced, and the development of those arrangements has involved active consultation with states and territories and other stakeholders, including the Australasian Fire Authorities Council.

Tax Concession Proposal

While acknowledging the important work undertaken by emergency services volunteers, the Australian Government does not consider it appropriate for it to provide financial assistance in recognition of their out-of-pocket expenses. Also, as previously stated to the COAG National Inquiry on Bushfire Mitigation and Management, the Australian Government does not consider that tax concessions are the appropriate mechanism for providing this assistance.

The Australian Government notes that volunteer emergency services organisations are primarily funded by state and territory governments and, depending on the management of the individual organisation, volunteers may already be compensated for their out-of-pocket expenses. The Australian Government does not support an additional Commonwealth outlays program that would ensure direct reimbursement, as such a program would go against the principle of volunteering; that is, the contribution to the community is the motivation and reward for participating in the activity. This was acknowledged in submissions made to the House of Representatives Select Committee by various volunteer fire brigades including Volunteer Fire Brigades Victoria.

The Australian Government notes that tax deductions are generally considered to be inferior to outlays measures in encouraging behavioural change, as the degree of benefit an individual received from a tax deduction is dependent on the marginal tax rate they face and therefore their income. Similarly, tax rebates can generally only benefit people who pay tax. Any volunteers who do not pay tax would generally not be able to access a benefit provided in this form. Also, an income tax concession would impose a cost on the Australian Government for what is primarily a state and territory government matter.

The Australian Government considers that if income tax concessions were available to emergency services volunteers only, it is likely that there would be pressure to extend them to other volunteer groups. The proposal may generate a significant cost to revenue. Further, the Australian Government notes that such a proposal may have considerable impact on the Australian Taxation Office's administration of allowable deductible expenses and add greater complexity to the tax system.

The Australian Government notes that issues concerning volunteers raised by the report *Natural Disasters in Australia: Reforming Mitigation, Relief and Recovery Arrangements*, endorsed in principle by COAG (Recommendation 58) will be taken forward by the Australian Emergency Management Committee.

In particular, in relation to Recommendation 28 of the Nairn Inquiry regarding insurance cover to volunteer fire fighters, Recommendation 58 (c) of the *Natural Disasters in Australia: Reforming Mitigation,*

	<p><i>Relief and Recovery Arrangements</i> Report asks, <i>inter alia</i>, that state and territory governments:</p> <ul style="list-style-type: none"> • review and compare the legal protections provided in their legislation to determine whether it offers adequate cover for both volunteers and their organisations; and • consider providing assistance with the provision of public liability insurance for emergency management volunteer organisations. <p>Mr Gary Nairn –Comment Recommendation 27 – This recommendation has not been acted upon.</p> <p>Recommendation 28 – I'm not aware of any changes that may have occurred.</p>
<p><i>Recommendations regarding insurance and charges</i></p>	
<p>Recommendation 42 The Committee strongly recommends that the New South Wales, Victorian and Tasmanian Governments abolish the Fire Levy tax they impose on home and business insurance premiums (wherever applicable), making it payable through household rates instead.</p> <p>Any cost savings gained by the insurance industry through relief from collecting Fire Levies should be passed on to policyholders through reduced premiums. At the same time the Committee urges the Insurance Council of Australia to</p>	<p>Government Response Fire Levy taxes are levied by state and territory governments. In relation to Recommendation 44, the Australian Government considers it appropriate that state and territory governments consider providing exemptions for emergency services volunteers.</p> <p>In regard to Recommendation 42, the Australian Government agrees that state and territory governments should reduce or eliminate inefficient and inequitable taxes. The Australian Government Treasurer wrote to the state and territory Treasurers on 11 September 2003 in regard to the HIH Royal Commission recommendation that</p>

<p>run ongoing education campaigns to increase public awareness on bushfire preparedness, including the need for insurance.</p> <p>Recommendation 44</p> <p>The Committee suggests that registered volunteer fire fighters be exempt from paying Fire Levy tax to help offset some of the expense they incur during active duty. The exemption could be for a period of 12 months following each bushfire season in which they are proven to have fought fires.</p>	<p>state and territories abolish fire services levies on insurers.</p> <p>Mr Gary Nairn – Comment</p> <p>While Recommendation 42 was supported by the Commonwealth and steps were taken to encourage states and territories to do so I am note sure where there has been universal change. However, I am aware that in some locations, fire levies on insurance policies have been replaced by an Emergencies Levy as part of rates (eg. Snowy River Shire Council).</p> <p>Recommendation 44 – I'm not aware whether any Local Government Councils have taken this step.</p>
<p>Recommendation 43</p> <p>The Committee recommends that taxes on insurance premiums be calculated only on the premium in order to eliminate the current cascading cost.</p>	<p>Government Response</p> <p>While this issue is the responsibility of the state and territory governments, the Australian Government supports the recommendation and strongly encourages state and territory governments to change their current policies. The GST has provided the states and territories with increased revenues and they should not be resorting to "tax on tax" methodologies to further increase revenues.</p> <p>General insurance polices such as household and fire insurance are subject to GST in the same manner as other goods and services. Under the <i>A New Tax System (Goods and Services Tax) Act 1999</i>, GST does not apply to taxes that states and territories charge on insurance policies.</p> <p>However, the level of state taxes and the calculation of these taxes is determined by the states and territories. It is a matter for individual</p>

	<p>states and territories to decide whether their taxes are levied on a GST inclusive or exclusive price of the premium.</p> <p>Mr Gary Nairn – Comment I believe some changes have been done in some states but not universally.</p>
<p>Recommendation 45 The Committee recommends that the Insurance Council of Australia coordinates a public education campaign aimed at illustrating the importance of asset protection and how this can be achieved (that is, insurance products).</p> <p>Recommendation 46 The Committee recommends that insurance companies ensure that potential and existing policyholders are aware of the need to regularly review their insurance policies to prevent undervaluing. This could be done through renewal notices and quarterly reminders. This should include a list of bushfire risk reduction measures that policyholders can implement to decrease the cost of their premium.</p>	<p>Government Response The Australian Government supports attempts to ensure that the insurance industry takes account of lessons learnt regarding the level of under-insurance and the treatment of policy holders during the recent bushfires.</p> <p>The Insurance Council of Australia is currently reviewing its Code of Practice. The Minister for Revenue and Assistant Treasurer will write to the Council drawing its attention to these recommendations.</p> <p>Mr Gary Nairn – Comment Recommendation 45 – The insurance industry has certainly increased its understanding of bushfire risks following the 2003 bushfire Inquiries but the Senate Committee will need to ascertain from the Insurance Council of Australia as to its specific involvement in public education campaigns that have occurred.</p> <p>Recommendation 46 – All major insurance companies have taken a number of steps in this regard and are gradually utilising technology such as Geographic Information Systems (GIS) to better analyse bushfire risks when determining policy premiums.</p>
<p><i>Recommendations regarding building construction</i></p>	

Recommendation 47

The Committee recommends that Standards Australia incorporate building maintenance into AS3959–1999: Construction of Buildings in Bushfire Prone Areas, perhaps renaming it as AS3959–1999: Construction and Maintenance of Buildings in Bushfire Prone Areas.

Recommendation 49

The Committee recommends that Standards Australia review the clarity of AS3959–1999: Construction of buildings in Bushfire Prone Areas to ensure that all relevant stakeholders can interpret and apply the Standard in the way it is intended.

Recommendation 50

The Committee recommends that Program D of the Commonwealth Bushfire Cooperative Research Centre examines the (pending) outcome of the ABCB’s review of the existing Building Code of Australia bushfire provisions (including Standard AS3959–1999) to determine their adequacy and the ways in which compliance can be better managed. This should include extending its scope to cover existing buildings and those that are not in areas declared as bushfire prone, yet still on the urban-rural interface and therefore, potentially at risk.

Government Response

The Australian Government supports these recommendations and considers that the Australian Building Codes Board should place priority on its current review of the Building Code of Australia provisions and Standard AS 3959.

The Australian Building Codes Board, in conjunction with Standards Australia and with advice from the Bureau of Meteorology, is currently reviewing the existing Building Code of Australia provisions and Standard AS 3959 to ensure they are practical, effective, reflect good regulatory principles and informed by the latest scientific knowledge. The Australian Building Codes Board is a core participant of the Bushfire CRC and will direct research within the Bushfire CRC to aid the development of the provisions for construction in bushfire-prone areas.

The Minister for Industry, Tourism and Resources will write to the Australian Building Codes Board, identifying the review as a priority and reinforcing both the urgency for, and benefits of, encouraging Standards Australia to complete the revision of the Australian Standard that follows the COAG *Principles and Guidelines for National Standard Setting and Regulatory Action by Ministerial Councils and Standard-Setting Bodies* and its enactment through the Building Code of Australia. In his letter the Minister will ask the Board to resolve as soon as possible any other outstanding issues relating to the building code and natural hazards including bushfires and he will refer the Board to Recommendations 47, 49 and 50 of the report.

Mr Gary Nairn – Comment

	<p>Recommendations 47 and 49 – I'm aware that the Australian Building Codes Board issued a Regulatory Impact Assessment in 2009 for a proposed amendment to AS 3959-1999, however, I don't believe the amendment has been finally put in place.</p> <p>Recommendation 50 – I understand work in this area has been done by the Bushfire CRC but the current status is unknown to me.</p>
<p>Recommendation 48 The Committee recommends that state and territory governments be required to regularly perform risk assessments to the land within their jurisdictions to ensure that bushfire prone areas are accurately identified and can be appropriately managed. This should include possibly prohibiting, or at least limiting, reticulated development in these areas. If building is effectively prohibited on land previously zoned for residential or commercial building, state and territory governments, in conjunction with local councils, should adequately compensate the affected landholders.</p>	<p>Government Response The Australian Government supports this recommendation and encourages the states and territories to continue improving bushfire risk assessment through the implementation of the reform commitments and recommendations in the COAG report <i>Natural Disasters in Australia: Reforming Mitigation, Relief and Recovery Arrangements</i>. In particular, Reform Commitment 4 states that governments should:</p> <p style="padding-left: 40px;"><i>take action to ensure more effective statutory State, Territory and Local Government land use planning, development and building control regimes that systematically identify natural hazards and include measures to reduce the risk of damage from these natural hazards.</i></p> <p>Reform Commitment 4 and Recommendations 12, 13, 14 and 15 of the COAG <i>Natural Disasters in Australia: Reforming Mitigation, Relief and Recovery Arrangements</i> Report are currently being addressed through the Local Government and Planning Ministers' Council. The Australian Government is also providing training in risk based land use planning through Emergency Management Australia.</p>

	<p>Mr Gary Nairn – Comment While states and territories will claim they comply with the first part of Recommendation 47, scrutiny will reveal they fall short of a comprehensive assessment. As the same constitutional requirement for compensation on just terms that applies to the Commonwealth does not apply to the states and territories I doubt there is an example of the second part being implemented.</p>
<p><i>Recommendations regarding miscellaneous actions</i></p>	
<p>Recommendation 22 The Committee recommends that the Commonwealth Attorney-General engage the Commonwealth, states and territories in a review of occupational health and safety legislation as it affects the proper and effective functioning of bush fire services.</p>	<p>Government Response The Australian Government agrees that the occupational health and safety concerns of volunteers are important issues.</p> <p>As noted under Recommendation 54, the Australian government notes that Finding 12.2 of the COAG National Inquiry on Bushfire Mitigation and Management found that existing state and territory legislation dealing with occupational health and safety is sound and that the effort required to achieve a nationally uniform approach is not warranted. Ongoing review of the issue was proposed.</p> <p>Occupational health and safety issues concerning volunteers were also raised in Recommendation 58 of the COAG Report: <i>Natural Disasters in Australia: Reforming Mitigation, Relief and Recovery Arrangements</i> and will be addressed by the reconstituted Australian Emergency Management Committee, chaired by the Attorney-General's Department.</p> <p>During the 2004 election, the Australian Government announced a commitment of \$16 million over four years to establish a National</p>

	<p>Emergency Volunteer Support Fund. This fund will boost the recruitment, skills and training base of volunteer organisations at the front line of emergency management. Arrangements for the establishment of this Fund are well advanced, as noted earlier.</p> <p>Matters raised in this recommendation will be included as an agenda item at the next meeting of the Australian Emergency Management Committee, with particular reference to the state and territory review processes.</p> <p>Mr Gary Nairn – Comment This is ongoing with the states and territories which have responsibility. They would need to be approached as to the current situation.</p>
<p>Recommendation 26 The Committee recommends that Emergency Management Australia initiate a process involving Australasian Fire Authorities Council and the Australian Assembly of Volunteer Fire Brigades Association to review the coordination of cross border fire fighting arrangements and interstate deployment of fire fighting resources. The review should specifically consider training on the full range of equipment and procedures likely to be encountered, standardisation of equipment and procedures, communication and the provision of information about local characteristics such as access to water.</p>	<p>Government Response The Australian Government supports the improvement in cross-jurisdiction arrangements and improvements in inter-operability and standardisation of equipment. It is noted that through the Australian Emergency Management Committee process there has been the development of a paper <i>Guidelines for the Provision of Support Between States</i>. While issues related to standardisation remain the responsibility of the states and territories, Emergency Management Australia will work with the Australasian Fire Authorities Council through the Emergency Management Committee to overcome any inconsistencies.</p> <p>The Australian Government, through the Australian National Training Authority, has played a role in identifying standards for mitigation against fire and emergencies. These standards have been nationally</p>

	<p>agreed after extensive consultation with stakeholders and are being used for training purposes. The standards allow for training in specific pieces of equipment and differing circumstances and cover management as well as operational skills. The standards also allow for local legislative and regulatory requirements as well as being able to be used for training on equipment used locally. Procedures are documented in training support material developed to support implementation of the standards. However the standards do not and cannot accommodate or prescribe the use of standardised equipment where this has not been agreed nationally.</p> <p>Mr Gary Nairn – Comment Some work has been done between jurisdictions with respect to cross border assistance but there is still no national standard on equipment and other matters.</p>
<p>Recommendation 29 The Committee recommends that the Commonwealth should commit funding for aerial fire fighting beyond the 2003–04 season on the proviso that the Australasian Fire Authorities Council and the state and territory governments make a commitment to:</p> <ul style="list-style-type: none"> • Rapid initial attack of all wildfires during the bush fire season regardless of tenure. • Deployment on long term contracts of a mix of aircraft, including fixed wing. • Deployment of aircraft on a nationally coordinated risk analysis basis to be updated as each fire season unfolds. 	<p>Government Response The Australian Government believes that the investment in aerial firefighting must be utilised effectively. This includes the use of appropriate aircraft at the appropriate time during a fire event. The Australian Government has already announced further funding for the National Aerial Fire Fighting Centre of \$5.5 million per annum for the three years 2004-05 to 2006-07. The Department of Transport and Regional Services will require detailed acquittal of the Australian Government's contribution to aerial firefighting resources to ensure the most effective use of aircraft.</p> <p>The decision to attack fires using aerial firefighting equipment is solely that of the jurisdiction with "ownership" of the fire. The National Aerial Firefighting Centre has no role in making this type of decision,</p>

- Provision of nationally coordinated full ground support.
- Development of training arrangements for air crews, ground support crews, incident management teams and fire fighters to a national standard.
- Development of systems of effective aerial control of fire bombing operations.

although the new "national" arrangements allow for a more flexible movement of resources between jurisdictions in response to their requests.

The mix aircraft in the national pool is determined by the needs of states and territories taking account their individual firefighting requirements and budgetary constraints. This process is centrally coordinated by the National Aerial Firefighting Centre to enable the best mix of aircraft using economies of scale within budget constraints.

Deployment of aircraft is decided by states and territories in conjunction with the National Aerial Firefighting Centre prior to each season, taking into account their perceived and immediate fire risk. This is reviewed annually prior to each fire season with the needs of each state and territory being taken into account by National Aerial Firefighting Centre as part of its planning process.

Ground support for each aircraft is a requirement of the current "wet" lease arrangements, ie. a service is leased not jus the aircraft.

It is understood that training arrangements are in place as part of Australasian Fire Authorities Council training Resource Kit for aviation. This is based on the National Public Safety Training Package as part of the national competency framework.

Systems for aerial control of fire bombing operations have been in place for some time as part of the suite of tools for firefighting. In addition, the Bushfire CRC will be undertaking research evaluating effectiveness of aircraft and the results of that research will be considered by the Australasian Fire Authorities Council.

	<p>Mr Gary Nairn – Comment Further funding from the Commonwealth was forthcoming, covering up to and including 2006-07, however there were no provisos along the lines of the recommendation.</p>
<p>Recommendation 52 The Committee recommends that the Australasian Fire Authorities Council’s suggested evacuation protocol be adopted by all of the Australian states and territories.</p>	<p>Government Response The Australian Government notes the importance of clear advice for residents during a bushfire and supports this recommendation. It is important that the message of "go early or stay and defend" is communicated carefully because in relation to other disasters it may not be appropriate to allow a resident to stay.</p> <p>The Bushfire CRC is examining these issues within the broad context of Program C of its research which looks at the social impact and elements of preparedness of communities at risk. The Bushfire CRC's research outcomes will help inform the development of policy in this area.</p> <p>Recommendation 8.7 of the COAG National Inquiry on Bushfire Mitigation and Management also addresses the issue of a "go early or stay and defend" policy.</p> <p>COAG has asked the Augmented Australasian Police Ministers' Council and the Australian Emergency Management Committee to consider the implementation of a nationally consistent approach and provide guidance to jurisdictions on issues related to community information, training, warnings and evacuations for disaster situations.</p> <p>Mr Gary Nairn – Comment</p>

	<p>The debate on this issue that followed the Victorian bushfires is indication enough of how little notice was taken of this report by the states and territories following its release in 2003.</p>
<p>Recommendation 55 The Committee recommends that the functions and administration of Emergency Management Australia be reviewed to develop an organisation that is proactive and involved in the development and implementation of national policy on emergency response.</p>	<p>Government Response The Department of Transport and Regional Services is the Australian Government agency with principal responsibility for natural disaster policy matters, including natural disaster relief and mitigation in the form of financial assistance to the states and territories; the Attorney-General's Department (including Emergency Management Australia) is responsible for Australian Government emergency management.</p> <p>The endorsement in principle of the High Level Group Report <i>Reforming Mitigation, Relief and Recovery Arrangements</i> has involved Emergency Management Australia heavily in the establishment of, and support for, the high level governance of emergency management in Australia. This will involve Emergency Management Australia at all levels of National policy development, where appropriate. Further, Emergency Management Australia is a member of the National Counter Terrorism Committee and the Australian Government Counter Terrorism Policy Committee, thereby involving Emergency Management Australia in the development of national security related policy. Through these means, Emergency Management Australia is involved pro-actively in the integration of crisis and consequence management, in an all hazard context. Evidence of this was recently tested by Emergency Management Australia bringing consequence management issues to the fore during Tsunami Assist.</p> <p>The current arrangements are supported in finding 8.1 of the COAG National Inquiry on Bushfire Mitigation and Management which states</p>

	<p>that "The current all-hazards control and coordination arrangements at the national and state and territory levels are adequate for the operational management of bushfires in Australia".</p> <p>Mr Gary Nairn – Comment While this recommendation was not implemented as such, the government at the time believed EMA was actively involved through its home department in these matters.</p>
<p>Recommendation 56 The Committee recommends in acknowledgement of the expertise that the Commonwealth can bring to the Australasian Fire Authorities Council and of funding already supplied to the Council for the development of a National Aerial Firefighting Strategy, that the current status of Emergency Management Australia on AFAC as an associate member be upgraded to full membership and that full membership also be extended to the Department of Defence.</p>	<p>Government Response Emergency Management Australia became a full member of the Australasian Fire Authorities Council in October 2003 and represents the Australian Government on the Council. The Department of Defence is a member of three Australasian Fire Authorities Council committees.</p> <p>Mr Gary Nairn – Comment EMA is now a full member and the Department of Defence is a member of AFAC committees.</p>
<p>Recommendation 57 The Committee recommends that the Department of Transport and Regional Services review its record keeping practices to show the type of emergency for which assistance is provided through the Natural Disaster Relief Arrangements.</p>	<p>Government Response The Department of Transport and Regional Services is currently reviewing the Natural Disaster Relief Arrangements in light of recommendations related to the arrangements made in the COAG Report: <i>Natural Disasters in Australia: Reforming Mitigation, Relief and Recovery Arrangements</i>, accepted by all Australian Governments in December 2003. The Committee's recommendations will be given particular consideration as part of that review.</p> <p>Mr Gary Nairn – Comment This was done, but it would be useful to know how this is now handled</p>

	following departmental structural changes in recent years.
Council of Australian Governments National Inquiry into Bushfire Mitigation and Management (2004)	
<p>Recommendation 3.1 Learning how to live with fire The Inquiry recommends that state and territory governments and the Australian Government jointly develop and implement national and regionally relevant education programs about bushfire, to be delivered to all Australian children as a basic life skill.</p> <p>These programs should emphasise individual and household preparedness and survival as well as the role of fire in the Australian landscape.</p> <p>Program effectiveness should be audited by each state and territory after five years, with a national report to be provided to the Council of Australian Governments.</p>	<p>COAG Response COAG supports Recommendation 3.1 which is aimed at integrating bushfire education into school education. Jurisdictions provided examples to the Inquiry to show that much work has already been done both in schools and within the community. COAG considers it important that attention be given to how bushfire education can be properly integrated into the school curriculum, although conscious of the range of competing pressures. Due regard also needs to be paid to the development of high quality resource materials and other support for teachers. COAG will request that the Augmented Australasian Police Ministers' Council and the Ministerial Council on Employment, Education, Training and Youth Affairs, with reference to the National Resource Management Ministerial Council, consider the implementation of the recommendation and report back to COAG within 12 months.</p> <p>Community bushfire education outside schools is significant but more difficult to formalise. COAG will request that the Augmented Australasian Police Ministers' Council collect and share information on best practice in community bushfire education across jurisdictions in order to assist jurisdictions to adopt appropriate measures, having regard to particular risk factors and local conditions.</p>
<p>Recommendation 4.1 The risk management process</p>	<p>COAG Response COAG agrees that a structured risk management process offers the best</p>

<p>The Inquiry recommends that a structured risk-management process based on the Australian Standard for Risk Management be further developed and applied in all aspects of bushfire mitigation and management, informed by a thorough understanding of the full range of assets.</p>	<p>framework for making strategic and operational decisions about bushfire mitigation and management and supports the call in Recommendation 4.1 for the further development and application of structured approaches in each state and territory.</p> <p>The Department of Transport and Regional Services, through Geoscience Australia, is developing a national risk assessment framework, together with models, tools and databases for sudden-impact natural hazards. Hazards of immediate interest include earthquake, flood, severe wind and bushfire. The process will develop a thorough understanding of environmental, biodiversity and heritage assets. A key objective is to develop risk assessment capabilities to enable the comparison of risk from these hazards across hazards and across regions so that risk treatment options can be optimised against a common understanding and common measures of risk.</p> <p>COAG notes that such work may have some resource implications and that jurisdictions are able to explore the use of funding provided under the Natural Disaster Mitigation Program, where appropriate.</p>
<p>Recommendation 5.1 Research, information and analysis The Inquiry recommends the provision of additional resources jointly by the Australian Government and the state and territory governments for the following purposes:</p> <ul style="list-style-type: none"> to accelerate the research necessary for the characterisation of fuel loads and dynamics for Australian ecosystems (both natural and exotic), the characterisation of fire behaviour and ecological responses, the development of ‘burning guides’ from 	<p>COAG Response COAG supports the research proposed in recommendation 5.1 and notes that research on many of these areas is already being undertaken by a number of bodies including the CSIRO, Geoscience Australia and the Bushfire Cooperative Research Centre under its program covering <i>Safe Prevention, Preparation and Suppression</i>. Such ecological research is long term with time frames extending in excess of 10 years and is also central to the activities of the Natural Resource Management Ministerial Council.</p>

this information, and the compilation of this information and knowledge in nationally accessible databases; and

- the establishment of a national network of long-term ecological research sites to provide a basis for long-term monitoring of the impacts of fire regimes and fire events.

COAG will request that the Bushfire Cooperative Research Centre provide advice jointly to the Augmented Australasian Police Ministers' Council, the Natural Resource Management Ministerial Council and the Primary Industries Ministerial Council on the proposals to accelerate research into fuel loads and dynamics, fire behaviour and ecological responses, the development of burning guides and the compilation of these data into accessible databases, as well as the proposal for a national network of ecological research sites. The Centre, which is itself currently undertaking research of fire regimes and the impact of fire on ecosystems and ecological processes, will be asked to provide advice on whether there is any need for additional sites or further resources to address long-term impacts. It will need to consult with other bodies such as the CSIRO, the Bureau of Rural Sciences and Geoscience Australia, in drawing together its advice. COAG will request the Augmented Australasian Police Ministers' Council and the Natural Resource Management Ministerial Council to coordinate advice on the need for additional sites, how they might be administered and any resourcing requirements.

COAG also notes the importance of Finding 5.3 of the Report which highlights the role of the Bureau of Meteorology in providing high quality locally-specific weather information and forecasting services. Jurisdictions expressed some concern at the apparent withdrawal of some observation stations by the Bureau as a result of resource pressures and the gaps this could leave in local forecasting capacity. The Australian Emergency Management Committee will seek advice from jurisdictions about perceived gaps in local fire weather forecasting services as a basis for a discussion with the Bureau.

The Committee shall report the outcome of those discussions, options

	<p>for addressing any identified problem areas and resource implications to the Augmented Australasian Police Ministers' Council for consideration.</p>
<p>Recommendation 5.2 The Inquiry recommends that the Australian Government and the state and territory governments jointly provide additional resources and work in partnership to establish and refine a national program of fire regime mapping.</p>	<p>COAG Response COAG agrees on the importance of a nationally consistent framework that would allow fire regime data to be shared between jurisdictions. A national approach would focus on standards, coordination, responsibilities and resourcing. As the Report noted, pioneering work has been done in this area by the Western Australian Department of Land Information and the Tropical Savannas Cooperative Research Centre and is complemented by the work of the CSIRO through its Sentinel project and work in other jurisdictions.</p> <p>Building on this expertise COAG will request the Augmented Australasian Police Ministers' Council, in consultation with the Natural Resource Management Ministerial Council and the Primary Industries Ministerial Council, to bring forward a proposal with the assistance of the Australia New Zealand Land Information Council within 12 months, which addresses the scope to enhance consistency and rate of mapping with regard to standards and responsibility for the work in each jurisdiction. COAG notes that such work may have some resource implications and that jurisdictions are able to explore the use of funding provided under the Natural Disaster Mitigation Program, where appropriate.</p>
<p>Recommendation 5.3 The Inquiry recommends that the Australian Government and the state and territory governments continue to develop national consistency in data sets relevant to bushfire</p>	<p>COAG Response COAG recognises the existing work in all jurisdictions toward the collection of relevant bushfire data sets and the initiative being undertaken at the national level by Geoscience Australia, under the</p>

<p>mitigation and management under the Australian Spatial Data Infrastructure framework, and within this context, identify and resource national bushfire data set coordinators.</p>	<p>Disaster Mitigation Australia Package, to develop consistent data for natural disasters. COAG will request the Augmented Australasian Police Ministers' Council to engage the assistance of the Australia New Zealand Land Information Council in the development of proposals to enhance consistency in bushfire data collections, noting that each jurisdiction will consider the appropriate mechanism for coordinating data.</p>
<p>Recommendation 5.4 The Inquiry recommends that the Australian Government, in partnership with the states and territories and relevant research organisations, develop a strategy for sustaining bushfire research and capacity building, in the context of a risk-management approach to bushfire mitigation and management.</p>	<p>COAG Response COAG supports strongly the importance of ongoing bushfire research and capacity building arrangements and recognises the need to consider the issue beyond the life of the Cooperative Research Centres. The Bushfire Cooperative Research Centre was established in December 2002 and began its work in July 2003. It is in the early stages of its work and is funded until 2010. The Bushfire Cooperative Research Centre aims to develop a comprehensive and overarching understanding of the behaviour and danger of bushfires, gives local differences in vegetation, land management and weather.</p> <p>COAG recognises the recent increased investment in bushfire research and the focus on coordination which includes, but is not limited to, the Bushfire Cooperative Research Centre. Other bodies engaged in bushfire-related research include the Tropical Savannas, Desert Knowledge and Spatial Information Cooperative Research Centres, the CSIRO, Geoscience Australia, the Forest and Ecosystem Science Institute, Victoria, the Arthur Rylah Institute for Environmental Research, the University of South Australia, Australian National University, Melbourne University, University of Tasmania, Griffith University, Charles Darwin University, Deakin University and the University of Western Sydney. While it may be too early to decide on the future form of the ongoing research capacity required, the</p>

	<p>Augmented Australasian Police Ministers' Council is well placed to monitor the workings of bushfire research arrangements and the performance of research agencies drawing on information such as programmed reviews. COAG will request the Augmented Australasian Police Ministers' Council to develop a proposal for ongoing research timed no later than the five year review programmed for the Bushfire Cooperative Research Centre.</p>
<p>Recommendation 6.1 Risk modification The Inquiry endorses the recommendations in the Natural Disasters in Australia Report relating to disaster mitigation through land use planning and development controls and recommends that the states and territories continue to make their advisory and statutory measures more effective.</p>	<p>COAG Response Land use planning which takes account of natural hazard risks has been recognised as the single most important mitigation measure for preventing future losses from natural disasters. Work is already underway in the Local Government and Planning Ministers' Council to address this issue and the Augmented Australasian Police Ministers' Council is likely to become involved. COAG strongly supports Recommendation 6.1 and will request a report on progress through the Augmented Australasian Police Ministers' Council, within twelve months.</p>
<p>Recommendation 6.2 The Inquiry recommends that the review of the Building Code of Australia, with particular reference to the <i>Construction of Buildings in Bushfire Prone Areas Standard</i>—to deal with resistance to natural hazards, including bushfires—be completed by the Australian Building Codes Board as a matter of priority.</p>	<p>COAG Response COAG is concerned by the Report's observation concerning the delay in the review of the building code and in particular the <i>Construction of Buildings in Bushfire Prone Areas Standard AS3959</i> by Standards Australia. COAG supports Recommendation 6.2 and notes that the Australian Government Minister for Industry Tourism and Resources will write to the Board identifying this review as a priority and reinforcing both the urgency for, and benefits of, encouraging Standards Australia to complete the revision of the Australian Standard that follows COAG's <i>Principles and Guidelines for National Standard Setting and Regulatory Action by Ministerial Councils and Standard-Setting Bodies</i> and its enactment through the Building Code of</p>

	Australia. The Board will be asked to resolve as soon as possible any other outstanding issues relating to the building code and natural hazards, including bushfires.
<p>Recommendation 6.3</p> <p>All states and territories should have a zoning approach to the classification of fuel management areas, with clear objectives for each zone. The process should be applied at the landscape scale, and all land managers and the community should be involved.</p>	<p>COAG Response</p> <p>COAG supports Recommendation 6.3. All jurisdictions reported that work is underway in this area. COAG recognises that zoning approaches may help to maximise the effectiveness of strategic prescribed burning. The Augmented Australasian Police Ministers' Council and the Local government and Planning Ministers' Council will work together on this recommendation with a view to establishing arrangements for sharing information and enhancing approaches to zoning and classification of fuel management areas. The Primary Industries Ministerial Council, the Natural Resource Management Ministerial Council and the Environment Protection and Heritage Council may also need to be consulted on this work. The Augmented Australasian Police Ministers' Council shall report back to COAG within 12 months.</p>
<p>Recommendation 6.4</p> <p>The Inquiry recommends that fire agencies, land managers and researchers continue to work in partnership with Indigenous Australians to explore how traditional burning practices and regimes can be integrated with modern practices and technologies and so enhance bushfire mitigation and management in current Australian landscapes.</p>	<p>COAG Response</p> <p>COAG supports Recommendation 6.4, noting that traditional burning practices would have particular significance in some landscapes. Individual jurisdictions will continue efforts in this area drawing on the work undertaken by bodies such as the Tropical Savannas Cooperative Research Centre.</p>
<p>Recommendation 7.1</p> <p>Readiness</p>	<p>COAG Response</p> <p>COAG agrees that the electronic and print media have an important</p>

<p>The Inquiry recommends that each state and territory formalise non-exclusive agreements with the Australian Broadcasting Commission as the official emergency broadcaster, providing an assured standing arrangement. Similar protocols with commercial networks and local media should also be established.</p>	<p>role in informing the community about bushfire mitigation and management in preparation for each bushfire season and in providing up-to-date information during bushfire events.</p> <p>Recommendation 7.1 calls for non-exclusive agreements with the Australian Broadcasting Corporation as the official emergency broadcaster and similar protocols with commercial networks and local media. COAG supports the recommendation and notes that all jurisdictions are working towards formalising agreements with the Australian Broadcasting Corporation. COAG also supports the extension of these arrangements to commercial networks where feasible.</p> <p>Additionally, COAG notes that there are series issues of consistent information and cross-border overlap and coordination and that the Australian Emergency Management Committee is already working to address these as a priority.</p>
<p>Recommendation 8.1 The Inquiry recommends that implementation of a single Incident Control System for the management of multi-agency emergency incidents be further examined by the Australian Emergency Management Committee, with a view to developing one nationally agreed system.</p> <p>Recommendation 8.2 The Inquiry recommends that the AIIMS Incident Control System be adjusted so that it adequately allows for the identification and integration of local knowledge during firefighting operations.</p>	<p>COAG Response A lesson learnt from the recent bushfires is that maximising effective response is a priority. The Report's recommendations in this area recognise the vital importance of control and coordination through the Australian Inter-service Incident Management System (AIIMS) Incident Control System. All fire services have agreed to the national adoption of the recently reviewed AIIMS and also all state emergency services (SES) have confirmed, through the Australian Council of State Emergency Services, that they will adopt AIIMS on a phased state by state basis.</p> <p>COAG supports Recommendation 8.1. The AIIMS has been adopted</p>

<p>Recommendation 8.3 The Inquiry recommends that a central function of the AIIMS Incident Control System be the flow of adequate and appropriate information to threatened communities, government, police and other emergency services authorities. The incident controller should have overall responsibility for this.</p> <p>Recommendation 8.4 The Inquiry recommends that all Australian fire authorities adopt and continue to use the AIIMS Incident Control System in accordance with Australasian Fire Authorities' Council guidance and policies.</p>	<p>by some emergency services agencies in all jurisdictions although further work, through the Australian Emergency Management Committee will be necessary. The work of the Australasian Fire Authorities' Council in providing the framework for cooperation between jurisdictions has been essential.</p> <p>COAG supports Recommendation 8.2 that the system be adjusted to include local knowledge during firefighting operations. COAG notes the progress in all jurisdictions to identify and integrate local knowledge into firefighting operations.</p> <p>COAG supports Recommendation 8.3 and notes that each jurisdiction is moving to implement the recommendation including the training of appropriate personnel. Jurisdictions will address training as a priority.</p> <p>With regard to Recommendation 8.4, COAG notes that all Australian fire services have adopted and continue to use the AIIMS Incident Control System in accordance with Australasian Fire Authorities' Council guidance and policies.</p> <p>COAG will request the Augmented Australasian Police Ministers' Council to monitor progress by jurisdictions in relation to Recommendations 8.1 to 8.4 and report on progress within 12 months.</p>
<p>Recommendation 8.5 The Inquiry endorses the recommendations on warning systems in the report: <i>Natural Disasters in Australia</i>. In addition, it recommends as follows:</p> <ul style="list-style-type: none"> • that all fire ban advice and subsequent 'bushfire threat warnings' related to specific fires be conveyed 	<p>COAG Response Effective warnings are essential in mitigating and managing bushfires and other natural disasters. The <i>Natural Disasters in Australia</i> Report, prepared for COAG in 2002, placed considerable emphasis on warning systems in its recommendations and these have been accepted in principle by COAG.</p>

<p>consistently in all states and territories, including the use of the Standard Emergency Warning Signal when lives or property are threatened; and</p> <ul style="list-style-type: none"> • that the final structure of the warnings be based on the findings of the Bushfire Cooperative Research Centre's project Communicating Risk to Communities and Others. 	<p>COAG supports Recommendation 8.5 concerning the adoption of nationally consistent procedures for conveying fire ban advices and bushfire threat warnings. Action will be coordinated through the Australasian Fire Authorities' Council, in collaboration with the Bureau of Meteorology, towards achieving standardisation of fire ban advices.</p> <p>COAG notes the work currently being carried out under the auspices of the Australian Emergency Management Committee to develop draft guidelines for the use of the Standard Emergency Warning Signal when lives and/or property are threatened.</p> <p>COAG will request a progress report on these areas from the Augmented Australasian Police Ministers' Council within twelve months.</p>
<p>Recommendation 8.6</p> <p>The Inquiry recommends that the Australian Government maintain leadership of and support for the National Aerial Firefighting Centre for a further three years, until the Bushfire Cooperative Research Centre has finalised its research into the effectiveness of aerial suppression operations.</p>	<p>COAG Response</p> <p>The Australian Government has already announced funding of \$16.5 million for the National Aerial Firefighting Centre (\$5.5 million per annum for the three years 2004-05 to 2006-07).</p>
<p>Recommendation 8.7</p> <p>The Inquiry recommends as follows:</p> <ul style="list-style-type: none"> • that the approach that gives residents the option of leaving when confronted by a major bushfire threat or making an informed decision to stay and defend their home or property be adopted as a common 	<p>COAG Response</p> <p>COAG recognises the importance of clear advice for residents during a bushfire, but notes that the message of 'go early or stay and defend' needs to be communicated carefully because in relation to other disasters it may not be appropriate to allow a resident to stay. The Augmented Australasian Police Ministers' Council will consider how</p>

<p>national policy; and</p> <ul style="list-style-type: none"> that implementation of a 'go early or stay and defend' policy must be fully integrated, with effective community education programs to improve preparedness and support timely and informed decision making. <p>Provision of training for fire, police and emergency services personnel in the application of the 'go early or stay and defend' policy is essential if this approach is to be applied safely—with particular emphasis on minimising evacuations at the height of fire events. This should be supported by formal agreements between the relevant authorities.</p>	<p>to implement a nationally consistent approach and provide guidance to jurisdictions on issues related to community information, training and warnings for disaster situations.</p>
<p>Recommendation 9.1</p> <p>The Inquiry recommends that the <i>Australian Emergency Manual—disaster recovery</i> be updated as a matter of priority by Emergency Management Australia, in consultation with the states and territories, the Australian Local Government Association, the Department of Transport and Regional Services and the Department of Family and Community Services, to incorporate:</p> <ul style="list-style-type: none"> the lessons learnt from the recovery programs undertaken in relation to the recent major bushfires; and the outcomes of by the Community Services Ministers' Advisory Council's review of community support and recovery arrangements. 	<p>COAG Response</p> <p>The Report points out that recovery from major bushfires is little different from recovery from any other natural disaster and so should be considered, wherever possible, from an all-hazards perspective.</p> <p>An updated version of the nationally agreed framework for recovery, the <i>Australian Emergency Management Manual – disaster recovery</i> was published in September 2004. The Manual will be further reviewed over 18 months to address issues which emerge from the Community Services Ministers' Advisory Council's Review of community support and recover arrangements, COAG's High Level Report <i>Natural Disasters in Australia: Reforming Mitigation, Relief and Recovery Arrangements</i> and COAG's <i>National Inquiry on Bushfire Mitigation and Management</i>.</p>
<p>Recommendation 9.2</p> <p>The Inquiry recommends that the Insurance Council of</p>	<p>COAG Response</p> <p>COAG notes the Inquiry's observations about significant levels of non-</p>

<p>Australia be asked to review the industry’s code of practice in response to the lessons learnt from the claims arising from the 2002–03 bushfires.</p>	<p>insurance and in particular under-insurance, and the need for the insurance industry to provide improved and more consistent advice to policy holders.</p> <p>There are also lessons to be learnt from the performance of the insurance industry including the need to provide comprehensive information and the balance between prompt settlement of claims and a cooling off period to allow for consideration and review of settlement offers.</p> <p>COAG supports the recommendation to raise these issues with the insurance industry. The Australian Government will write to the Insurance Council of Australia asking that a review of the industry's code of practice take account of the lessons learnt from the claims arising for the 2002-03 bushfires. This approach is consistent with actions planned in relation to COAG's Natural Disasters report.</p>
<p>Recommendation 10.1 Governance and coordination The Inquiry recommends that the Australian Government formalise the coordination of the development of policy on bushfire mitigation and management across Australian Government departments and agencies and the provision of advice to the Australian Emergency Management Committee and the augmented Australasian Police Ministers’ Council.</p>	<p>COAG Response Administrative arrangements put in place by the Australian Government involve a number of agencies in the various aspects of policy and operational work in relation to disaster mitigation, response and recovery. This reflects the diversity of functions and skills involved. The Australian Government expects these agencies to continue to work collaboratively to ensure the provision of coordinated advice to Government and to inter-jurisdictional bodies such as the Australian Emergency Management Committee and the Augmented Australasian Police Ministers' Council.</p>
<p>Recommendation 10.2 The Inquiry recommends that the Australasian Fire</p>	<p>COAG Response COAG supports Recommendation 10.2. The Australian Emergency</p>

<p>Authorities Council be co-opted as an adviser to the Australian Emergency Management Committee whenever bushfire mitigation and management are to be discussed.</p>	<p>Management Committee has recognised the value of advice that the Australasian Fire Authorities' Council can provide on fire-related issues, including bushfire mitigation and management. The operating arrangements agreed to by the Committee include express provision to coopt representatives of the Council when that would assist on discussion of relevant issues.</p>
<p>Recommendation 11.1 Knowledge, learning and training The Inquiry recommends that the Australian National Training Authority establish a National Safety and Security Skills Council to continue the development and administration of the Public Safety Training Package, including competencies and qualifications relevant to bushfire mitigation and management.</p>	<p>COAG Response COAG acknowledges the importance of the development of arrangements to ensure availability of appropriate training for those involved in protection of public safety. The Public Safety Training Package which is funded by the Australian National Training Authority contains some 52 units of competency dealing with fire and 49 units covering emergency services. These units range in scope from operational to management and are directly linked to appropriate qualifications. The units have been developed after extensive consultations with peak bodies. The Package is reviewed regularly with scope to make changes to accommodate the latest technologies, additional skills or best practices. The skills areas identified by the Inquiry are covered by an Industry Skills Council and are sufficient to ensure the aims of Recommendation 11.1 are met.</p>
<p>Recommendation 11.2 The Inquiry recommends that the states and territories and the Australian National Training Authority provide additional funding, as necessary, to registered training organisations to support the development and delivery of learning and training resources to all firefighters.</p>	<p>COAG Response COAG agrees that the need for appropriate training is essential and all jurisdictions will consider the resourcing of training needs as part of their normal budget processes.</p>
<p>Recommendation 11.3 The Inquiry recommends that the Australasian Fire</p>	<p>COAG Response COAG supports the need for national coordination of leading practice</p>

<p>Authorities' Council and Emergency Management Australia—in partnership with state and territory agencies and other education and research institutions—coordinate a national program of professional development focused on bushfire mitigation and management. Under the program, partners would deliver nationally coordinated professional development services to all jurisdictions.</p>	<p>examples of professional development and recognises the work already being done by the Australasian Fire Authorities' Council and Emergency Management Australia in offering a range of programs in generic and specialist areas including emergency management and leadership development. COAG will direct the Augmented Australasian Police Ministers' Council to oversee the implementation of a nationally coordinated program.</p>
<p>Recommendation 11.4 The Inquiry recommends that the Council of Australian Governments support and fund the establishment of an Australian Centre for Bushfire Lessons Learnt, for an initial period of five years.</p>	<p>COAG Response The Report highlights the importance of ensuring that lessons learnt from bushfires should be shared. COAG supports a mechanism, possibly internet-based, to disseminate relevant data, resources, reports etc, on lessons learnt from bushfires. This need not involve the establishment of a new agency, as the function could be adopted as an additional role of an existing organisation and potentially collocated with an agency such as the Australasian Fire Authorities' Council, Emergency Management Australia or research organisations such as the Bushfire Cooperative Research Centre.</p> <p>COAG will direct the Augmented Australasian Police Ministers' Council to develop this proposal further for consideration by jurisdictions in 2005, identifying any additional resources that may be required and focussing initially on bushfires but with consideration given to other hazards in due course. COAG notes the work currently being undertaken by the Tropical Savannas Cooperative Research Centre to act in this capacity in regard to fire management in northern Australia (including northern Western Australia, Queensland and the Northern Territory).</p>
<p>Recommendation 12.1</p>	<p>COAG Response</p>

<p>Rural fire service volunteering</p> <p>The Inquiry recommends that an opportunity for reimbursement of out-of-pocket expenses should be available for each volunteer rural fire agency. In addition, the Council of Australian Governments should decide on the question of tax concessions as raised in the paper prepared by PKF Chartered Accountants on behalf of the Western Australian Government.</p>	<p>COAG endorses strongly the Inquiry's acknowledgement of the vital and significant contribution emergency services volunteers make to the safety and well-being of Australian society. Recognition is an important part of volunteering but COAG recognises that proposals that seek to provide financial recognition for volunteers may not always be consistent with the volunteer ethos.</p> <p>Some jurisdictions have mechanisms for the provision of out-of-pocket expenses for volunteers but these are atypical and, in some cases, are limited.</p> <p>COAG considers the matter of recognition for volunteers be acknowledged as a general issue for consideration by individual governments. Further work to clearly identify what is currently done to recognise volunteers and what else might be done to strengthen recognition shall be undertaken by the Augmented Australasian Police Ministers' Council with assistance from the Australasian Fire Authorities' Council, with a progress report on best practice to be provided to COAG within twelve months.</p>
<p>Recommendation 13.1</p> <p>Reviewing performance</p> <p>The Inquiry recommends that the states and territories agree to a common set of national bushfire indicators of good practice, based on the five mitigation and management factors it has identified—the 5Rs. These indicators, together with an assessment against the proposed national bushfire principles, would provide a consistent framework for review and reporting in each state and territory.</p>	<p>COAG Response</p> <p>COAG supports the need for a common set of national bushfire indicators of best practice. Some jurisdictions raised concerns about changing terminology from a PPRR (Prevention, Preparedness, Response and Recovery) approach to a 5 Rs (Research information and analysis, Risk modification, Readiness, Response and Recovery) model, noting that the existing approach already forms the basis for reporting to the Productivity Commission, but agreed that a common set of indicators could be used irrespective of the terminology adopted.</p>

	<p>The indicators would need to reflect the proposed national bushfire mitigation and management principles and COAG will request that the development of indicators be pursued by the Augmented Australasian Police Ministers' Council in conjunction with work on the principles over the next twelve months. Such work will need to draw on support from the Australian Emergency Management Committee and the Australasian Fire Authorities' Council. Individual jurisdictions will make decisions on how best to use the indicators for reporting and review of bushfire mitigation and management.</p>
<p>Recommendation 14.1 National principles for bushfire mitigation and management The Inquiry recommends that the Council of Australian Governments adopt a statement of national principles as the framework for the future direction of bushfire mitigation and management in Australia.</p>	<p>COAG Response COAG agrees on the importance of national principles which underpin existing approaches and set a framework that jurisdictions may wish to work towards.</p> <p>Such principles need to emerge from a process of consultation. The draft principles that have been identified could be agreed as a starting point with further consultation and any amendments necessary to be undertaken over the next twelve months, overseen by the Augmented Australasian Police Ministers' Council. A report and recommendations on endorsement of a final set of principles will then be made to COAG.</p> <p>At the same time the Augmented Australasian Police Ministers' Council and the Natural Resource Management Ministerial Council will be asked to look at the development of common indicators which reflect the principles, recognising that individual jurisdictions will make decisions about how best to use such indicators for reporting and review.</p>

Inquiry into the 2002-03 Victorian Bushfires

<i>Recommendations</i>	<i>Victorian Government Response</i>
<p>The changing Victorian environment Recommendation 2.61 That DSE and CFA as part of their long term planning, and in conjunction with the Commonwealth Bureau of Meteorology, consider ways in which evidence for climate change and El Niño–Southern Oscillation cycle impacts on the likelihood of unplanned fire, can be better incorporated into preparedness and response planning.</p>	<p>Accepted in principle. Climate change evidence is difficult to assess due to annual variability. DSE, CFA and the Bureau of Meteorology will pursue this through the new Bushfire Cooperative Research Centre (CRC).</p>
<p>Weather conditions before and during the fires of 2002-03 Recommendation 6.38 That DSE institute additional routine data storage and analysis to supplement current climate records with at least daily 3 pm values for the Grassland and Forest Fire Danger Index, and Keetch-Byram Drought Index, for selected high quality stations representing a cross-section of environments throughout Victoria.</p> <p>Recommendation 6.39 That DSE and CFA, recognising that the Bureau of Meteorology does not routinely store all variables required to produce the calculations and indices necessary for research and planning into fire occurrence and behaviour, develop appropriate systems to ensure that such current and historical information is readily available and accessible.</p>	<p>6.38 – Accepted.</p> <p>6.39 – Accepted. Additional data can always assist the development of predictive models. This could be done should resources and prevention priorities permit. The Bureau of Meteorology may also be able to assist here.</p>

<p>Fuel management in the high country Recommendation 8.25 That, according to available scientific evidence, a decision regarding cattle grazing in the High Country should not be based on the argument that ‘grazing prevents blazing.’</p>	<p>Accepted.</p>
<p>Fuel management in 'Mallee': techniques and approaches Recommendation 9.30 That if ‘link’ burns continue to be used, then on-site weather sequences and fuel conditions marking successful (‘within explicit prescription’) and unsuccessful burns be documented.</p> <p>Recommendation 9.31 That the success of current buffers in terms of assisting suppression operations be continually reviewed, evaluated and documented.</p> <p>Recommendation 9.32 That the creation of buffers by chaining and then burning swaths of mallee be explicitly monitored for:</p> <ul style="list-style-type: none"> • the risk of fire escapes during their establishment; • their effectiveness as a barrier to unplanned fire under various weather and fuel conditions; and • any adverse environmental effects such as soil mobilisation and loss of biodiversity. <p>Recommendation 9.33</p>	<p>9.30 – Accepted. This is currently occurring through the use of a portable weather station. However, there is scope for greater monitoring.</p> <p>9.31 – Accepted.</p> <p>9.32 – Accepted.</p> <p>9.33 – Accepted. An evaluation of the environmental impacts commenced last summer. A more comprehensive monitoring system will be developed.</p>

<p>That, as a result of this monitoring, weather conditions for the safe conduct of burning in such operations should be defined.</p>	
<p>Constraints on prescribed burning in forests Recommendation 10.65 That a review of the fuel management zones be implemented with a view to reducing the number of zones so as to focus clearly on</p> <ul style="list-style-type: none"> (i) asset protection (especially at the Public/Private land interface); and (ii) ecological burns. <p>Recommendation 10.66 That an explicit formulation of the interactions between terrain, fuel, ignition pattern, time of day and weather be created to better define those days suited to prescribed burning.</p> <p>Recommendation 10.67 That evidence of the rekindling or otherwise of spring prescribed burns in forests be assembled and a model constructed and tested to see whether or not some days in spring could be used for prescribed burning in certain circumstances and places, especially in Zone 1.</p>	<p>10.65 – Accepted. When the Code of Practice for Fire Management was first written it was acknowledged that fewer zones would be desirable. A reduction is linked, however, to improved understanding of the relationship between fire regimes and biodiversity. A review of the Code is expected to be completed by 2005.</p> <p>10.66 – Accepted. Fire agencies are committed to increased use of data and evidence to improve mitigation and prevention activities. This is a somewhat complex task and resource implications will need to be examined, particularly priority against other initiatives, such as the employment of more burning crews, increased training of crews and related technological developments that will improve hazard management.</p> <p>10.67 – Accepted. DSE already undertakes spring burning, particularly in Zone 1. Unexpected warmer weather between spring burns and summer remains a major concern however, and will be monitored closely.</p>
<p>How can we measure the effectiveness of prescribed burning? Recommendation 11.71 That DSE:</p>	<p>11.71 – Accepted. A new model for fire risk management which is being prepared for government consideration will address these issues. Additional training requirements will be considered in future budget processes.</p>

- Provide further training and/or field staff for the routine acquisition and reporting of geographic data (maps of fire extent for prescribed and unplanned fires) and fuel-array data (quantity, type, condition and arrangement before and after fire as in the Overall Fuel Hazard Guide).
- Routinely and explicitly report on measures of the effectiveness of the prescribed burning program.
- Measure the total area subject to prescribed burning treatment in each Fire Management Zone each year along with the average proportion of that area successfully burned.
- Develop an explicit, routine system of evaluation, analysis and reporting of the effects of prescribed burning in relation to environmental outcomes such as conservation of flora and fauna and water quality.
- Train more crews, use Project Firefighters more extensively (and CFA members or MFESB firefighters where appropriate), to undertake prescribed burning.

Recommendation 11.72

That DSE undertake a formal study of the level of prescribed burning in south western Australia for its possible application in Victoria by comparing respective fuel arrays, terrain, weather, ground access, staff, prescribed burning days, areas conducive to prescribed burning and fire response systems.

Recommendation 11.73

11.72 – Accepted. Western Australia practices are reasonably well understood but will be studied further.

11.73 – Accepted. DSE currently has this standard, through it is not always achieved. CFA will establish processes and systems to enable identified unplanned fires to be mapped.

<p>That DSE and CFA map all unplanned fires greater than four hectares on public and private land in order to further develop an understanding of the risk to rural Victoria from unplanned fires.</p>	
<p>Understanding bushfire options: the decision to stay or go? Recommendation 13.23 That CFA further develops the information supporting the decision to stay or go, to incorporate a better understanding of both the likely consequences of leaving home at inappropriate times, and the conditions and emotional impacts likely to be experienced during the passage of the fire front.</p>	<p>13.23 – Accepted. The CFA currently prepares comprehensive information and assistance to individuals and communities about fire preparation activities to help communities protect their properties from wildfire. The CFA will continue to work with communities to increase awareness of the likely consequences of the decision to stay or go.</p>
<p>Community education and information program Recommendation 13.53 That the three fire agencies (CFA, DSE and MFESB) develop and implement a joint statewide fire awareness education and information program aimed at encouraging a higher degree of personal and household self-reliance.</p> <p>Recommendation 13.54 That CFA should remain the lead agency in delivering the community education and information program to rural Victoria.</p> <p>Recommendation 13.55 That CFA and MFESB:</p> <ul style="list-style-type: none"> • conduct an annual survey of households to test the 	<p>13.53 – Accepted. The three fire agencies in Victoria provide a vital service to the community. However, there are a number of ways in which households can reduce the risk of fire. The CFA has been running programs, aimed at encouraging householders within rural areas to develop preparation and survival plans. While these educational campaigns have helped alleviate fire risk and provided guidance in times of fire danger. To ensure that we are as prepared as possible in the future and that consistent information is provided to households (regardless of whether they live in urban or rural areas), the CFA, DSE and MFESB will work together to develop a joint state-wide fire awareness education and information program to encourage a higher degree of personal and household self-reliance.</p> <p>13.54 – Accepted.</p>

<p>level of awareness and acceptance of fire knowledge amongst Victorians; and</p> <ul style="list-style-type: none"> regularly measure whether access to information leads to safe behaviours. <p>Recommendation 13.56 That the Coordinator-in-Chief of Emergency Management directs that all emergency management agencies review, by June 2004, terminology and language in current communication and public education material to ensure it is clear, easily understood and consistent, particularly with regard to fire.</p> <p>Recommendation 13.57 That CFA and MFESB encourage householders to review their fire safety plan annually.</p>	<p>13.55 – Accepted. CFA routinely conducts surveys, the reliability of measuring safe behaviours is most effectively measured through the CFA post incident analysis process.</p> <p>13.56 – Accepted.</p> <p>13.57 – Accepted. CFA will continue to work towards these objectives, in partnership with other agencies.</p>
<p>Community Fireguard Recommendation 13.75 That CFA, in conjunction with isolated small communities, develop and promote a suite of appropriate fire readiness and fire management strategies to meet their needs.</p> <p>Recommendation 13.76 That CFA reports to the Minister for Police and Emergency Services on recommended solutions and implementation strategies for isolated small communities by June 2004.</p> <p>Recommendation 13.77 That CFA clarifies and restates the roles and function of</p>	<p>13.75 – Accepted. The Community Fireguard program recognises that on days of extreme wildfire danger, suppression capabilities are limited and the CFA cannot guarantee protection to each property. On those occasions, the key to community safety is the preparedness and response of the residents threatened. The CFA will continue to work with isolated communities and local government to further develop appropriate fire readiness and fire management strategies.</p> <p>13.76 – Accepted.</p> <p>13.77 – Accepted.</p> <p>13.78 – Accepted.</p>

<p>existing Community Fireguard Groups (including their relationship to the Municipal Fire Prevention Plan) to members, coordinators, Incident Controllers and Municipal Emergency Resource Officers, prior to the 2003-2004 fire season.</p> <p>Recommendation 13.78 That Community Fireguard Group coordinators' names are supplied to their local municipality for the 2003-2004 fire season, and are updated annually for use in information exchange should a Municipal Emergency Coordination Centre or Incident Control Centre be established.</p> <p>Recommendation 13.79 That CFA provides technical advice to Community Fireguard groups in the selection and purchase of appropriate equipment and protective clothing for use on their own land.</p> <p>Recommendation 13.80 That CFA, recognising the value of the Community Fireguard Group program, undertake a review by June 2004 to identify opportunities to further develop the program to ensure its continuing appropriateness in preparing communities for fire into the future.</p>	<p>13.79 – Accepted.</p> <p>13.80 – Accepted. Detailed plans to implement the recommendations will be developed. Any additional resourcing requirements will be considered in future budget processes.</p>
<p>Public awareness communication systems Recommendation 13.93 That the Coordinator-in-Chief of Emergency Management directs the Media sub-committee of the State Emergency</p>	<p>13.93 – Accepted. CFA will take a lead role in the review.</p> <p>13.97 – Accepted.</p>

<p>Response Committee to review the use of the Standard Emergency Warning Signal and its accompanying message.</p> <p>Recommendation 13.97 That Victoria include an agenda item for both the National Emergency Management Committee and the National Meeting of Emergency Services Ministers recommending that the Australian Communications Authority review both the Commercial Radio Codes of Practice and Guidelines, and Community Broadcasting Codes of Practice, to ensure they provide necessary guidance and obligations on radio stations during emergencies and in relation to emergency warnings.</p>	
<p>Insurance as a preparedness measure Recommendation 13.103 That CFA, in their education and information packages, encourage appropriate insurance cover, and ensures that insurance becomes a part of the householders annual checklist.</p> <p>Recommendation 13.104 That Government works with the insurance industry to explore options for incentives such as a reduction in premiums for those who take appropriate self-protection measures on their properties, similar to incentives for anti-theft home security.</p>	<p>13.103 – Accepted. The loss of a home, property or stock as result of wildfire can be devastating. However, wildfire is, and should be, an insurable risk. Those members of the community who choose not to insure against fire, are effectively self-insurers and will bear the risk. It is important that individuals and communities are encouraged to manage this risk appropriately and insure all assets including fences, hay and standing fodder. The CFA will include, at the next appropriate review time, insurance related information on the household information packages and checklists.</p> <p>13.104 – Accepted in principle. The government encourages self-reliance within the community. However, there is a need to ensure that the Government does not interfere with the insurance market, and hence affect the affordability of insurance. The Government will examine with the insurance industry how it can progress this matter further.</p>

<p>Municipal fire prevention plan Recommendation 14.46 That, following the review of forest industry brigades, the <i>Country Fire Authority Act 1958</i> be amended to ensure that the forest industry brigades, which are acting in an approved manner, have the same powers and rights as other brigades when attending fires on public land or interstate.</p> <p>Recommendation 14.47 That CFA should not be given the power to direct forest industry brigades to engage in fire prevention and suppression activities off their land, and that decision should remain the responsibility of the plantation company.</p> <p>Recommendation 14.57 That CFA and the Plantation Industry jointly develop and agree on Fire Prevention Guidelines for Plantations by June 2004, to be then promoted and distributed by the Industry.</p> <p>Recommendation 14.58 That Municipal Councils:</p> <ul style="list-style-type: none"> • ensure consistent approaches to planning for fire prevention and protection; and • consider existing rights of neighbours in planning development applications. 	<p>14.46 – Accepted.</p> <p>14.47 – Accepted.</p> <p>14.57 – Accepted. The document is complete and ready for publication. CFA will pursue guidelines for agricultural industries, and will consider resources and an appropriate timeline to achieve this.</p> <p>14.58 – Accepted. CFA, DSE, the Department of Victorian Communities (DVC) will work with Municipal Councils and the Victorian Emergency Management Council sub-committee (see Recommendation 14.93) and other stakeholders to ensure that there is a consistent approach to planning for fire prevention and protection across municipalities.</p>
<p>A new approach to municipal planning Recommendation 14.91 That Government review legislation for utilities operating</p>	<p>14.91 – Accepted.</p> <p>14.92 – Accepted. The Minister for Police and Emergency Services</p>

within the state to ensure their involvement in regional fire preparedness and mitigation planning.

Recommendation 14.92

That the *Country Fire Authority Act 1958* be amended to:

- replace the current Municipal Fire Prevention Plan and the requirement for a Fire Prevention Committee with a Municipal Fire Management Plan, and Municipal Fire Management Committee; and
- bring together all stakeholders with an involvement in fire management for both private and public land within the municipality.

Recommendation 14.93

That the Victoria Emergency Management Council establishes a sub-committee by June 2004 to ensure an all-agency and appropriate industries' policy framework is developed and agreed in respect to the planning for fire prevention, mitigation and suppression.

Recommendation 14.94

That the new Municipal Fire Management Plan is informed by the policy directions of the subcommittee of the Victoria Emergency Management Council.

Recommendation 14.95

That the Municipal Fire Management Plan amendment includes appropriate provisions for the audit of the plans including:

- content;

will direct the Department of Justice to review the CFA Act, in consultation with the CFA, DVC, DSE and the MAV.

14.93 – Accepted.

14.94 – Accepted.

14.95 – Accepted.

14.96 – Accepted.

<ul style="list-style-type: none"> • process of development and implementation; and • compliance reporting to the Victoria Emergency Management Council. <p>Recommendation 14.96 That the Government identifies an appropriate body, or bodies, to undertake the audit of the Municipal Fire Management Plans.</p>	
<p>External influences on fire agencies prior to the 2002-2003 fire season</p> <p>Recommendation 15.11 That DSE and the Department of Primary Industries formalise an agreement by the 2003-2004 fire season documenting the policies, procedures and financial arrangements relating to the availability of Department of Primary Industries staff to be trained and released for fire prevention and suppression activities on public land.</p> <p>Recommendation 15.12 That DSE investigates whether such agreements should exist with other government departments and agencies, particularly those with officers located in rural Victoria who may be involved in fire response and support operations in the future, based on their expertise and experience.</p> <p>Recommendation 15.13 That DSE commences discussion with the Victorian WorkCover Authority in respect to employer liability for those staff being released to, and directed by, another</p>	<p>15.11 – Accepted. DSE and DPI have already commenced work on the agreement, which is close to finalisation.</p> <p>15.12 and 15.13 – Accepted. Agreements with Parks Victoria, Melbourne Water, DPI and the CFA currently exist or are being developed. Agreements with other agencies (eg DIIRD, DOI and VicRoads) will be actively pursued.</p>

<p>agency in fire prevention and suppression activities.</p>	
<p>Impact of the drought on water availability for firefighting Recommendation 15.23 That Government in the development of its statewide water policy includes appropriate consideration of access to water for firefighting.</p> <p>Recommendation 15.24 That communities, public land managers, Water Authorities and Catchment Management Authorities jointly identify and implement local and environmentally sound solutions to improve the availability of water for firefighting through the Municipal Fire Management Planning process.</p> <p>Recommendation 15.25 That the fire agencies develop contingency plans in relation to access to water for firefighting, including where appropriate, the use of static, large volume water tanks.</p>	<p>15.23 – Accepted.</p> <p>15.24 – Accepted.</p> <p>15.25 – Accepted. The fire agencies will work with Catchment Management Authorities and Water Authorities to develop appropriate contingency plans to improve access to water for firefighting during drought periods.</p>
<p>Agency resources Recommendation 15.40 That DSE and CFA review selection and training programs for Incident Controllers and Incident Management Team members to ensure that they include all necessary competencies in recognition that technical skills are only one component of the required attributes.</p>	<p>15.40 – Accepted. DSE, CFA and the MFESB will work together to enhance incident management capability.</p>
<p>Agreements and Memoranda of Understanding</p>	<p>15.54 – Accepted. Annual Statewide Fire Control Priorities are</p>

<p>Recommendation 15.54 That the Statewide Fire Control Priorities:</p> <ul style="list-style-type: none"> • be developed annually by CFA and DSE; • be endorsed by the Victoria Emergency Management Council; • be incorporated into the co-operative agreement between DSE and CFA; and • inform the Fire Control Priorities in the Municipal Fire Management Plans. <p>Recommendation 15.67 That CFA continues to work with its Brigades to complete the integration of AIIMS-ICS with the Group Structure for full implementation by the 2004-2005 fire season.</p> <p>Recommendation 15.76 That the Victorian fire agencies negotiate with their counterparts in New South Wales and South Australia to put in place agreements for mutual aid and the development of cross border strategy for the management of fires burning in the vicinity of, or across, state borders, and these agreements are reviewed annually.</p> <p>Recommendation 15.77 That any local level agreements developed to address geographically specific risks or issues must be consistent with state-level arrangements.</p>	<p>currently developed annually by CFA and DSE and are incorporated into the cooperative agreement between DSE and CFA.</p> <p>15.67 – Accepted. CFA is working towards achievement of this program and will monitor progress toward full implementation.</p> <p>15.76 – Accepted. DSE has 'partial' border agreements already with NSW and SA. There is scope to broaden these however, and include non-adjacent states as well as other countries (in addition to the USA). DSE and CFA will actively and jointly pursue cross-border agreements with NSW and SA. These agreements will be extended to include cross-border fire management strategies.</p> <p>15.77 – Accepted.</p>
<p>Information management Recommendation 15.87 That Government supports the immediate development of</p>	<p>15.87 – Accepted in principle. A robust financial model is likely to be complex and no comprehensive wildland models currently exist. DSE will pursue the development of a robust model but a medium term time</p>

<p>financial models to analyse and determine the appropriate level of investment in fire management planning, preparedness and suppression on public land.</p> <p>Recommendation 15.88 That the financial models incorporate changes in public land use, particularly ‘Our Forests Our Future’, and the subsequent changes in fire management priorities.</p> <p>Recommendation 15.89 That the financial arrangements incorporate full cost recovery for prescribed burning to be undertaken over a number of weekends utilising Project Firefighters, CFA volunteers and MFESB members.</p> <p>Recommendation 15.90 That Government reviews the funding for DSE for the 2004-2005 fire season to ensure that appropriate resources are available for fire prevention planning and preparedness.</p>	<p>frame is likely to be more achievable.</p> <p>15.88 – Accepted.</p> <p>15.89 – Accepted. Work is already underway on the financial arrangements and principles subject to consideration of resourcing implications by government.</p> <p>15.90 – Accepted.</p>
<p>Roads and access tracks Recommendation 15.105 That DSE assesses the environmental and monetary cost of establishment and rehabilitation of temporary tracks, per 100 km, constructed during firefighting operations, and compare this with the recurrent costs of a program of maintaining existing tracks.</p> <p>Recommendation 15.106 That DSE includes the cost of tracks, as above, in the</p>	<p>15.105 – Accepted.</p> <p>15.106 – Accepted.</p> <p>15.107 – Accepted.</p>

<p>development of financial models to analyse and determine the appropriate level of investment in fire management planning, preparedness and suppression on public land.</p> <p>Recommendation 15.107 That DSE undertakes community consultation on policies relating to public land roads and access tracks, particularly in respect to fire management.</p>	
<p>Aerial firefighting strategy Recommendation 17.51 That an appropriately resourced, national aerial firefighting strategy is urgently required, and that the Victorian Government make representations to the Commonwealth to support the Australasian Fire Authorities Council recommendations.</p>	<p>17.51 – Accepted. Victoria will continue to work with other states and territories and the Commonwealth to achieve an effective national aerial firefighting capability.</p>
<p>Municipal emergency coordination Recommendation 18.12 That Incident Control Centres and Municipal Emergency Coordination Centres be collocated, wherever practicable.</p> <p>Recommendation 18.13 That DSE and CFA ensure that:</p> <ul style="list-style-type: none"> when a Municipal Emergency Coordination Centre is established in response to a fire, an appropriately experienced, trained and briefed officer of the control agency is appointed as liaison between the Municipal Emergency Coordination Centre and the Incident Control Centre; and 	<p>18.12 – Accepted. The implementation of this recommendation will need to be managed in such a way so as not to diminish the effectiveness of ICC operation.</p> <p>18.13 – Accepted.</p> <p>18.14 – Accepted. DSE and the CFA will work with VicSES and Municipal Emergency Response Coordinators to develop and conduct joint exercises.</p>

<ul style="list-style-type: none"> there are appropriate training regimes in place to provide officers with the skills necessary to perform the role of Emergency Services Liaison Officer in the Municipal Emergency Coordination Centre. <p>Recommendation 18.14 That DSE and CFA work in co-operation with the Municipal Emergency Response Coordinators to develop and conduct joint exercises that practise the skills and test procedures for operations of the Municipal Emergency Coordination Centre, Municipal Recovery Centre and Incident Control Centres.</p>	
<p>Evacuation Recommendation 18.21 That Victoria Police ensure all police members understand the Victorian legislation in relation to evacuation, and that any decision to recommend evacuation remains with the Incident Controller.</p>	<p>18.21 – Accepted.</p>
<p>Divisional emergency coordination Recommendation 18.30 That existing DSE and CFA regional coordination arrangements be reviewed and any changes, such as the continued use of Integrated Multi-Agency Coordination Centres, be reflected in the Victorian emergency management arrangements.</p> <p>Recommendation 18.31 That Victoria Police, CFA and DSE review the relationship</p>	<p>18.30 – Accepted.</p> <p>18.31 – Accepted.</p>

<p>between fire service regional coordination arrangements and Divisional Emergency Response Plans and that any changes be formalised in the emergency management arrangements.</p>	
<p>State level coordination of emergency response Recommendation 18.42 That a single state-of-the-art all hazards State Emergency Operations Centre be established for Victoria. This could, if necessary, be implemented in stages, initially incorporating DSE, CFA, MFESB and the State Aircraft Unit.</p> <p>Recommendation 18.43 That the options of collocating the State Emergency Response Coordination Centre with the new State Emergency Operations Centre be explored.</p> <p>Recommendation 18.44 That the State Emergency Operations Centre develop and maintain strong and close links with the State Emergency Response Coordination Centre, if collocation is not possible.</p>	<p>18.42 – Accepted.</p> <p>18.43 – Accepted.</p> <p>18.44 – Accepted in principle. Further discussion with all relevant agencies will be required to develop effective links between this proposal, the State Crisis Centre and other operations centres.</p>
<p>Cooperation between agencies Recommendation 18.52 That the <i>Emergency Management Act 1986</i> be amended to require the development of agreements that describe joint operational arrangements between emergency response agencies.</p>	<p>18.52 – Accepted.</p> <p>18.53 – Accepted.</p>

<p>Recommendation 18.53 That, wherever possible, Incident Management Team members from DSE, CFA and MFESB who are likely to be deployed together to manage fire, should train and exercise together.</p>	
<p>Deployment of Metropolitan Fire and Emergency Service Board personnel Recommendation 18.57 That the MFESB continue to give priority to appropriate bushfire training for its firefighters.</p>	<p>18.57 – Accepted.</p>
<p>Deployment of Victoria State Emergency Service Personnel Recommendation 18.61 That VicSES, with the support of the CFA, includes basic fire safety training as one of the competencies for the VicSES Volunteers.</p>	<p>18.61 – Accepted. This program is already underway. However, a tailored training program is required together with additional trainers to ensure timely roll out of the program.</p>
<p>Regional emergency coordination Recommendation 19.6 That the emergency management arrangements be amended to require Police Divisional Emergency Response Coordinators, in consultation with other response agencies, to establish and document procedures and structures at regional level in order to ensure there is:</p> <ul style="list-style-type: none"> • effective monitoring of Incident Management Teams; • effective strategic management of resources; 	<p>19.6 – Accepted. During implementation particular attention will be paid to ensuring AIIMS-ICS fundamentals are not undermined and that clarity is maintained between the role of the response agency, and coordinators at a regional level.</p>

<ul style="list-style-type: none"> • efficient management of information flow within and between agencies, and between the agencies and the community; and • liaison between the control agency and divisional and municipal emergency response coordinators. 	
<p>Structure of Incident Management Teams Recommendation 19.13 That the practice of appointing Deputy Planning Officer, Deputy Operations Officer and Deputy Logistics Officer in an Incident Management Team be abandoned. This recommendation acknowledges the benefits of retaining a Deputy Incident Controller from the support agency (in accordance with section 4.2.6 of the Emergency Management Manual Victoria), to ensure that the command structure of that agency is preserved.</p>	<p>19.13 – Accepted in principle. DSE and CFA are moving towards this type of structure. However, this requires integrated processes and systems that support decision making with appropriate information flow. Training and successional issues are also relevant here.</p>
<p>Qualifications for Incident Management Team members Recommendation 19.17 That the person appointed by DSE or CFA as Incident Controller for any incident should have formal qualifications and accreditation in the Incident Control System, be fully aware of the Victorian emergency management arrangements and have access to local fire prevention and response planning, including the Municipal Fire Management Plan.</p> <p>Recommendation 19.18 That CFA and DSE provide media training to all Level 2 and Level 3 Incident Controllers.</p>	<p>19.17 – Accepted. This is already current practice within DSE. CFA will further enhance the access to community/municipal fire plans that include local prevention preparedness response and recovery elements that will ensure the effective management of fires in local areas.</p> <p>19.18 – Accepted.</p>

<p>Incident Control Centres Recommendation 19.23 That in the review of Incident Control Centre locations, DSE and CFA give due consideration to:</p> <ul style="list-style-type: none"> • existing public infrastructure that may provide suitable facilities; and • opportunities for collocation with Municipal Emergency Coordination Centres. <p>Recommendation 19.24 That DSE and CFA review their joint planning for Incident Control Centres to ensure that, wherever safe and practicable, those Centres are located close to the fire area.</p>	<p>19.23 – Accepted. The implementation of this recommendation will need to be managed in such a way so as not to diminish the effectiveness of ICC operation.</p> <p>19.24 – Accepted.</p>
<p>Transferring control from one Incident Control Centre to another Recommendation 19.29 That DSE and CFA develop an agreed process for the effective transfer of control from one Incident Control Centre to another, including processes for communicating this change to fire ground supervisors and local communities.</p>	<p>19.29 – Accepted.</p>
<p>Application of the Fire Control Priorities to incident action planning Recommendation 20.12 That CFA and DSE include agreed Fire Control Priorities in community awareness and education material provided to</p>	<p>20.12 – Accepted.</p> <p>20.13 – Accepted.</p>

<p>the community before each fire season.</p> <p>Recommendation 20.13 That the fire agencies ensure that Incident Action Plans developed by Incident Management Teams are consistent with, and built on, the agreed Fire Control Priorities.</p>	
<p>Aggressiveness of firefighting Recommendation 20.26 That DSE and CFA continue to stress firefighter safety as their highest priority for incident managers and fire ground supervisors.</p> <p>Recommendation 20.27 That DSE and CFA ensure that agreed strategy and tactics, and the rationale, be communicated to personnel involved in the fire fight and be included in briefings for fire line personnel.</p> <p>Recommendation 20.28 That personnel assigned the roles of Division Commander, Sector Commander and Strike Team Leader on the fire ground are actively encouraged to provide input into the selection of strategies and tactics.</p> <p>Recommendation 20.29 That personnel assigned the roles of Division Commander, Sector Commander and Strike Team Leader be given flexibility to alter tactics to take advantage of changed conditions on the fire ground.</p>	<p>20.26 – Accepted.</p> <p>20.27 – Accepted.</p> <p>20.28 – Accepted.</p> <p>20.29 – Accepted.</p>

<p>Consistency of strategy Recommendation 20.38 That when Incident Management Teams implement significant changes to objectives and strategies, these are effectively communicated to firefighters, fire ground supervisors and affected communities, and are incorporated into the broader organisational planning.</p> <p>Recommendation 20.39 That the ‘Incident Objectives’ established for any response should reflect the endorsed Statewide ‘Fire Control Priorities’, and the relevant Municipal Fire Management Plan.</p> <p>Recommendation 20.40 That CFA and DSE jointly develop procedures to ensure that a more consistent strategic approach can be maintained at shift and tour of duty changes.</p>	<p>20.38 – Accepted.</p> <p>20.39 – Accepted.</p> <p>20.40 – Accepted. The CFA and DSE are making significant progress in jointly developing procedures to ensure a more consistent strategic approach can be maintained at shift and tour of duty changes.</p>
<p>Use of Local Knowledge Recommendation 2 from the Interim Report That in preparation for the coming fire season, the CFA:</p> <ul style="list-style-type: none"> • modifies its operational procedures to ensure that local knowledge is flexibly and appropriately incorporated into tactical and strategic fire management; • modifies its operational procedures to allow for more flexible management of strike teams; and • continues to work with its brigades to complete the integration of AIIMS-ICS with the group structure. 	<p>Recommendation 2 from the Interim Report – Accepted. On 26 August 2003, the Government adopted all six recommendations from the Victorian Bushfire Inquiry Interim Report. The CFA has been working to modify its operational procedures to implement this recommendation.</p> <p>Recommendation 3 from the Interim Report – Accepted. DSE is reviewing its procedures to ensure that all Incident Controllers and Incident Management Teams have full access to appropriately experienced and qualified members of the community. The Department's Suppression Manual is being updated to reflect this.</p>

<p>Recommendation 3 from the Interim Report That DSE reviews procedures to ensure that all Incident Controllers and Incident Management Teams have full access to those Departmental, Parks Victoria or appropriately experienced and qualified community members who can provide local knowledge and expertise in the development of fire suppression strategies and that advice from the fire ground is incorporated into decision making.</p>	
<p>Information gathering Recommendation 20.54 That DSE and CFA review methods of gathering and processing fire information to ensure all methods are pursued to greatest effect.</p>	<p>20.54 – Accepted.</p>
<p>Briefings Recommendation 20.61 That DSE and CFA review the standards and protocols for documentation, including mapping, provided to fire line managers as part of their briefing notes, to ensure these are concise and appropriate.</p> <p>Recommendation 20.62 That operational briefings in multi-agency fires should, wherever possible, be joint briefings of all agencies involved.</p>	<p>20.61 – Accepted. Improved DSE protocols are currently being finalised. CFA will continue to develop processes and systems to provide appropriate operational information (ie. mapping) to Fireline Managers in a timely and accurate matter.</p> <p>20.62 – Accepted. This recommendation will be addressed in DSE/CFA pre-season briefings.</p>
<p>No Go Zones Recommendation 20.67</p>	<p>20.67 – Accepted. CFA and DSE agree that the use of the term 'No Go Zone' creates confusion and are reinforcing protocols to clarify</p>

<p>That DSE and CFA ensure that:</p> <ul style="list-style-type: none"> • a clear process is established for determining whether a specific location is, or is no longer, a ‘no go zone’ or an area into which it is too dangerous to deploy resources, and that affected communities are advised as soon as possible of the determination, the reasons for such determination and what actions they should take as a result; and • where the Incident Management Team, Division Commander, Sector Commander and/or Strike Team Leader identify an area as a ‘no go zone’ or an area into which it is too dangerous to deploy resources, the reasons for that designation are recorded by the Incident Management Team in the incident log. 	<p>situations where communities and firefighting resources may be restricted due to safety concerns.</p>
<p>Use of bulldozers Recommendation 20.71 That DSE and CFA work cooperatively to review the management and application of bulldozers in fire suppression operations to ensure that they are used effectively, appropriately and are adequately supervised.</p> <p>Recommendation 20.72 That quality control or performance assessments are routinely completed post fire season, to ensure that contractors who have not performed to an agreed standard are not re-engaged for the consequential rehabilitation works.</p>	<p>20.71 – Accepted.</p> <p>20.72 – Accepted.</p>
<p>Keeping track of firefighting resources</p>	<p>21.8 – Accepted.</p>

<p>Recommendation 21.8 That DSE, CFA, MFESB and VICSES work co-operatively to establish a common system for resource tracking during major fires and incidents.</p>	
<p>Management of firefighting resources in the field Recommendation 21.14 That DSE and CFA review the management of personnel deployed ensuring that:</p> <ul style="list-style-type: none"> • shift changeovers of fire line personnel and fire line supervisors are conducted in such a way that the fire line is not left inappropriately unattended; • management protocols for Strike Teams are made more flexible; and • Strike Team Leaders and Task Force Leaders undertake refresher training in the management of resources under their control. 	<p>21.14 – Accepted.</p>
<p>Management of privately owned firefighting resources Recommendation 21.19 That, as a matter of urgency and in consultation with stakeholders, CFA and DSE develop and communicate clear guidelines on how and when privately owned firefighting equipment should be integrated into the fire response.</p>	<p>21.19 – Accepted.</p>
<p>Firefighting vehicles Recommendation 21.21 That CFA, having regard to terrain, continue to review the</p>	<p>21.21 – Accepted.</p>

<p>mix of firefighting appliances currently in service. In particular, consideration should be given to the number and distribution of smaller ‘slip-on’ type equipment.</p>	
<p>Communications facilities Recommendation 21.31 That DSE and CFA work with the Bureau of Emergency Services Telecommunications to ensure that rural communication issues are appropriately addressed in the Statewide Integrated Public Safety and Communications Strategy, and that priorities and business cases are agreed for critical issues.</p> <p>Recommendation 21.32 That CFA develop protocols to integrate Ultra High Frequency and Citizen Band radios into their communication structures.</p>	<p>21.31 – Accepted in principle. Implementation will be subject to consideration of a business case for a regional telecommunications strategy.</p> <p>21.32 – Accepted in principle. CFA needs to retain the integrity of their command and control of the VHF radio system. However, there is a need to integrate the UHF/CB non emergency service radio system to assist and manage resources on the fire ground.</p>
<p>Aircraft operations and the State Aircraft Unit Recommendation 22.60 That the joint agencies introduce a system of performance measures for reporting the effectiveness of aircraft in firefighting operations.</p> <p>Recommendation 22.61 That instances where demand for air support outstrips the supply of State Fleet Aircraft available are recorded.</p> <p>Recommendation 22.62 That after each fire season, measures of the effectiveness of</p>	<p>22.60 – Accepted.</p> <p>22.61 – Accepted.</p> <p>22.62 – Accepted.</p> <p>22.63 – Accepted.</p> <p>22.64 – Accepted.</p> <p>22.65 – Accepted.</p>

<p>aerial firefighting be collated, analysed and used for the assessment of the State Aircraft Fleet composition and the adequacy of Training and Accreditation programs.</p> <p>Recommendation 22.63 That a systematic performance audit of State Aircraft Fleet contractors be conducted jointly by agency and SAU personnel.</p> <p>Recommendation 22.64 That aviation contractors be required to submit a copy of their annual independent regulatory compliance audit prepared for Civil Aviation Safety Authority to the State Aircraft Unit.</p> <p>Recommendation 22.65 That training and competency programs for Incident Controllers should include aircraft firefighting capability training.</p> <p>Recommendation 22.66 That more emphasis should be given to communication and discussion in regard to State Aircraft Unit's roles, responsibilities, practices and procedures.</p>	<p>22.66 – Accepted. DSE and CFA will continue to address these recommendations through the joint management of the State Aircraft Unit to ensure appropriate policy procedures and management processes are established for the holistic management of aircraft within Victoria.</p>
<p>The challenge: maintaining communication with all fire-affected communities Recommendation 23.21 That in relation to the provision of information to communities affected by fires and other emergencies, DSE</p>	<p>23.21 – Accepted. DSE and CFA will ensure that the information unit provides timely and accurate information to all stakeholders including incident management personnel, media and local communities, and that community information is a priority of Incident Controllers.</p>

<p>and CFA ensure that:</p> <ul style="list-style-type: none"> • Incident Management Teams understand that one of their primary responsibilities, in cooperation with the Municipal Emergency Response Coordinator, is to keep the community informed as to where the fire is and its likely path, what is being done to combat the fire and any preparations the community should undertake; • Community Information Units are effectively integrated into the Incident Management Teams; and • they continue to develop a joint Internet-based communications tool to provide information and advice to both affected and broader communities during fires. <p>Recommendation 23.22 That the model of community engagement developed by DSE and CFA and applied during the 2002-2003 fires is further developed and refined, particularly in regard to short-duration, rapidly escalating incidents.</p> <p>Recommendation 23.23 That relevant Government agencies including Emergency Communications Victoria, the Bureau of Emergency Services Telecommunications and the Victoria Police Media Unit, evaluate the proposals put forward by the Australian Communications Authority with respect to the hearing impaired.</p>	<p>23.22 – Accepted.</p> <p>23.23 – Accepted. DSE and CFA will ensure that the information unit provides timely and accurate information to all stakeholders including incident management personnel, media and local communities, and that community information is a priority of Incident Controllers.</p>
<p>Radio coverage in rural Victoria</p>	<p>23.30 – Accepted.</p>

<p>Recommendation 23.30 That consideration be given to formalising Australian Broadcasting Corporation Local Radio as the official emergency radio station for Victoria, given it is the only radio station that can cover the whole of the state.</p> <p>Recommendation 23.31 That Victoria Police Media Unit coordinate work with the Australian Broadcasting Corporation and the emergency service agencies to implement this arrangement.</p> <p>Recommendation 23.32 That CFA and DSE work with Australian Broadcasting Corporation Local Radio to identify black spots, and explore opportunities to further improve coverage for broadcasting emergency information.</p> <p>Recommendation 23.33 That opportunities be explored to use community radio to complement other methods of communication with isolated communities.</p> <p>Recommendation 23.34 That Interstate Agreements prepared by the fire agencies be reviewed to include protocols for the joint release of consistent and appropriate information relating to fires burning across state borders.</p>	<p>23.31 – Accepted.</p> <p>23.32 – Accepted.</p> <p>23.33 – Accepted.</p> <p>23.34 – Accepted.</p>
<p>Overview of the recovery process Recommendation 24.29 That Municipal Emergency Resource Officers develop</p>	<p>24.29 – Accepted. Municipal Recovery Managers will ensure that volunteer registers are developed and maintained.</p>

registers of volunteers willing and available to provide assistance and support during the response to, and recovery from, emergency incidents.

Recommendation 24.30

That DPI actively promote as widely as possible within the community, the agricultural recovery service available during emergencies to ensure that all farmers are aware of the services provided.

Recommendation 24.31

That VicRoads and Municipal Councils review procedures and processes to ensure that the identification and delivery of remedial works on state and council roads following emergency events are as efficient as possible.

Recommendation 24.32

That the Victorian Government recommend to the Commonwealth Government that it reviews eligibility for those without employment who may or may not be engaged in an emergency response, and are unable to access the appropriate infrastructure to register for financial assistance.

Recommendation 24.33

24.33 That Government funding for Community Development Officers engaged in community support and rebuilding incorporates flexible resources to enable the purchase of services from a range of providers to ensure choice for those requiring support.

24.30 – Accepted. DPI, DHS and municipalities will consider case management as a method of managing the recovery of agricultural producers.

24.31 – Accepted. VicRoads and municipal councils will also consider the impact of their prioritisation on the local community.

24.32 – Accepted. DHS has already initiated discussions with Centrelink regarding this matter. CFA will liaise with DHS to ensure that CFA volunteers are eligible to gain employment support programs from the date of their fire engagement, not from the date of registration with Centrelink.

24.33 – Accepted.

24.34 – Accepted. DHS will remain the coordinating agency under Victoria's emergency management procedures and will support the Task Force in the event of an extreme natural disaster or other emergency event.

<p>Recommendation 24.34 24.34 That the <i>Emergency Management Act 1986</i> be amended to include a provision that, on the recommendation of the Minister for Police and Emergency Services as Coordinator-in-Chief of Emergency Management, or of another Minister, the Premier establish a Ministerial Task Force to oversee recovery in situations of extreme natural disaster or other emergency events.</p>	
<p>Response and recovery: two sides of the same coin Recommendation 24.47 That recovery is recognised as commencing at the same time as response and that recovery planning and delivery is an integral part of the operations of the Municipal Emergency Coordination Centres.</p> <p>Recommendation 24.48 That all departments, statutory authorities, utility providers and local governments be made aware of the need to develop contingency plans for recovery activities, and that such plans, and the associated public education and information strategies, are included in the Municipal Emergency Management Plans.</p> <p>Recommendation 24.49 That all agencies engaged in recovery participate in community briefings prior to and during emergency events, to ensure recovery issues are reinforced and communities are informed of the processes established to assist</p>	<p>24.47 – Accepted.</p> <p>24.48 – Accepted. A review of the State Emergency Recovery Plan is currently underway. The review will examine broader coordination structures and not just those limited specifically to the 'human services sector'. This would include economic, environment and infrastructure recovery.</p> <p>24.49 – Accepted. Significant stress can be reduced by the provision of appropriate information. DHS will provide advice, through its Clinical Advisors, on the appropriate format and languages for messages. The inclusion of recovery agencies in community and incident briefings during an emergency event is supported. This will assist a transparent movement from response to recovery utilising the same processes, systems and facilities wherever possible.</p>

<p>individuals – including matters that are not the responsibility of Victoria, such as Centrelink payments.</p>	
<p>Relief and recovery – predictable, equitable, consistent Recommendation 24.67 That Government review the emergency relief and financial assistance policy, and develop and communicate a predictable, consistent and equitable policy designed to assist the community to recover from emergencies, including natural disasters.</p>	<p>24.67 – Accepted. DHS has already convened an internal review to examine issues around grants payment and the application of the policy.</p>
<p>A case management approach to recovery Recommendation 24.76 That DHS, in conjunction with local government, government departments and the non-government sector, modify recovery planning at all levels to include a case management approach supported by an appropriate information system to be activated at the time of an emergency.</p> <p>Recommendation 24.77 That the Privacy Commissioner be asked for advice in the development of this model.</p> <p>Recommendation 24.78 That the State Emergency Recovery Committee explore opportunities to establish a 'one-stop-shop' approach wherever practicable following emergencies, including a single telephone number to connect a person to all agencies involved in the recovery process.</p>	<p>24.76 – Accepted. Work has already commenced on developing a model of application.</p> <p>24.77 – Accepted.</p> <p>24.78 – Accepted.</p>

<p>Fencing and rehabilitation – private land damage following fire suppression works Recommendation 4 from Interim Report That Government initiates a review of the fencing policy for boundary and internal fences damaged as a result of fire.</p> <p>Recommendation 5 from Interim Report That Government develops a consistent policy for the rehabilitation/restoration of private assets damaged or consumed in authorised fire suppression activity.</p>	<p>Recommendation 4 from Interim Report – Accepted. The government is currently conducting a review of its policy relating to the replacement of fencing destroyed during fires.</p> <p>Recommendation 5 from Interim Report – Accepted. The government is currently conducting a review of its policy relating to the rehabilitation/restoration of private assets damaged or consumed in authorised fire suppression activity.</p>
<p>The way forward: planning The balance between prevention/mitigation and response for public land Recommendation 25.23 That DSE, with adequate resourcing, moves to a 12-month cycle of fire management to establish and maintain a more appropriate and balanced work program of prevention/mitigation and suppression.</p> <p>Recommendation 25.24 When the research into prescribed burning and optimum fire protection described in Chapter 11, and the financial analysis of appropriate funding levels for prevention and suppression recommended in Chapter 15, are completed, DSE should develop a business case with Department of Treasury and Finance for assured funding to an agreed level over a three-year rolling cycle.</p>	<p>25.23 – Accepted. Ways of doing this and resource implications are currently under consideration by government.</p> <p>25.24 – Accepted. The timing of the business case has been advanced and is currently being finalised for government consideration.</p>

<p>Managing information Recommendation 25.37 That all emergency service agencies, CFA and DSE in particular, give greater priority to information management – especially the collection, maintenance and quality control of base data sets necessary for planning, operations and program evaluation.</p> <p>Recommendation 25.38 That Government acknowledge the importance of spatial information as a key element of planning, operations and program evaluation, and support the Geospatial Emergency Information Network as a means of ensuring integrated and coordinated information management on a whole-of-Government basis.</p>	<p>25.37 – Accepted.</p> <p>25.38 – Accepted.</p>
<p>Model of fire cover – 'Fire Safety Victoria' Strategy Recommendation 25.55 That Government confirms that the Model of Fire Cover/Fire Safety Victoria strategy should be a seamless model for the whole of the state and include both private and public land.</p> <p>Recommendation 25.56 That DSE commit appropriate resources to work with OESC in developing the bushfire component of the model.</p>	<p>25.55 – Accepted.</p> <p>25.56 – Accepted.</p>
<p>Planning for emergencies at the local level Recommendation 25.88 That CFA, DSE, MFESB, VicSES, Victoria Police and</p>	<p>25.88 – Accepted.</p> <p>25.89 – Accepted.</p>

<p>OESC, in consultation with the Municipal Association of Victoria, consult on the proposal to combine Municipal Councils' current responsibilities for the development of an emergency management plan/committee, as required by the <i>Emergency Management Act 1986</i> and a fire prevention plan/committee as required by the <i>Country Fire Authority Act 1958</i>.</p> <p>Recommendation 25.89 That this group reports to the Minister for Police and Emergency Services on proposed legislative amendments to the <i>Emergency Management Act 1986</i>, the <i>Country Fire Authority Act 1958</i> and any associated legislation by June 2004.</p> <p>Recommendation 25.90 That CFA, DSE and MFESB continue to develop the partnership approach for fire safety with local government, industry and communities.</p>	<p>25.90 – Accepted.</p>
<p>Human resources Recommendation 25.114 That, as a matter of urgency, CFA and DSE:</p> <ul style="list-style-type: none"> • develop strategies to provide adequate and sustainable firefighting resources, suitably trained and experienced; and • advise Government of these strategies. <p>Recommendation 25.115 That all fire agencies include a formal mentoring scheme as</p>	<p>25.114 – Accepted. In relation to DSE, work on the development of these strategies is well underway, with discussions with government due to commence shortly.</p> <p>CFA and DSE have ongoing programs of human and physical resource planning and management, and will continue to work with government to ensure ongoing sustainability.</p> <p>25.115 – Accepted. DSE and CFA are working to ensure that personnel undertaking key incident management roles are trained,</p>

<p>part of their workforce development programs; and that consideration be given to the use of suitably competent and experienced individuals (such as retired staff), to act as coaches or mentors with inexperienced Incident Controllers.</p> <p>Recommendation 25.116 That CFA, VicSES and other volunteer-based emergency service organisations develop proposals in support of the strategies for sustainable volunteerism, and that the State Government advocate these initiatives to the Federal Government.</p>	<p>skilled and competent to perform required tasks, and mentoring will be incorporated as part of the training process.</p> <p>25.116 – Accepted. The Department of Victorian Communities will also contribute to the development of the proposals.</p>
<p>The way forward: unified command and control Response to the CFA proposal</p> <p>Recommendation 26.52 That CFA, DSE, MFESB and Victoria Police jointly develop a unified command and control system that better integrates with the state's emergency management arrangements, and that this be endorsed by the Victoria Emergency Management Council by July 2004.</p> <p>Recommendation 26.53 That this unified system include recommendations for the appointment of one person or agency to be responsible for overall control of fire suppression activity in country Victoria, including for any legislative reform considered necessary.</p> <p>Recommendation 26.54</p>	<p>26.52 – Accepted. DSE and CFA plan to build on and improve existing arrangements in light of this report.</p> <p>26.53 – Accepted in principle. The government will work closely with the relevant agencies to further develop the proposal.</p> <p>26.54 – Accepted. Desirably all relevant agencies should be included. The role should be high level command and coordination, since individual agencies will still require small centres for smaller incident management and for detailed operational and logistical requirements. The possibility of rotation of the management of a common complex around the agencies will be explored</p> <p>26.55 – Accepted.</p> <p>26.56 – Accepted. DVC will also be included in this process of review.</p>

That a State Emergency Operations Centre be established to replace the existing separate fire agency centres. This could, if necessary, be initially confined to being a State Fire Operations Centre as recommended in Chapter 18, Part D.

Recommendation 26.55

That the review of emergency operations centres by the Departments of Premier and Cabinet and Treasury and Finance and the Office of the Emergency Services Commissioner:

- explore opportunities to significantly reduce the number of regional emergency operations centres; and
- evaluate opportunities to pre plan and establish ‘all hazards–all agencies’ emergency operations centres at the regional or district level.

Recommendation 26.56

That in doing so, this review must consult with the agencies mentioned above, and others such as VicSES and the Departments of Human Services and Primary Industries.

Recommendation 26.57

That the Fire Management Branch of DSE be prescribed as an ‘emergency service agency’ for the purposes of s21C (1)(a) of the *Emergency Management Act 1986*.

Recommendation 26.58

That the fire agencies develop a program to significantly increase the amount of joint training and exercises

26.57 – Accepted.

26.58 – Accepted.

26.64 – Accepted. The OESC will work with the fire agencies and the Department of Premier and Cabinet.

undertaken.

Recommendation 26.64

That OESC will work with the fire agencies in developing implementation strategies for recommendations agreed by Government.