

# STRATEGIC BUSHFIRE MANAGEMENT PLAN FOR THE ACT

*A Plan for the Government and community of the ACT to  
work together to more effectively suppress bushfires and  
reduce their consequences*

Version Two  
October 2009

Prepared in accordance with the ***Emergencies Act 2004***.

ISBN- 10: 978-0-642-60517-7

ISBN- 13: 0-642-60517-3

© ACT Government 2009

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without written permission from the Territory Records Office, Community and Infrastructure Services, Territory and Municipal Services, ACT Government.

GPO Box 158, Canberra City ACT 2601.

Produced by Publishing Services for the Emergency Services Agency

Publication No 09/1289

Telephone: Canberra Connect 132 281

Also published on [www.esa.act.gov.au](http://www.esa.act.gov.au)

## Foreword

As the recent fires in Victoria have reminded us, bushfires remain an ever-present threat to life, property and the environment in Australia. In 2003, this reality was made clear to the community of the ACT, with the catastrophic consequences of bushfires impacting on the people, property and environment of the ACT.

As a community and as a Government, we are still living with the consequences of this time in the Territory's history, and are continuing to improve our resilience to bushfires.

The ACT Emergency Services Agency has responsibility for the suppression of bushfires, and for ensuring programs and policies are in place that will reduce the consequences of bushfires across the whole of the ACT. The original Strategic Bushfire Management Plan, produced in 2005, was the first document of its kind to provide the framework for integrated bushfire management across the whole of the ACT. This Plan replaces and builds upon the 2005 Strategic Bushfire Management Plan.

Version Two of the Strategic Bushfire Management Plan differs from the previous Plan in a number of ways. In preparing this Plan, the principal objective has been to provide a Plan that gives clear direction for the community and the Government to reduce bushfire risk. In keeping with this objective, the Emergency Services Agency has prepared two Implementation Plans:

- an Implementation Plan for the community that I ask and strongly encourage every member of the community to consider; this Implementation Plan will allow members of the community to consider their vulnerability to bushfires, and guide them in the necessary steps they should take to reduce their bushfire risk; and
- an Implementation Plan for Government that clearly spells out the actions Government will take to reduce the risk of bushfires, through its people and its agencies.

Implicit in these Implementation Plans is the requirement for a shared responsibility for the management of bushfire risk. Individuals must take personal responsibility for reducing the threat of bushfires to themselves, their families and properties. The Government must provide the policies and programs, professional expertise and resources to implement programs and support the community. Together, an aware and educated community and a government that is committed to mitigating the risk of bushfires can form a partnership to reduce the impacts of future bushfires in the ACT. The Plan acknowledges and incorporates a number of the interim recommendations of the 2009 Victorian Bushfires Royal Commission with particular reference to Chapter IV – Warnings, reflecting that certain bushfire situations are considered uncontrollable with the revised Fire Danger Rating recognising that buildings, despite being constructed to AS 3959 and occupiers being well prepared, are not defensible without significant threat to life or safety.

Both the ACT Emergency Services Agency and the Department of Territory and Municipal

Services represent the principal government agencies for the implementation of fire management programs in the Territory. Both Agencies have collaborated closely in preparing this Plan, providing significant resources and expertise to its development.

The ACT community, various organisations, partner agencies and individuals have also been critical in this Plan's development, contributing their views and ideas as to how fire should be managed in the ACT. After months of consultation we are ready to take the next steps in managing for bushfires in the ACT.

This revised Plan implements the Government response to the 2003 Coronial Inquiry into the Canberra bushfires. It includes consideration of the most recent fire behaviour science and the latest information on education and awareness, and it integrates fire management on all lands in the ACT. However, knowledge and understanding improve over time, and circumstances can change—the Plan and key supporting documents are designed to be flexible to accommodate these changes, and if required will be reviewed and updated.

The ACT Government supports this Plan, and commends it to the community and Government agencies.

A handwritten signature in black ink, appearing to read 'S. Corbell', with a large, sweeping flourish underneath.

Simon Corbell, MLA  
Minister for Police and Emergency Services

## Executive Summary

Bushfire has been, and remains, a powerful natural force in the Australian Capital Territory and the surrounding region. It is not a matter of 'if' bushfire will occur, it is a matter of 'when' and 'where'. It is important that the people of the ACT understand that living here means living with bushfire. Some of the most enjoyable features—the warm dry climate and natural landscapes—create some of the most severe bushfire conditions in the world. The city of Canberra and surrounding rural areas are closely linked with the foothills, grasslands and mountains of the ACT, many of which occur on the western boundary of the city. This significantly increases the likelihood of the prevailing bushfires from the north and west threatening life and property, and other values.

From time to time individual weather events, combined with drought and fire ignition, will lead to bushfires that may overwhelm suppression efforts and gain considerable size and ferocity. In these situations, it will not be possible for emergency services to provide protection to the whole community and it may not be possible for individuals to defend properties safely. While historical analysis shows that extreme bushfire conditions occur approximately once every seven years, some climate change modelling suggests this may increase to once every five years by 2020 and more frequently, to less than once every two years by 2050. In order to manage for bushfires now and into the future, including potentially catastrophic events, this Strategic Bushfire Management Plan sets out the strategies and the specific actions by which the ACT community and the ACT Government can better manage bushfires and reduce their consequences to life, property and the environment.

This Plan builds on the Strategic Bushfire Management Plan Version One, released in January 2005. Since that time, work has been undertaken, both in the ACT and nationally, through the Bushfire Cooperative Research Centre, to better understand and inform bushfire management. The ACT Coroner has handed down the findings of the Inquiry into the 2003 bushfires and the ACT Government has responded. Issues identified include the need for a mosaic of fuel management across the landscape of the ACT, improved community education and awareness, and better preparedness and response to bushfires when they occur. This Plan provides the basis for implementing the ACT Government's response to the Inquiry, as well as incorporating many of the recent advances in bushfire management.

The structure of this Plan adopts the nationally recognised elements of contemporary bushfire management: Research, Information and Analysis; Preparedness; Prevention; Response; and Recovery. The strategies and actions in the Plan are based on core principles which guide balanced, effective and efficient bushfire management.

The strength of this Plan arises from the necessary partnership and shared responsibility between the community and the ACT Government. The Emergency Services Agency has worked closely with Government land managers, urban and rural landholders and residents, emergency services and community groups in its development.

Through this Plan, the ACT Government empowers its agencies to implement the strategies and the actions detailed. Likewise, it asks each member of the community to consider the Plan and what it means to them, and to implement those strategies and actions necessary to reduce the risk of bushfire to their families and assets.

The ESA will monitor the strategies and actions in the Plan to ensure they are achieved and, where necessary, are adjusted to suit changing circumstances. This will ensure the Plan remains a dynamic document that can inform the next full review of the Plan.

## Contents

Foreword	iii
Executive Summary	v
The structure of the Strategic Bushfire Management Plan	viii
<b>PART ONE - Context for the ACT Strategic Bushfire Management Plan</b>	<b>1</b>
Chapter One: The Goal	2
The goal of bushfire management in the ACT	2
Core principles for bushfire management in the ACT	2
Chapter Two: The Scope	5
The scope of the Strategic Bushfire Management Plan	5
Chapter Three: The Basis	7
The legislative and policy basis for the Plan	7
The ACT bushfire environment	8
The history and cause of fire in the ACT	8
The current and future fire climate of the ACT	9
Bushfire fuels	9
Bushfire risk analysis	10
The bushfire management framework of this Plan	11
<b>PART TWO - Bushfire management objectives and strategies</b>	<b>13</b>
Goal and Strategies of the SBMP	14
Chapter Four: Implementation	17
Implementation	17
<b>PART THREE - Bushfire management zoning</b>	<b>19</b>
Chapter Five: Zoning	20
Bushfire management zoning	20
<b>PART FOUR- Implementation Plan for the ACT community</b>	<b>25</b>
<b>PART FIVE - Implementation Plan for the ACT Government</b>	<b>33</b>
<b>PART SIX - Resource Requirements</b>	<b>51</b>
Chapter Six: Resourcing	52
<b>PART SEVEN - Schedules</b>	<b>53</b>
Schedule A: Audit reporting	54
Schedule B: Classification and recommended standards for access	55
Schedule C: Fuel management standards for fire management zones	58
Explanatory Notes	60
Schedule D: Bushfire history records	62
Schedule E: Mapping components of the SBMP and supporting documents	63

## The structure of the Strategic Bushfire Management Plan

### ACT STRATEGIC BUSHFIRE MANAGEMENT PLAN

#### **PART ONE –Context and Background**

The core principles which guide bushfire management in the ACT and drive the strategies and actions of this Plan.

The scope and basis of the Plan and the framework under which it operates.

#### **PART TWO – Objectives and Strategies**

The specific objectives and strategies to reduce bushfire risk, including strategies for research and monitoring, prevention, preparedness, response and recovery.

#### **PART THREE – Fire Management Zoning**

Bushfire Management Zones that guide prevention and preparedness activities are described and the Zoning Maps are included for explanatory purposes.

#### **PART FOUR – Community Implementation Plan**

The specific actions which the community should implement, by which the strategies are delivered. Actions are specific, measureable and time-based.

#### **PART FIVE – ACT Government Implementation Plan**

The specific actions which the Government will implement, by which the strategies are delivered. Actions are specific, measureable and time-based.

#### **PART SIX – Resource Requirements**

The resources required to implement the strategies identified in the Plan.

#### **PART SEVEN – Schedules**

Standards and performance measures by which achievement of the strategies and actions will be assessed.

#### **SUPPORTING INFORMATION - PART ONE**

Part One of the supporting information includes: The Geography of the ACT, History and Cause of Bushfires, Bushfire Fuels, Bushfire Climate and Bushfire Risk analysis.

### KEY SUPPORTING DOCUMENTS

#### **ZONING MAPS AND REGIONAL FIRE MANAGEMENT PLANS**

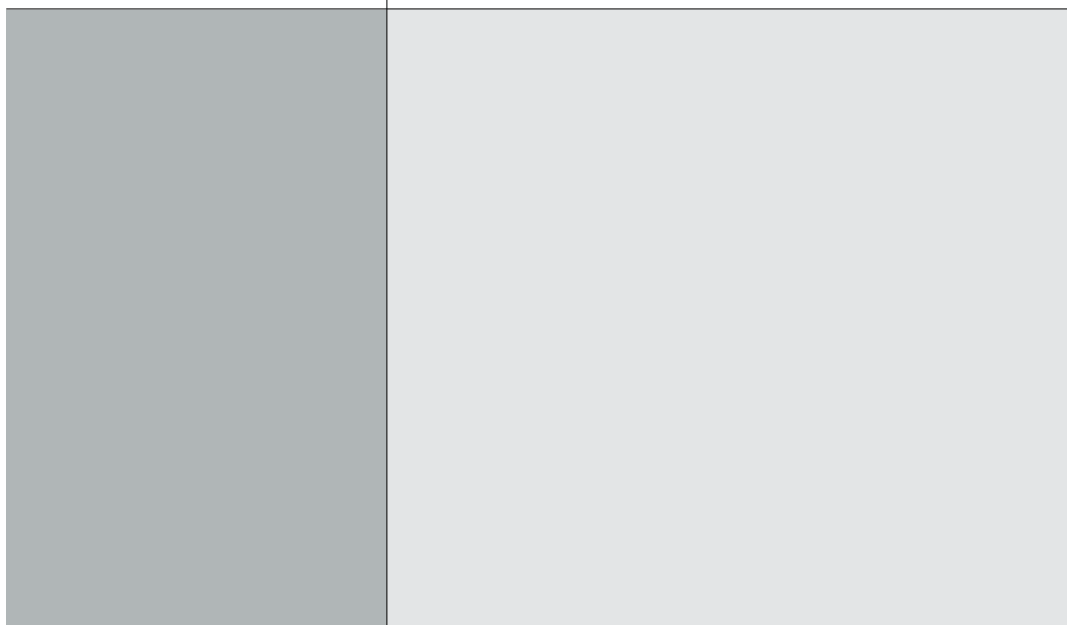
Detailed maps showing the fire management zones and the prevention and preparedness activities necessary to implement key actions of this Plan. These plans will be reviewed annually.

#### **BACKGROUND AND SUPPORTING INFORMATION – PART TWO**

Further background material on bushfire management to assist the community, land managers and emergency services to understand and implement the Plan. This includes background information on fire management and information on matters addressed the Plan.



# PART ONE - Context for the ACT Strategic Bushfire Management Plan



## Chapter One: The Goal

### The goal of bushfire management in the ACT

The goal of this Plan is:

*Through Government and the community working together,  
suppress bushfires and reduce their consequences on human life,  
property and the environment.*

Objectives have been set for both the ACT Government and for the ACT community. Within the framework of Research, Prevention, Preparedness, Response and Recovery, strategies and actions are identified to address the specific elements of bushfire risk.

### Core principles for bushfire management in the ACT

The bushfire management objectives, strategies and actions in this Plan are based on the following core principles which are intended to guide balanced, effective and efficient bushfire management.

1. Rapid detection and aggressive initial attack are fundamental to prevent fires from growing in size and threatening assets. Bushfires will be controlled in the shortest possible time, in a fast, determined, safe and thorough manner, giving due regard to management objectives and assets at risk.
2. Consistency of purpose and unity of control under the nationally adopted Australasian Inter-service Incident Management System (AIIMS) will be applied to all bushfire responses, irrespective of organisational structures.
3. Strong leadership and a commitment by the ACT Government and the community are required to maintain the momentum and priority for bushfire management planning and operations for the variable periods between severe events.
4. Individuals and households are expected to be informed and prepared in order to survive a catastrophic bushfire event. People must be provided with information on how bushfires may affect them and plan for their occurrence and in the event of bushfire threatening themselves or their properties, be able to make informed and timely decisions on early relocation or staying to defend their assets.
5. The safest response to bushfires is for members of the community to leave potentially vulnerable properties well before a bushfire arrives.
6. Consistent with the revised Fire Danger Ratings system, certain bushfire situations are considered uncontrollable. It should be recognised that buildings, even where built to meet

Australian Standards for bushfire construction and with occupiers being well prepared, are unlikely to be defensible and to attempt to do so would present significant threat to life or safety.

7. In extreme bushfire situations it must be recognised that it will not be possible for emergency services to provide protection to the whole community.
8. Information, advice and warnings provided by fire services to the community need to be timely, clear and accurate to ensure appropriate responses by individuals when bushfires occur.
9. Firefighter and public safety will take highest priority at all times when bushfires occur. Further priorities will be set for reducing bushfire impacts on property, rural production, businesses, community infrastructure and natural and cultural assets, based on asset value and the risk of bushfire to those assets.
10. Shared knowledge and information, including local community knowledge, will be actively sought, managed respectfully, and used to inform decision-making.
11. Bushfire management plans and programs will be based on a risk management framework which incorporates sound bushfire and environmental science, and lessons learned from previous bushfires.
12. Establishment and maintenance of the necessary levels and types of resources and systems, including experienced and motivated firefighting personnel, are necessary for effective fire management.
13. The ACT's firefighting capability is reliant on the maintenance of both volunteer and paid firefighting personnel.
14. The use of planned fires for fuel reduction is most effective in reducing the intensity and spread of fires under moderate fire conditions across large areas of the landscape, and will contribute significantly to the success of bushfire fighting under moderate conditions. However, as bushfire conditions become more extreme, fire intensity and rate of spread increase (even at low fuel loads) and the likely success of bushfire fighting efforts is reduced.
15. Bushfire management practices, including the use of planned fires for fuel reduction, will be carried out strategically and at a range of scales to reflect the differing risk in urban, rural and remote and mountainous areas.
16. Bushfire management recognises the dynamic nature of natural ecosystems, and requires clear objectives and an adaptive approach to environmental management. Fire managers will use the best available knowledge to identify appropriate fire management practices, including the desirable fire regimes necessary to maintain the ecological integrity of these systems.
17. The dynamic nature of bushfire risk and ecosystem management require bushfire management in the ACT to maintain the consistent application of the principles and policies identified in this Plan over the long term, and in subsequent plans.

18. Adverse biodiversity impacts may occur if the frequency, intensity and season of planned fire regimes do not reflect natural processes adequately. In some parts of the ACT, the planned fire regimes may be similar to ecologically-based fire regimes. However, in other areas the planned fire regimes may differ from the natural regimes, and may cause changes to the natural ecosystems.
19. Bushfire risk will be assessed in a regional context, considering the impact on the ACT from NSW, as well as the risk that bushfires from the ACT may present to NSW.
20. Recovery of social, community, rural and environmental assets is an integral component of bushfire management and will be considered before, during and after bushfires.

## Chapter Two: The Scope

### The scope of the Strategic Bushfire Management Plan

This Plan has the goal of identifying the necessary strategies and actions which the ACT Government and the community of the ACT will implement to enhance our ability to suppress bushfires and reduce their consequences.

This Plan provides for an integrated emergency response, utilising the skills and resources of all relevant ACT Government agencies and the community to respond to major bushfire events. This approach allows experienced firefighters to concentrate on bushfire suppression and uses support agencies to provide ancillary and coordination functions.

This Plan is prepared for the ACT Government and for the ACT community. This includes:

- the Fire Services (the ACT Rural Fire Service and the ACT Fire Brigade), support agencies and ACT Policing;
- Government agencies that support the community and emergency services;
- land managers, including ACT Government agencies and rural landholders; and
- urban and rural residents.

This Plan considers a range of assets which may be impacted by bushfires including built, environmental (ecological, hydrological and physical), agricultural and cultural assets.

This Plan assists the ACT Emergency Services Commissioner in exercising the functions of the position under the **Emergencies Act 2004**.

This Plan provides the actions and strategies by which the Chief Officer of the ACT Rural Fire Service and Chief Officer of the ACT Fire Brigade implement their responsibilities. The Plan recognises the distinct roles and responsibilities of these Services. The ACT Rural Fire Service and the ACT Fire Brigade are responsible for the suppression of bushfires, and through cooperative arrangements, key elements of bushfire management planning in the ACT.

This Plan supports the roles and functions of the ACT Bushfire Council to advise the Minister for Police and Emergency Services on any matters relating to bushfire management in the ACT. It provides the Council with a clear framework and measureable outcomes by which it can seek and analyse information and undertake audits on bushfire preparedness in the ACT.

The Plan recognises the critical contribution of the eight volunteer fire fighting brigades which provide the majority of the Territory's rural fighting personnel, as well as the support provided to the community and fire services through Community Fire Units.

The Plan recognises the key role of the Department of Territory and Municipal Services (TAMS) in fire management in the ACT. TAMS, through its business unit Parks, Conservation and Lands

are responsible for the management of 73% of the area of the ACT and provide suppression capability through Parks Rural Fire Brigade.

The Plan recognises the important role of the ACT local media in bushfire management. The media provides significant support to Emergency Services in assisting in the delivery of bushfire education and awareness programs, and has a critical role in disseminating information, advice and warnings when bushfires occur.

This Plan does not apply to National Land, which is managed by the Australian Government. However, the strategies and actions in the Plan have been designed to be compatible with and complimentary to management plans applying to National Land.

The ACT has formally and informally strengthened its relationship in the regional context with NSW agencies involved in fire management. Bushfires have the potential to come from NSW and impact on the ACT, from the forested landscape to the west and south, and the open agricultural lands to the north and east. Similarly, bushfires in the ACT have the potential to impact on NSW, in rural areas, rural subdivisions such as Royalla and Wamboin, and the urban and peri-urban areas of Queanbeyan, and beyond.

## Chapter Three: The Basis

### The legislative and policy basis for the Plan

This Plan has been prepared in accordance with the requirements of the **Emergencies Act 2004** (the Act). Consistent with section 80 of the Act the Strategic Bushfire Management Plan Version One has been reviewed by the Minister in consultation with the ACT Bushfire Council. The policies, strategies and actions in this Plan draw on and replace those developed in the Strategic Bushfire Management Plan Version One.

This Plan has been prepared to meet the requirements under the Act for the Emergency Services Agency (ESA) to develop a Strategic Bushfire Management Plan for the ACT. Section 74 of the Act defines the elements of bushfire management that must be addressed in the Plan. These requirements are met as part of this document and where identified, in the supporting information to the Plan.

The Plan provides the framework for implementing many of the agreed recommendations from the Coroners report into the 2003 Canberra bushfires. Also, the plan acknowledges and incorporates a number of the interim recommendations of the 2009 Victorian Bushfires Royal Commission, with particular reference to the **National Framework for Bushfire Scaled Advice and Warnings to the Community**, which details the framework for the provision warnings and information to the community and the revised national Fire Danger Rating system.

This Plan assists with elements of land use planning in the ACT, particularly those areas susceptible to bushfires including areas proposed for new subdivisions. Consistent with the provisions of the **Planning and Development Act 2007** and the Territory Plan, there is a hierarchical approach to planning in the ACT from the broad district level (that is a Structure Plan), to the suburb level (that is a concept plan and precinct code) and then to site specific development applications (subdivision and development).

This Plan and the supporting information assists in meeting the legislative requirements for planning and approval of fire management activities that may be subject to other legislation, including:

- *Environment Protection and Biodiversity Conservation Act (Commonwealth) 1999;*
- *Planning and Development Act 2007;*
- *Heritage Act 2004;*
- *Water Resources Act 2007;*
- *Environment Protection Act 1997; and*
- *Nature Conservation Act 1980.*

## **The ACT bushfire environment**

The bushfire environment of the ACT describes the range of factors potentially influencing how fires will start and spread, and their interaction with the environment as they do so. These factors are summarised below and are described in detail in the supporting information to this Plan.

### ***The history and cause of fire in the ACT***

Bushfires have long been part of the ACT landscape. A combination of inherently flammable vegetation, dry summers, periodic drought and lightning ignitions, has resulted in fires of small and large size and of high and low intensity, with periodic conflagrations that have covered the landscape. An understanding of the history of fire in the ACT, and south eastern Australia more broadly, is critical in informing future management decisions.

Over tens of thousands of years, Indigenous Australians developed a sophisticated understanding and usage of fire for managing land and resources, and their understanding of fire and fire regimes evolved over countless generations.

Since European settlement, the ACT has recorded a history of severe and damaging bushfires, with large areas burnt in the bushfire seasons of 1919-20, 1925-26, 1938-39, 1951-52, 1978-79, 1982-83, 1984-85, 2000-01 and 2002-03. The impact of the 2002-03 bushfires is regarded as the most serious since the ACT was established.

These relatively rare but severe events cause more than 95% of the damage and loss to people, property and assets. Notwithstanding, relatively small bushfires close to the edge of Canberra's suburbs are always potentially damaging.

Bushfires may start due to either natural or human causes. The most common natural cause of bushfires in the ACT is lightning and, in general, the largest areas burnt are attributed to lightning ignitions. The majority of fire ignitions, however, are human-caused, either due to arson, carelessness or the accidental lighting of fires. Most of the human-caused bushfires occur in or near the built up area of Canberra.

Bushfire management activities must address both the higher numbers of fires in and around the suburbs of Canberra that may immediately threaten homes, and the smaller number of fires further away that are potentially much larger and may threaten rural homes and assets and potentially the suburbs of Canberra.

Further information on the history and cause of bushfire is provided in ***Supporting Information – Part One***.



## ***The current and future fire climate of the ACT***

The bushfire season in the ACT corresponds with the summer months with high temperatures and low rainfall and has the potential to extend from September to April, with significant variation between years. The seasonal potential for unplanned fires varies with rainfall and temperature, and their influences on biomass growth and fuel moisture content.

Bushfire risk management, planning and operations must take into account the likelihood of severe fire weather and the challenges it presents. An assessment of the Fire Danger Rating is determined by combining measures of soil moisture deficiency with the weather variables of temperature, relative humidity wind speed and recent rainfall to produce a Fire Danger Index (FDI). This index relates to the potential bushfire behavior, including its rate of spread, its intensity and difficulty of suppression.

Most uncontrollable bushfires occur when the FDI is over 50 (although they may also occur at lower FDI), with the Fire Danger Ratings of Severe (FDI 50-74), Extreme (FDI 75-99) and Catastrophic-Code Red (FDI 100+) used to describe these higher levels of fire danger. Many of the major house loss events in south eastern Australia have occurred at Fire Danger Indices over 70. Historical analysis shows such high indices occur approximately once every six to seven years in the ACT.

Climate change presents new challenges to bushfire risk management. It is predicted that days of >50 FDI will increase in southern Australia, with a possible increase of the frequency of >70 FDI events to once every five years by 2020 and to more than once every two years by 2050.

It is recognised discrete climatological events occur that have the potential to effect bushfire behaviour. The effects of thunderstorms and wind changes are well known examples of these discrete events that impact on fire behaviour and level of Fire Danger Rating. Research into a range of discrete climatological conditions is underway to assist fire suppression agencies to identify these conditions.

Further information on this research, the Fire Danger Rating system and on the current and future ACT climate is provided in ***Supporting Information – Part One***.

## ***Bushfire fuels***

Bushfire fuels are one important factor affecting the spread of bushfires that can be modified prior to fires occurring. Planned fire is effective in modifying the quantity, arrangement and seasonal flammability of fuels, and thus in reducing the intensity, flame height and rate of spread of unplanned fires under given climatic conditions. This ability to modify fuel is especially important in forested landscapes, where it can be undertaken at relatively low cost to create a mosaic of fuel loadings over large areas that can significantly reduce bushfire risk.

Fuels in the urban environment (including landscaping, garden beds and some structures) play a significant role in the development and spread of unplanned fires on the urban edge and into suburbs. An assessment of house loss after the 2003 Canberra fires concluded that it was likely that more than 50% of the house losses were due to fire attack from suburban fuels. The management of bushfire fuels in suburbs, on both unleased and leased land, in conjunction with appropriate preparedness by residents, will reduce the risk of house loss.

Further information on bushfire fuels, the assessment and modelling of bushfire fuel loads in the ACT and the techniques used to modify bushfire fuels is provided in the **Supporting Information – Part One**.

### ***Bushfire risk analysis***

The structure of this Plan follows the steps of the risk management process detailed in the Australian/New Zealand Standard AS/NZS 4360:2004, which provides the framework for establishing the **context, analysis, evaluation, treatment, monitoring and communication** of risk.

The analysis and evaluation components of this framework are undertaken in this Plan by considering:

1. the likelihood of a bushfire starting and the how it will spread through the landscape; and
2. consequence on assets that may be affected by the spread of the bushfire.

**Supporting Information – Part One** provides detailed modelling and analysis of the probability of bushfires starting and spreading in the ACT, based upon historical records of the fire climate and the modelling of bushfire fuels and behaviour characteristics.

The areas in which a bushfire may spread under a range of conditions are critical in identifying the assets which may be impacted. Assets that may be impacted by bushfires (planned or unplanned) have been grouped into eight broad categories:

- Human life;
- Property;
- Business and social Infrastructure;
- Critical infrastructure;
- Agricultural production;
- Biodiversity and threatened species;
- Cultural heritage; and
- Water catchments.

**Supporting Information - Part One** details the range of potential consequences that bushfires, both planned and unplanned may have on each of these assets groupings. For some of the asset groupings, such as biodiversity and threatened species, more detailed background information is also provided in the **Supporting Information – Part Two**.

### *The bushfire management framework of this Plan*

As a means of addressing the components of the risk management framework for the treatment, monitoring and communication of bushfire risk, the following management framework is utilised:

**R**esearch, **I**nformation and **A**nalysis, **P**revention, **P**reparedness, **R**esponse and **R**ecovery (RPPRR).

This framework allows ACT Government agencies and the community to approach bushfire planning in a comprehensive and structured manner. However, flexibility in this framework is necessary and emphasis on a particular category may vary between individuals, organisations and locations, and over time.

**Research, information and analysis** provide contemporary information, qualified research findings and monitoring and review to develop and implement actions under the other categories in the framework.

**Prevention** includes pre-emptive risk mitigation actions by the ACT Government and the community to reduce the likelihood of bushfires starting, spreading and causing damage. It includes the reduction of bushfire fuels, the provision of access for suppression and managing the sources of ignition of bushfires.

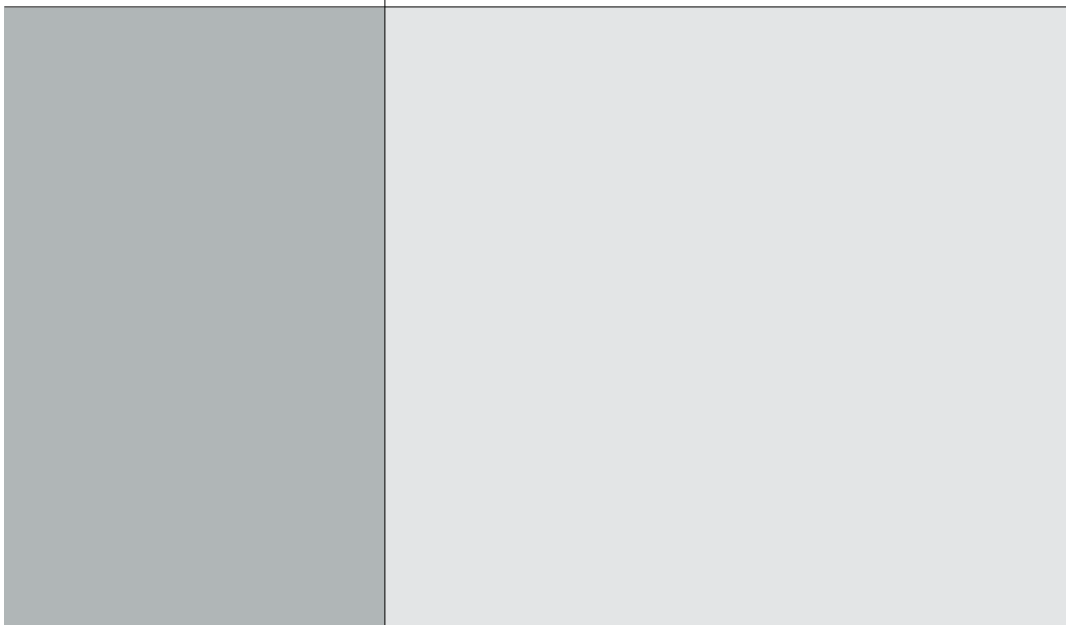
**Preparedness.** Preparedness ensures that when bushfires occur, ACT Government agencies, the community and individual land managers are ready to respond in ways that are effective and soundly based. These will include early detection, having appropriately trained and experienced firefighters, a prepared community and the necessary plans, physical and information resources in place to respond to bushfire and provide information, advice and warnings to the community.

**Response.** Effective response to bushfires when they start can mitigate bushfire risk, through limiting the spread and the consequences of bushfire. Response includes the firefighting component of the overall bushfire management process. Firefighting is generally the role of the Fire Services but, just as importantly response includes those critical actions that community members will take when bushfires threatens.

**Recovery** describes actions taken to limit the consequences following a bushfire. Recovery may be complex, as it deals with social, economic, physical and environmental rehabilitation. It is an integral part of the framework and should be consciously considered during all other phases of the framework.



## PART TWO - Bushfire management objectives and strategies



## Goal and Strategies of the SBMP

<b>The Goal</b>	
Through Government and the community working together, suppress bushfires and reduce their consequences on human life, property and the environment	
<b>Objectives</b>	
For the ACT Government to develop and implement an integrated, efficient and effective bushfire management program	For the community of the ACT to increase its knowledge of bushfires and to take personal actions to minimise the risk and consequences of bushfire events

<b>Strategies</b>	
<b>Research, information and analysis</b>	
<b>ACT Government</b>	<b>ACT community</b>
<ul style="list-style-type: none"> <li>• The ACT Government and the community work together to share knowledge and information to prepare and maintain integrated Regional Fire Management Plans</li> <li>• Undertake monitoring and review of the effects of the operations and activities resulting from this Plan and sub plans and report back to the community and adjust strategies as necessary</li> <li>• Analyse the response to and the effects of bushfires for future learning and adjust strategies where this new information and knowledge will result in improved outcomes</li> <li>• Actively work with other fire agencies to develop bushfire management strategies that are aligned and acknowledge the level of bushfire risk to each jurisdiction</li> </ul>	<ul style="list-style-type: none"> <li>• The ACT Bushfire Council will provide oversight and review of bushfire management in the ACT</li> <li>• The ACT Government and the community work together to share knowledge and information to prepare and maintain integrated Regional Fire Management Plans</li> <li>• The community considers its vulnerability to bushfires and take the necessary steps to plan for their occurrence</li> </ul>

<b>Prevention</b>	
<b>ACT Government</b>	<b>ACT community</b>
<ul style="list-style-type: none"> <li>• Undertake targeted programs to reduce the number of unplanned ignitions</li> <li>• Maintain a network of fire trails and helipads (bushfire management access network) to provide for rapid response to bushfires and to undertake effective bushfire fighting and hazard reduction operations</li> <li>• Establish priorities for prevention and preparedness activities which reduce the likelihood and consequences of catastrophic bushfire events</li> <li>• Maintain a mosaic of fuel loads at a landscape level, through Strategic Firefighting Advantage Zones that assist in suppressing bushfires and minimise environmental consequences</li> <li>• Provide for primary bushfire risk reduction adjacent to assets through Asset Protection Zones that assist in reducing the consequences of bushfires</li> <li>• Reduce bushfire risk in areas subject to ember attack, radiant heat and flame contact through effective urban planning, design and construction</li> </ul>	<ul style="list-style-type: none"> <li>• Community members prepare their properties and their businesses to reduce the impact of bushfire</li> </ul>
<b>Preparedness</b>	
<b>ACT Government</b>	<b>ACT community</b>
<ul style="list-style-type: none"> <li>• Ensure sufficient skilled and motivated personnel are available to meet bushfire management requirements</li> <li>• Ensure the standard and quantity of equipment and resources available for bushfire suppression meet bushfire suppression objectives</li> <li>• Ensure critical information and detection methods are available and arrangements are in place for firefighters to rapidly and effectively respond to bushfires</li> <li>• Provide support to the community to enhance its awareness and capacity to Prepare, Act and Survive the threat of bushfire</li> </ul>	<ul style="list-style-type: none"> <li>• Community members prepare themselves and their families to take action to avoid loss of life and reduce property damage, with the limited support of emergency services</li> <li>• Community members support the emergency services as an integrated part of the coordinated response efforts</li> </ul>

<b>Response</b>	
<b>ACT Government</b>	<b>ACT community</b>
<ul style="list-style-type: none"> <li>Respond to bushfires safely, effectively and efficiently to control and extinguish the fires</li> <li>Provide the necessary information, advice and warnings to the community to enable immediate response and appropriate actions by individuals when bushfires occur</li> <li>Where multiple agencies are involved or significant events occur, ensure the response to bushfires is undertaken in a coordinated manner</li> </ul>	<ul style="list-style-type: none"> <li>Community members take responsibility to undertake the necessary actions to improve their ability to survive bushfire events</li> </ul>
<b>Recovery</b>	
<b>ACT Government</b>	<b>ACT community</b>
<ul style="list-style-type: none"> <li><b>Restore healthy, diverse, and resilient ecological systems on a priority basis through long-term restoration</b></li> <li><b>Coordinate and deliver programs and services to assist the recovery of affected communities and individuals, including firefighting personnel and support staff</b></li> </ul>	<ul style="list-style-type: none"> <li>Communities lead their own recovery in partnership with the ACT Government and other agencies</li> <li>Communities support each other and contribute to the development of a more prepared community</li> </ul>



## Chapter Four: Implementation

### Implementation

The implementation of this Plan will be based on specific actions to achieve the strategies identified above. The ACT Government makes a commitment to implement the Plan, and where appropriate Government agencies will incorporate these actions into their annual business programs.

Community members are encouraged to consider the Plan, and incorporate the actions identified into their personal planning for bushfires.

Implementation actions will:

- be linked clearly to the strategies of the Plan;
- specify clear and measurable outcomes; and
- clearly allocate responsibility for achieving outcomes. This may include identified statutory positions (such as the Chief Officers of the Fire services) or as appropriate organisations, groups or individuals. In some cases, these functions may be delegated by the identified party. Multiple parties are identified for some single action statements, generally reflecting actions that having multiple components.

The timing to implement the actions considers a range factors:

- actions identified that are already in place or undertaken;
- actions that may have commenced but require further development;
- new actions;
- actions requiring periodic review; and
- actions that will only be required in specific circumstances, for example when a significant bushfire occurs.

Where appropriate, the timing to commence or complete specific actions and undertake periodic review is identified in the action statement.

Relative priorities have been assigned to the specific actions in the Implementation Plans. The following criteria have been used to allocate the priorities.

- High: these are tasks which are essential to achieve the Plan's objectives; and
- Medium: these are tasks important to achieve the Plan's objectives but which can be undertaken over the life of this Plan, without significant adverse impacts on bushfire management outcomes.

Acronyms used in implementation plans principally relate to the names of ACT Government Agencies and Business Units responsible for implementing actions. They are:

ESA ACT Emergency Services Agency

ACT RFS ACT Rural Fire Service

ACT FB ACT Fire Brigade

JACS ACT Department of Justice and Community Safety

TAMS ACT Department of Territory and Municipal Services

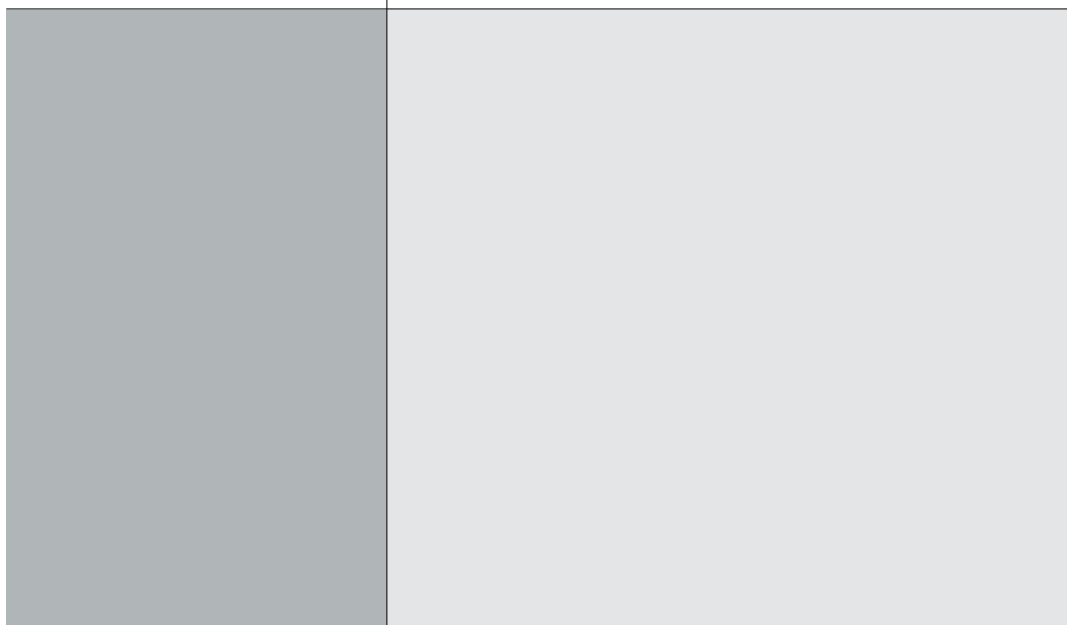
CMD ACT Chief Ministers Department

DHCS ACT Department of Disability, Housing and Community Services

LDA ACT Land Development Agency

ACTPLA ACT Planning and Land Authority

## PART THREE - Bushfire management zoning



## Chapter Five: Zoning

### Bushfire management zoning

Bushfire management zones guide prevention and preparedness activities to achieve more effective management of bushfires, by both the ACT Government and broader community.

Bushfire management zoning in this Plan:

- provides an ACT-wide approach to bushfire risk mitigation, and is developed in a tenure neutral manner;
- strategically allocates areas of land to zones and where appropriate, with measurable treatment standards;
- are located and aligned to reflect the risk of bushfires starting, spreading and causing damage; and
- consider the principal purpose for land use, including ecological or production requirements, proximity to natural or built assets and appropriate strategies for bushfire control operations.

The use of fire management zones form the cornerstone of the prevention activities identified in this Plan and are important for assisting the community in assessing their vulnerability to bushfires. They inform the development of Regional Fire Management Plans, which are prepared to detail the timing, location and type of specific bushfire prevention actions to be undertaken. The Fire Management Zones are:

**Ember Zones:** are areas of leased land that contain rural and urban structures and assets that may be subject to impact by bushfires, principally through ember attack and potentially as a result of radiant heat and direct flame contact from bushfires. The zone has been established based on historical data of bushfire penetration into built-up areas, and provides a guide to show areas at highest risk from direct ember attack. It does not automatically mean that all properties falling inside this zone will be affected by all bushfires; likewise in some circumstance bushfires may penetrate further than the distances indicated<sup>1</sup>.

**Inner Asset Protection Zones:** are strips of land adjacent to vulnerable assets, where fuel hazard is to be reduced to comparatively low levels. This will reduce the level of ember attack, direct flame contact and radiant heat impact on adjacent assets, and provide defensible space to allow firefighters and residents to reduce the impact of bushfires with increased safety under some conditions.

---

<sup>1</sup> The purpose of the Ember Zone is to: identify to urban and rural residents areas that may be subject to a higher level of bushfire risk to guide them in the necessary actions they need to undertake to *Prepare, Act and Survive* bushfire situations; guide emergency services in targeting and delivering proactive and explicit community education and awareness programs and; may be used to trigger the application of specific bushfire risk assessment to determine standards of building construction for new subdivisions and developments. The Zone does not impose retrospective requirements for meeting particular building standards on existing properties.

**Outer Asset Protection Zones:** are strips of land adjacent to some inner asset protection zones, where fuel hazard is to be reduced to comparatively low levels to further reduce bushfire intensity and the risk of ember attack to adjacent houses and assets.

**Strategic Firefighting Advantage Zones:** are corridors established to break up major fire runs in instances where initial attack fails and conditions permit, although they may assist in initial attack in some circumstances. These zones are strategically located to slow the spread of unplanned fires and reduce fire intensity and spotting.

**Landscape Fire Management Zones:** are areas on government managed lands where planned fire is applied for ecological and catchment requirements, recognising that in some communities, no planned fire will be applied.

**Agricultural Fire Management Zones:** are areas of rural leasehold and agisted lands where bushfire mitigation is undertaken less intensely, and in accordance with rural production objectives. The Zone recognises that the range of rural production activities practiced in the ACT will generally result in the reduction of bushfire risk.

**Cooperative Management Areas:** are identified where particular zones cross over multiple land management tenures or areas where this Plan does not apply but are significant in relation to fire management strategies in the ACT. Examples of this may include zones that straddle rural land and national park in the ACT, areas of NSW or areas on National Land managed land in the ACT. In these Cooperative Management Areas, the ESA, land managers or other fire authorities will work closely to develop strategies and actions that are integrated and consistent with this Plan and the relevant land use objectives.

The mapped fire management zones below (figures one and two) are provided for explanatory purposes. The zoning is shown for the next ten years, in two five-year groupings: 2009-2014 and 2014-2019.

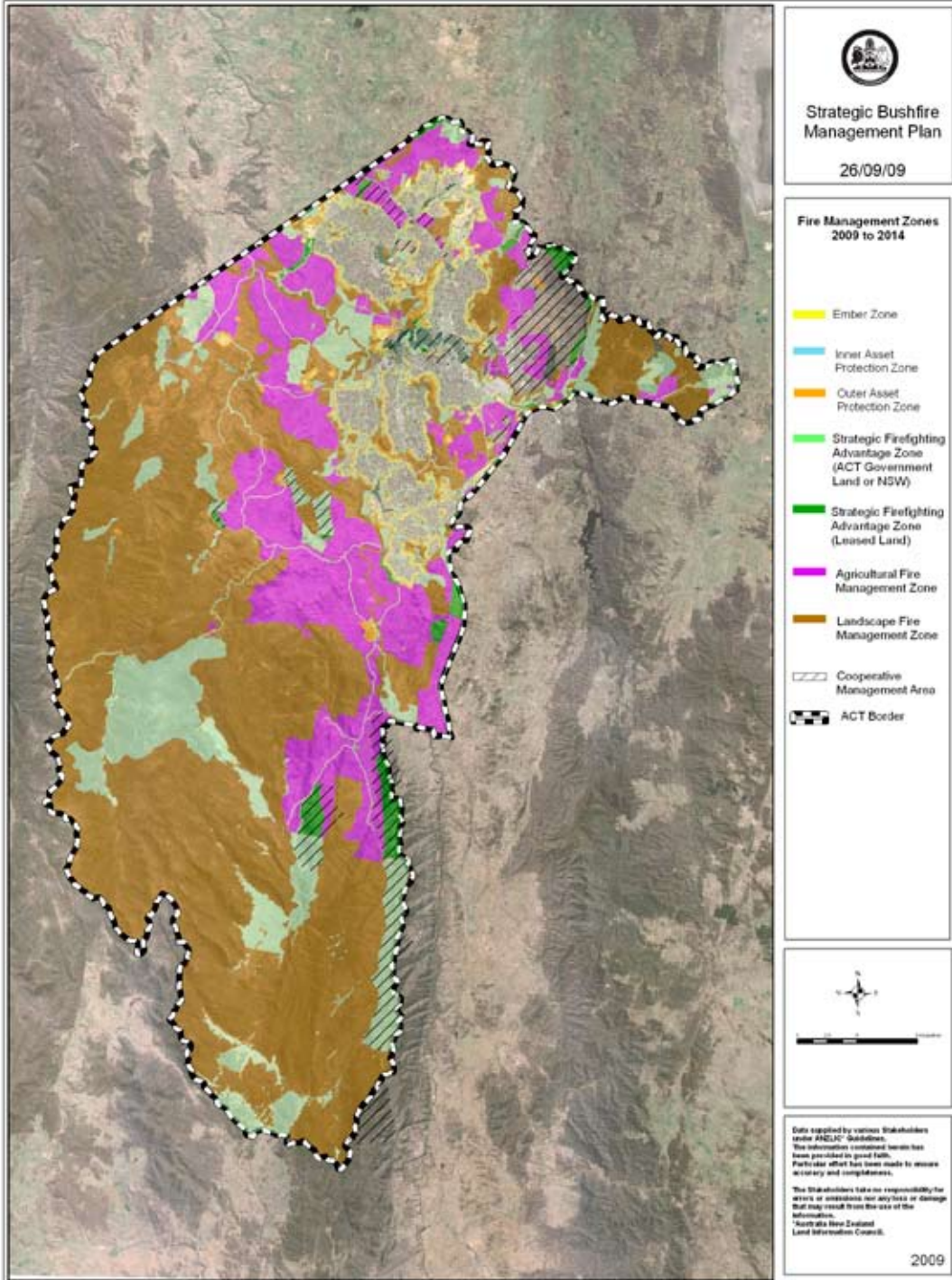
The zoning system is designed to be dynamic over the long term, and the location of zones may vary. For example, this Plan identifies the need to achieve mosaic of fuel management across the landscape, while recognising the need to balance bushfire risk mitigation with environmental values. To achieve these multiple objectives Strategic Firefighting Advantage Zones will vary in some locations between the two five-year groupings identified, as well as in future Plans. A further example is the urban footprint of the ACT, which changes over time and requires zoning to be flexible to accommodate these changes from year to year.

These zones and the Regional Fire Management Plans that derive from them will be subject to annual review. Where amendments are required they will be approved by the Commissioner ESA. These changes may be made without prior public consultation.

Further information relating to Fire Management Zoning can be found in the **Supporting Information - Part Two**.

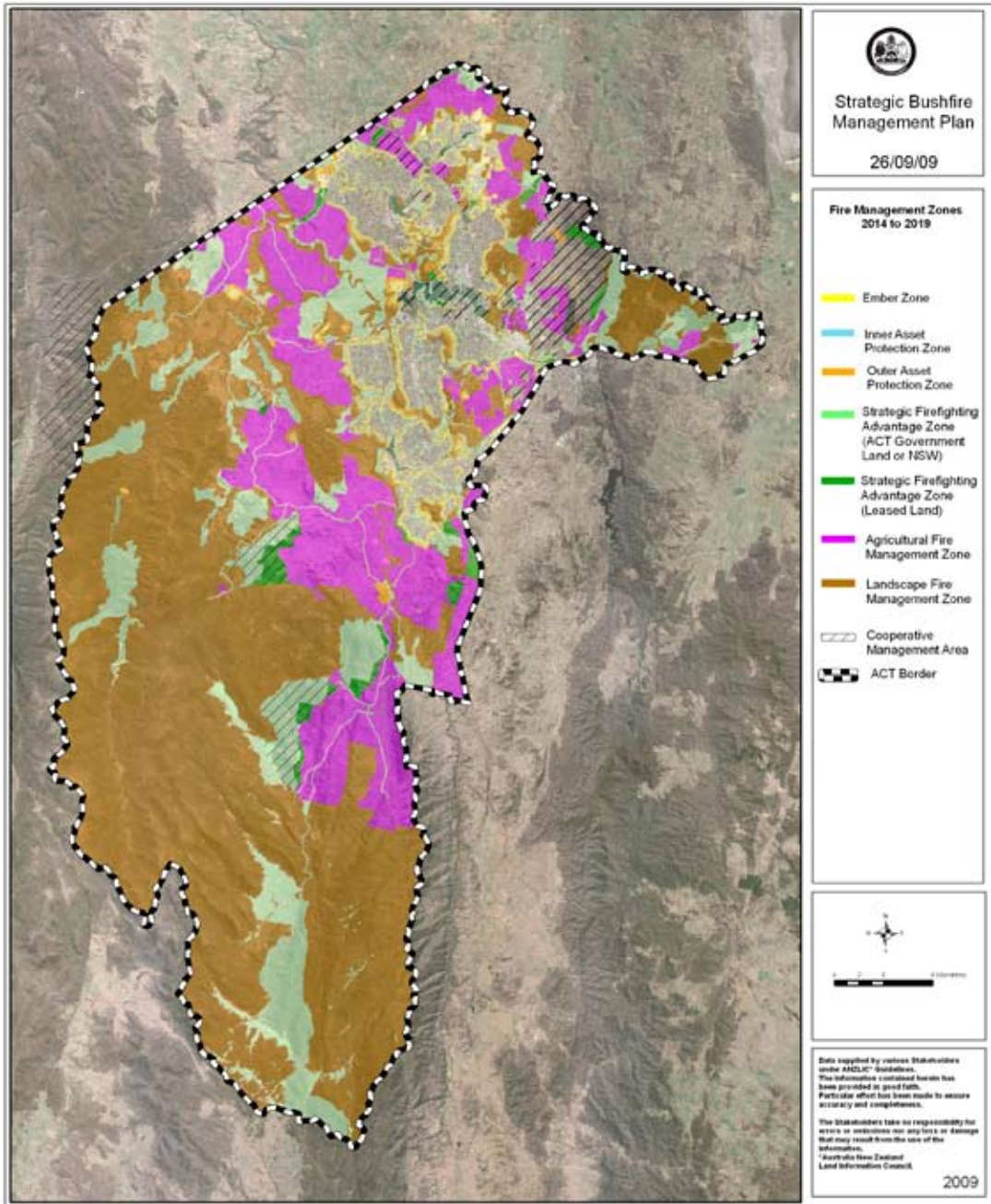
### Figure One - ACT Zoning Map 2009-2014

This map is for explanatory purposes and will be reviewed annually.  
High resolution maps are available on the ESA website



**Figure Two - ACT Zoning Map 2014-2019**

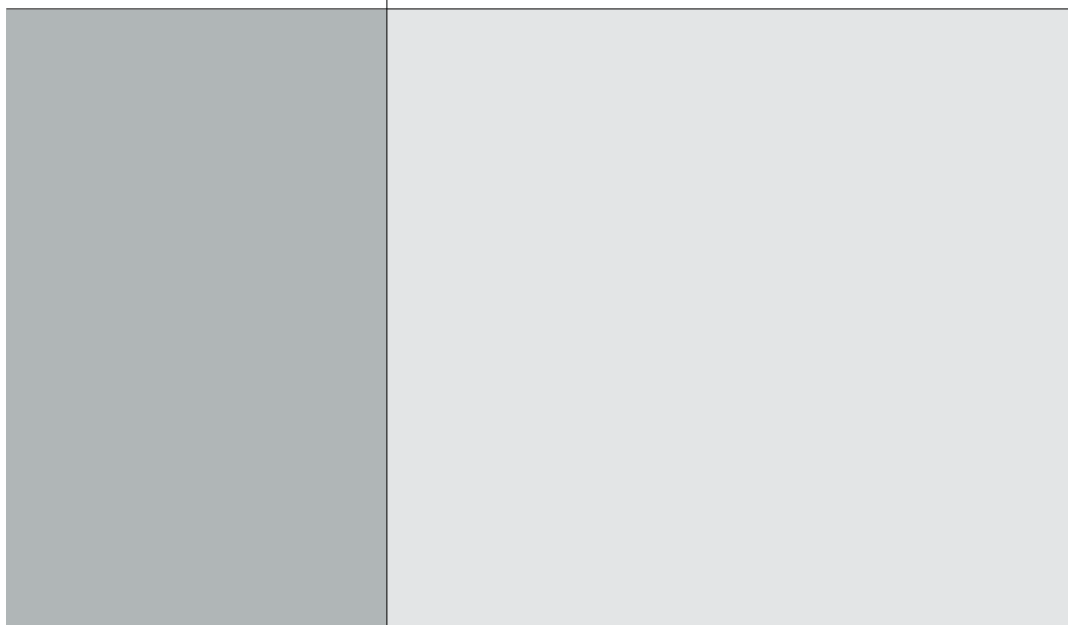
This map is for explanatory purposes and will be reviewed annually.  
 High resolution maps are available on the ESA website







## PART FOUR– Implementation Plan for the ACT community



## ACT Community Implementation Plan

***This Plan asks the community of the ACT to increase its knowledge of bushfires and to take personal actions to minimise the risk and consequences of bushfire events***

### Research, information and analysis

Research, information and analysis provide the necessary processes, information and understanding to implement actions under the other categories in this framework. Planning and management cannot be improved without analysis of past events and incorporation of improved technological and operational developments. Research provides valuable insights into critical factors and causal relationships.

#### **Strategy: The ACT Bushfire Council will provide oversight and review of bushfire management in the ACT**

No.	Actions to achieve the strategy	Priority	Responsibility
1	<p>The ACT Bushfire Council will monitor and review implementation of actions established under this Plan.</p> <p>Audit reports will be prepared annually to document compliance with actions identified in this Plan. Audit reports will include an outline of the audit procedure, any necessary discussion of findings, and conclusions about level of compliance with this Plan.</p>	High	ACT Bushfire Council
2	<p>The ACT Bushfire Council will provide advice to the Minister on matters relating to bushfire management in the ACT, including:</p> <ul style="list-style-type: none"> <li>• the level of preparedness;</li> <li>• prevention activities;</li> <li>• the response capability of fire services; and</li> <li>• the implementation of recommendations from the inquiries into the 2003 Canberra bushfires, and other major bushfire events.</li> </ul> <p>This advice will be prepared annually, and provided to the Minister prior to the commencement of the bushfire season for that year.</p>	High	ACT Bushfire Council

**Strategy: The ACT Government and the community work together to share knowledge and information to prepare and maintain integrated Regional Fire Management Plans**

	Actions to achieve the strategy	Priority	Responsibility
3	Community members consider and actively participate in the development of plans for fire management.	Medium	All community members
4	Rural landholders participate in cooperative arrangements with adjacent landholders, community groups and individuals to integrate fuel management activities and access across ACT land tenures, generally in areas identified as Cooperative Management Zones.	Medium	All fire management authorities and community members

**Strategy: The community considers its vulnerability to bushfires and take the necessary steps to plan for their occurrence**

No.	Actions to achieve the strategy	Priority	Responsibility
5	The community evaluate its level of vulnerability to bushfire and understand their personal responsibility to plan for the event of a bushfire. Evaluation of vulnerability is assisted by considering: <ul style="list-style-type: none"> <li>individual's proximity to the identified Ember Zones<sup>2</sup>, which show those built up areas in the ACT at higher level of risk from the impacts of bushfire;</li> <li>whether you live in rural areas of the ACT; and</li> <li>bushfire information and advice available through the fire services.</li> </ul>	High	All community members
6	Community members, particularly those in areas identified as Ember Zones, participate in an integrated bushfire education and awareness program in order to understand fire management and plan personal bushfire responses. This should include the preparation of a home emergency plan, which considers the necessary prevention, preparedness, response and recovery actions they will undertake to Prepare, Act and Survive a bushfire event.  Detailed information on the preparation of home emergency plans is available on the ESA website or from the ESA.  These plans should be reviewed annually, prior to the commencement of the bushfire season <sup>3</sup> .	High	All community members

- The mapped location of Ember Zones in the ACT are available on the ESA website or from the ESA. The Ember Zone are those urban areas and rural villages specifically identified in the Fire Management Zoning Maps as subject to a higher level of bushfire risk. Although not identified on these maps, rural residences and assets may also be within an Ember Zone.
- The bushfire season normally runs from 1 October through to 31 March the following year, although the beginning and end of the season may be changed if conditions require.

## Prevention

Prevention encompasses pre-emptive risk mitigation action by the ACT Government and the community to reduce the likelihood of bushfires starting, spreading and/or causing damage to assets.

<b>Strategy: Community members prepare their properties and their businesses to reduce the impacts of bushfire</b>			
No.	Actions to achieve the strategy	Priority	Responsibility
7	<p>Community members, particularly those in areas identified as Ember Zones, consider what level of bushfire threat the property is capable of withstanding<sup>4</sup> and undertake actions to prepare<sup>5</sup> their properties to reduce the effects of bushfires which may include:</p> <ul style="list-style-type: none"> <li>regular actions to reduce the risk presented by heavy loads of garden fuels and vegetation around their homes;</li> <li>actions to address building deficiencies that may increase their vulnerability to bushfire; and</li> <li>the necessary and appropriate resources and equipment for responding to bushfire events, including the provision of a "home emergency kit" for bushfires (and other emergencies).</li> </ul> <p>Considering how well your assets are prepared for bushfire events must be a continuous and ongoing process for all members of the community and should form part of a home emergency plan. Even if the plan is to leave, the better prepared the home the greater the likelihood it will survive a bushfire. Detailed information is available on the ESA website to assist.</p> <p>Community members are encouraged to seek the advice for the ACT Fire Services, including Community Fire Units and Volunteer Brigades to assist in the development of the plans and undertaking activities.</p>	High	All community members
8	<p>In addition to providing an increased level of protection to their homes, rural landholders also take active and regular measures to prevent damage to critical infrastructure, production, and agricultural assets of their business enterprises. This should include participation and advice in protecting environmental and heritage values, which may occur on their property or on adjacent lands, including identified Cooperative Management Areas.</p> <p>Local volunteer brigades may assist rural landholders in the development of the plans.</p>	High	Rural landholders

4. The vulnerability of houses to bushfires will be dependent on the scale of bushfire threat and the extent of preparations undertaken to reduce this threat. Notwithstanding, in some bushfire situations, even fully prepared and well designed homes are unlikely to be defensible.

5. Prepare, Act, Survive is the nationally agreed framework for the provision of information and warnings to the community.

**Preparedness**

Preparedness ensures that when bushfires occur, ACT Government agencies, the community and individual land managers are ready to respond in ways that are effective and soundly based. These will include early detection, having appropriately trained and experienced firefighters, a prepared community and the necessary plans, physical and information resources in place to respond to bushfire and provide information, advice and warnings to the community.

**Strategy: Community members prepare themselves and their families to take action to avoid loss of life and reduce property damage, with the limited support of emergency services**

No.	Actions to achieve the strategy	Priority	Responsibility
9	<p>Community members, particularly those in areas identified as Ember Zones determine how they will prepare themselves for bushfire incidents. Preparing for bushfires needs to consider:</p> <ul style="list-style-type: none"> <li>• If the plan is to leave early in the event of bushfires, prepare for where to go, how to get there and what to take;</li> <li>• If the plan is to stay, understand the risk of injury and death presented by major bushfires and whether individuals are physically and emotionally prepared to withstand the extreme physical and psychological conditions presented by bushfire impact;</li> <li>• contingency plans including areas to shelter and how they can be accessed if a bushfire threatens;</li> <li>• the ability to act independently, without the support of emergency services; and</li> <li>• plans for the safety of vulnerable family or individuals, including children or the disabled.</li> </ul> <p>Preparations for bushfire events must be a continuous and ongoing process for all members of the community and should form part of a home emergency plan.</p> <p>Community members are encouraged to seek the advice from the ACT Fire Services, including Community Fire Units and Volunteer Brigades to assist in the development of the plans and undertaking activities.</p> <p>Detailed information is available on the ESA website to assist.</p>	High	All community members

10	<p>Community members, particularly those in areas identified as Ember Zones actively seek to understand:</p> <ul style="list-style-type: none"> <li>the Fire Danger Rating system that is applied, using a combination of words (the Fire Danger Rating) and numbers (the Fire Danger Index) that provides an assessment of the fire behaviour, the difficulty of controlling a fire and the possible impacts.</li> <li>the levels and types of messages used by Emergency Services and their purpose in alerting community members to danger so actions can be taken<sup>6</sup>.</li> </ul> <p>Detailed information is available on the ESA website describing the Fire Danger Rating and messages that will be provided by emergency services.</p>		All community members
11	Community members, particularly those in areas identified as Ember Zones, assess the need and necessary coverage of insurance against the risk of bushfires. Requirements should be reviewed annually.	Medium	All community members
12	Rural landholders prepare and annually review Bushfire Action Plans <sup>7</sup> that considers the necessary skills and resources to respond to bushfires on their properties, with the objective of controlling and extinguishing unplanned fires.	High	Rural landholders

**Strategy: Community members support the emergency services as an integrated part of the coordinated response efforts**

No.	Actions to achieve the strategy	Priority	Responsibility
13	<p>Individuals, particularly those in areas identified as Ember Zones consider their ability to contribute to their community through voluntary service by:</p> <ul style="list-style-type: none"> <li>becoming a member of a rural volunteer fire brigade;</li> <li>becoming a member of a local Community Fire Unit; or</li> <li>becoming a member of other services and organisations that support fire management.</li> </ul>	High	All community members
14	Individuals should be aware of their responsibility to report bushfires or suspicious activity, and assist emergency services when requested.	High	All community members

<sup>6</sup> Consistent with the principles established in the National framework for scaled bushfire advice and warnings to the community, the type of messages are:

- Bushfire Advice messages provide general information to keep the community up to date with the local bushfire situation and developments;
- Watch and Act messages will identify that a bushfire is approaching, conditions are changing; community members need to start taking action now to protect themselves and their family; and
- Emergency Warning messages will identify that community members are in danger, will be impacted by fire and need to take action immediately. This message will usually be preceded by the Standard Emergency Warning Signal (SEWS).

Any subsequent revisions to this framework may be incorporated as appropriate.

<sup>7</sup> Rural Landholders should engage with the Farm FireWise program to prepare these plans, which would meet requirements of their Land Management Agreements. Farm Fire Wise is an ongoing program established and implemented by the ACT Rural Fire Service to assist rural landholders to undertake the necessary planning activities to prevent and prepare for bushfires

## Response

Effective response to bushfires when they start can mitigate bushfire risk, through limiting the spread and the consequences of bushfire. Response includes the firefighting component of the overall bushfire management process. Firefighting is generally the role of the Fire Services but, just as importantly response includes those critical actions that community members will take when bushfires threatens.

<b>Strategy: Community members take responsibility to undertake the necessary actions to improve their ability to survive bushfire events.</b>			
No.	Actions to achieve the strategy	Priority	Responsibility
15	<p>Throughout the bushfire season, community members maintain awareness of local bushfire events and the regional bushfire situation. This can be achieved through:</p> <ul style="list-style-type: none"> <li>• fire services websites;</li> <li>• other websites, such as the Bureau of Meteorology;</li> <li>• Canberra Connect;</li> <li>• radio or television and online media services<sup>8</sup>;</li> <li>• identifying and maintaining contact networks with friends, neighbours and family; and</li> <li>• contact with local Volunteer Brigade and CFU members.</li> </ul> <p><i>Bushfire Advice</i> messages will provide general information to keep the community up to date with the local bushfire situation and developments.</p>	High	All community members
16	<p>The decisions and actions community members take when bushfires occur are critical to their safety. Fires can threaten suddenly and without warning and community members should be prepared to act, potentially without receiving any emergency warning. Critical in this is the need to:</p> <ul style="list-style-type: none"> <li>• know what the Fire Danger Rating is;</li> <li>• watch for signs of fire, especially smoke and flames;</li> <li>• put preparations into action – activate your home emergency plan and do not ‘wait and see’;</li> <li>• act decisively the moment when danger is known; and</li> <li>• know the safest place is to be away from the fire.</li> </ul> <p><i>Watch and Act</i> messages will identify that a bushfire is approaching and conditions are changing; community members need to start taking action at this stage to protect themselves and their family.</p> <p><i>Emergency Warning</i> messages will identify that community members are in danger, will be impacted by bushfire and need to take action immediately.</p>	High	All community members

<sup>8</sup> Radio or television and online media services: The ESA and other emergency services will utilise a range of broadcast media to disseminate messages. The ESA has arrangements in place with local media for the dissemination of public warning and emergency information 24 hours a day, 7 days a week.

## Recovery

Recovery is risk mitigation that limits the consequences after a bushfire. Recovery is complex as it deals with social, economic, physical and environmental rehabilitation. It is an integral part of the whole process and consciously considered at each other stage of the process.

### **Strategy: Communities lead their own recovery in partnership with the ACT Government and other agencies**

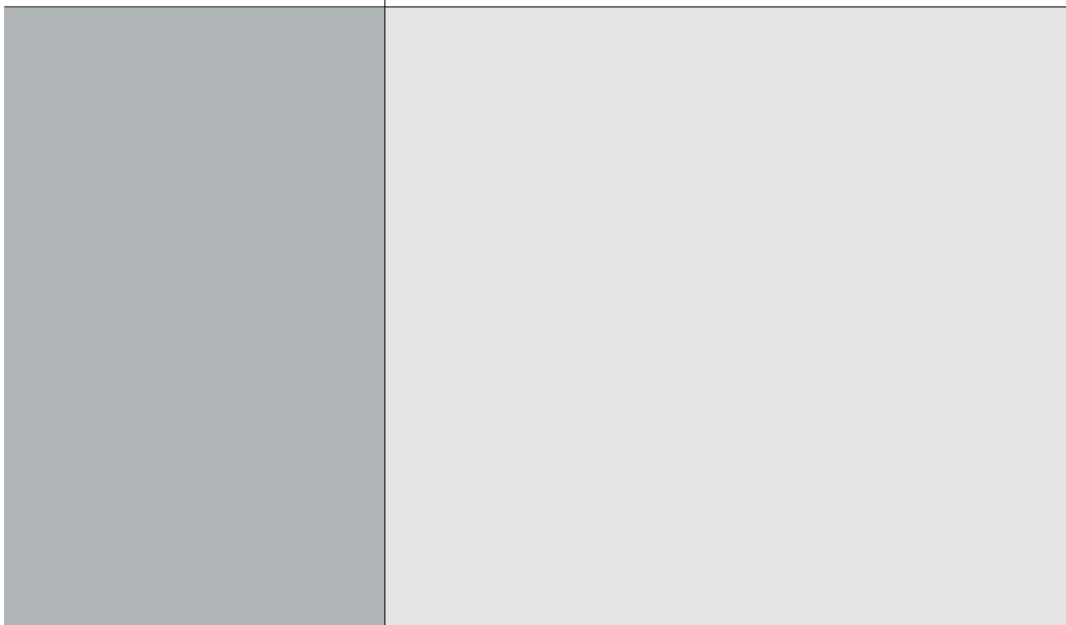
No.	Actions to achieve the strategy	Priority	Responsibility
17	Work collaboratively and contribute skills and resources to assist with the recovery of community, businesses and individuals.	Medium	Community members
18	In cooperation with emergency services, rural landholders and managers of social and critical infrastructure commence recovery actions for: <ul style="list-style-type: none"> <li>• animal welfare and environmental requirements;</li> <li>• the maintenance of services, businesses; and commercial enterprises.</li> </ul> These actions may need to be undertaken while bushfires are still actively burning.	Medium	Rural landholders and infrastructure managers

### **Strategy: Communities support each other and contribute to the development of a more prepared community**

No.	Actions to achieve the strategy	Priority	Responsibility
19	Following bushfire events, both in the short and long term, community members should be encouraged to undertake ongoing monitoring of their own wellbeing and that of vulnerable family, neighbours and other community members, to ensure their safety and individual needs and, if necessary, assist or seek appropriate assistance for them.	High	Individuals and community members



# PART FIVE – Implementation Plan for the ACT Government



# ACT Government Implementation Plan

**For the ACT Government to develop and implement an integrated, efficient and effective bushfire management program**

## Research, information and analysis

Research, information and analysis provide the necessary processes, information and understanding to implement actions under all of the categories in this framework. Planning and management cannot be improved without analysis of past events and incorporation of improved technological and operational developments. Research provides valuable insights into critical factors and causal relationships.

### Strategy: The ACT Government and the community work together to share knowledge and information to prepare and maintain integrated Regional Fire Management Plans

No.	Actions to achieve the strategy	Priority	Responsibility
1	The Plan will be reviewed within five years. Given that many of the policies of this Plan will be implemented over a longer period, the Plan considers a ten-year outlook (or longer) in some key areas. Amendment of this Plan may be undertaken consistent with the <i>Emergencies Act 2004</i> as required by changes in legislation, policy or advances in knowledge.	High	Minister for Police and Emergency Services
2	The ACT Government have prepared Regional Fire Management Plans under this Plan. These plans establish operational objectives for the next ten years and inform the annual Bushfire Operational Plans. These plans will be reviewed annually to reflect seasonal and operational issues that affect the implementation of the plans. <sup>9, 10</sup>	High	Commissioner ESA, TAMS
3	The ACT Government will assist the community in their understanding of fire management practices in Regional Fire Management Plans (including prescribed burning) through awareness and education programs.	Medium	Commissioner ESA, TAMS

9. The annual review and any amendments required to these plans will be approved by the Commissioner ESA and may be notified to the public without prior consultation

10. Regional Fire Management Plans are based on the sixteen 1:25000 map sheets that provide coverage of the ACT and adjacent areas of NSW. They are available for viewing on the ESA website: [www.esa.act.gov.au](http://www.esa.act.gov.au). A description of the content of these plans is found at schedule E.

**Strategy: Undertake monitoring and review of the effects of the operations and activities resulting from this Plan and sub-plans and report back to the community and adjust strategies as necessary**

No.	Actions to achieve the strategy	Priority	Responsibility
4	The ACT will maintain a commitment to ongoing nationally coordinated bushfire research. The most recent advances in the knowledge related to the effects and effectiveness of fire management found through engagement with relevant state, national and international bodies for bushfire research and management, will be used to inform training, awareness and other programs.	Medium	Commissioner ESA and TAMS
5	Regular and ongoing sampling and assessment will be undertaken to monitor the effects of bushfires and bushfire management, in particular prescribed burning and its impact on fuel levels, flora and fauna. This assessment will be used to inform and adapt future practices as appropriate.	Medium	TAMS
6	Regular and ongoing assessment of the effectiveness of community education and awareness programs will be undertaken and where appropriate, these programs will be reviewed in consideration of this assessment, best practice and national standards to ensure they remain current and effective.  Initial assessment will be undertaken during the 2010-11 bushfire season, with ongoing review of education and awareness programs.	High	Commissioner ESA
7	Annual reports will be prepared to document the ACT Government's compliance with actions identified under this Plan <sup>11</sup> .	High	Commissioner ESA
8	The ESA may appoint Inspectors in accordance with the Act, who may assess and give direction to land managers on the implementation of bushfire management requirements in this Plan and sub-plans <sup>12</sup> .	Medium	Chief Officer ACT RFS Chief Officer ACT FB

11. This report may be used to support the audit of the Plan by the ACT Bushfire Council (See action 5). Schedule A identifies procedures associated with preparation of these reports.

12. This may include those actions required of Government Agencies and members of the community.

**Strategy: Analyse the response to and the effects of bushfires for future learning and adjust strategies where this new information and knowledge will result in improved outcomes**

No.	Actions to achieve the strategy	Priority	Responsibility
9	<p>Consider and undertake where appropriate, opportunistic research into:</p> <ul style="list-style-type: none"> <li>• fire behaviour, firefighting methods and firefighter performance<sup>13</sup>; and</li> <li>• the effects of bushfire on natural and cultural values<sup>14</sup>.</li> </ul> <p>The findings (as well as findings from other research and analysis) may be used to inform the annual review of Regional Fire Management Plans, future pre-fire season briefings, fire operations and performance improvement.</p>	High	Chief Officer ACT RFS, TAMS
10	<p>Conduct a formal debriefing and analysis of findings following bushfires where:</p> <ul style="list-style-type: none"> <li>• substantial resources were engaged<sup>13</sup>;</li> <li>• bushfire damage to assets or values was significant<sup>13</sup>;</li> <li>• safety was compromised<sup>13</sup>; or</li> <li>• recovery issues have been raised<sup>15</sup>.</li> </ul> <p>The findings should be used to inform the annual review of Regional Fire Management Plans, future pre-fire season briefings, fire operations and procedures, and performance improvement.</p>	High	Chief Officer ACT RFS, Chief Officer ACT FB , TAMS, DHCS

**Strategy: Actively work with other fire agencies to develop bushfire management strategies that are aligned and acknowledge the level of bushfire risk to each jurisdiction**

No.	Actions to achieve the strategy	Priority	Responsibility
11	<p>To achieve effective coordination and cooperation for bushfire response and preparedness, maintain formal agreements between ACT and NSW agencies and develop Memoranda of Understanding to provide for:</p> <ul style="list-style-type: none"> <li>• integrated and efficient responses to bushfires, including the cross border response arrangements, appointment to incident management positions, common communications, training, integrated planning and incident management, shared resources and mutual support; and</li> <li>• common approaches and protocols between agencies for community education and awareness.</li> </ul> <p>Agreements will be reviewed annually.</p>	High	Chief Officer ACT RFS Chief Officer ACT FB

13. Generally undertaken by the ESA.

14. Generally undertaken by TAMS.

15. Generally undertaken by TAMS or DHCS, depending on the type of Recovery Issues.

12	<p>To achieve effective and integrated cross-border fire prevention strategies, participate in planning arrangements which include the identification of cooperative management areas and where appropriate, maintain formal agreements to:</p> <ul style="list-style-type: none"> <li>• provide for an integrated and complimentary approach to bushfire risk assessment; and</li> <li>• develop complimentary strategies for bushfire prevention, including fuel management and access.</li> </ul> <p>Agreements will be reviewed annually.</p>	High	Chief Officer ACT RFS, TAMS
13	<p>Work with managers of National Land in the ACT (including the National Capital Authority and Department of Defence) in areas identified as Cooperative Management Areas, to provide for:</p> <ul style="list-style-type: none"> <li>• advice in relation to bushfire risk to assets;</li> <li>• a framework for bushfire management in these areas complimentary to this Plan; and</li> <li>• strategies and actions for mitigation of bushfire risk which are integrated and consistent with the strategies of this Plan.</li> </ul>	High	Commissioner ESA

## Prevention

Prevention encompasses pre-emptive risk mitigation action by the ACT Government and the community to reduce the likelihood of bushfires starting, spreading and/or causing damage to assets.

### Strategy: Undertake targeted programs to reduce the number of unplanned ignitions

No.	Actions to achieve the strategy	Priority	Responsibility
14	Targeted awareness and education programs will be provided to: <ul style="list-style-type: none"> <li>assist the community in understanding its legal obligations and social responsibilities in relation to bushfire ignitions;</li> <li>reduce preventable ignitions; and</li> <li>improve early detection.</li> </ul>	High	Commissioner ESA
15	Statutory powers will be used to control the use of fire and activities known to cause bushfires. These powers should be used to: <ul style="list-style-type: none"> <li>regulate the use of fire by the introduction of seasonal restrictions (i.e. the bushfire season);</li> <li>regulate the use of machinery considering the level of fire danger; and</li> <li>declare days of total fire ban<sup>16</sup> in the ACT to limit ignitions or when local or regional conditions may require increased levels of vigilance.</li> </ul>	High	Chief Officer ACT RFS, Chief Officer ACT FB
16	The ESA may appoint Investigators in accordance with the Act to undertake investigation into the cause and effect of bushfires where required. If arson is suspected, action may be taken to investigate and, as far as possible and appropriate, identify and prosecute the suspected offender/s.	Medium	Chief Officer ACT RFS, Chief Officer ACT FB

### Strategy: Maintain a network of fire trails and helpads (bushfire management access network) to provide for rapid response to bushfires and to undertake effective bushfire fighting and hazard reduction operations

No.	Actions to achieve the strategy	Priority	Responsibility
17	A bushfire management access network in the ACT is identified in Regional Fire Management Plans <sup>17</sup> . This includes: <ul style="list-style-type: none"> <li>Schedule B identifies classification and performance standards for the bushfire management access network.</li> <li>Review of the fire access network will be undertaken as part of the annual review of Regional Fire Management Plans.</li> </ul>	High	Chief Officer ACT RFS, TAMS

16. Days of Total Fire Ban will generally be called when the Fire Danger Index is at 50 or above (Fire Danger Ratings of Severe, Extreme or Catastrophic)

17. Review of the bushfire management access network will take into account the necessary linkages between publicly and privately managed lands. It will also consider access for the full range of fire response capability including heavy plant transport, light plant access, aerial access, bushfire appliances and remote area access.

18	<p>Government land managers will prepare Bushfire Operational Plans consistent with Regional Fire Management Plans which detail works to be carried out<sup>18</sup> on fire management access networks on their land that include:</p> <ul style="list-style-type: none"> <li>• fire trail maintenance;</li> <li>• fire trail upgrades; and</li> <li>• fire trail construction.</li> </ul> <p>Bushfire Operational Plans will be prepared every two years, or less as required.</p>	High	Land managers
19	<p>Through Farm FireWise, the ESA will assist landholders in identifying strategic fire management access on rural land. The ESA may provide resources to assist in the planning and implementation of fire management access networks.</p>	High	Chief Officer ACT RFS

**Strategy: Establish priorities for prevention and preparedness activities which reduce the likelihood and consequences of catastrophic bushfire events**

No.	Actions to achieve the strategy	Priority	Responsibility
20	<p>Lands in the ACT are classified into Fire Management Zones<sup>19</sup> to assign priorities to implementing prevention and preparedness activities, including fuel management. These zones are:</p> <ul style="list-style-type: none"> <li>• Ember Zone;</li> <li>• Inner Asset Protection Zone;</li> <li>• Outer Asset Protection Zone;</li> <li>• Strategic Firefighting Advantage Zone;</li> <li>• Landscape Fire Management Zone; and</li> <li>• Agricultural Fire Management Zone.</li> </ul> <p>The specifications and fuel management standards for zones are found at Schedule C.</p> <p>Maps of these zones are included for explanatory purposes in Part Three of this Plan.</p> <p>Zones will be reviewed annually to reflect changes in land use in the ACT, operational considerations and any advances in the knowledge and understanding of bushfire risk<sup>20</sup>.</p>	High	Commissioner ESA

18. In planning, constructing or maintaining bushfire access, land managers are required to comply with other legislation.

19. Fire management zoning provides the framework for the development of Regional Fire Management Plans. The size and alignment of these zones will reflect the risk of bushfires starting, spreading and causing damage. The location of zones may be required away from the source of the risk or other mitigation methods may be applied where treatments cannot always be located in these areas of highest risk. This may be due to a range of factors, including operational, environmental, water catchment and other values that may be affected.

20. These zones will be subject to annual review. Where amendments are required they will be approved by the Commissioner ESA. These changes may be made without prior public consultation.

**Strategy: Maintain a mosaic of fuel loads at a landscape level, through Strategic Firefighting Advantage Zones that assist in suppressing bushfires and minimise environmental consequences**

No.	Actions to achieve the strategy	Priority	Responsibility
21	Location and timing of fuel reduction activities in Strategic Firefighting Advantage Zones are identified in Regional Fire Management Plans and reviewed annually <sup>21</sup> . The locations of Strategic Firefighting Advantage Zones may vary between Plans to achieve fire management objectives in the short to medium term and ensure a mosaic of fuel loads over the longer term.	High	Commissioner ESA and Land managers
22	The use of planned fire for ecological and environmental management will be identified in Regional Fire Management Plans.	Medium	Land managers
23	Land managers will prepare Bushfire Operational Plans that detail fuel management works in Strategic Firefighting Zones to meet the standards identified in this Plan.  Bushfire Operational Plans will be prepared every two years, or less as required.	High	Government land managers
24	Through Farm FireWise, the ESA will assist landholders in identifying fuel management requirements on rural land. Where Cooperative Management Areas are identified, the ESA will coordinate liaison between land managers to achieve the objectives for the area. ESA may provide resources to assist in the planning and implementation of fire management works <sup>22</sup> .	High	Chief Officer ACT RFS

**Strategy : Provide for primary bushfire risk reduction adjacent to assets through Asset Protection Zones that assist in reducing the consequences of bushfires**

No.	Action to achieve the strategy	Priority	Responsibility
25	Location and timing of fuel management in Inner and Outer Asset Protection Zones are identified in Regional Fire Management Plans and will be reviewed annually <sup>23</sup> .	High	Commissioner ESA and Land managers
26	Land managers will prepare Bushfire Operational Plans that detail fuel management in the Inner and Outer Asset Protection Zones to meet the standards identified in this Plan.  Bushfire Operational Plans will be prepared every two years, or less as required.	High	Government land managers
27	Through Farm FireWise, the ESA will assist landholders to identify asset protection requirements on rural land. The ESA may provide resources to assist in the planning and implementation of fuel management activities.	High	Chief Officer ACT RFS and rural landholders

21. The size, impact and timing of unplanned bushfires in the landscape, seasonal variations or other significant events may require review of Strategic Firefighting Advantage Zones. Any amendments that are required will be approved by the Commissioner ESA. These changes may be made without prior public consultation.
22. The ESA and ACT Government land managers will participate in the development of cooperative arrangements with adjacent landholders and community groups, to integrate fuel management activities and bushfire access adjacent to public land boundaries.
23. Inner and Outer Asset Protection Zones will generally remain fixed over the long term, although they will be reviewed annually to reflect new urban areas and other property and infrastructure developments. The location and timing of activities in Inner and Outer Asset Protection Zones on rural leases will be identified as part of the Farm FireWise Program and will not be identified initially on Regional Fire Management Plans (See action 26). Any amendments that are required will be approved by the Commissioner ESA. These changes may be made without prior public consultation.



### Strategy: Reduce bushfire risk in areas subject to ember attack, radiant heat and flame contact through effective urban planning, design and construction

No.	Actions to achieve the strategy	Priority	Responsibility
28	Standards for the planning, design and layout of new urban areas <sup>24</sup> will be prepared to reduce vulnerability to the impacts of bushfire and should include requirements for (but not be limited to): <ul style="list-style-type: none"> <li>• bushfire risk analysis specific to the area or development;</li> <li>• requirements for Inner and Outer Asset Protection and Ember Zones<sup>25</sup>;</li> <li>• the construction of buildings to meet the Building Codes of Australia AS:3959/1999 - <i>Construction of Buildings in Bushfire Prone Areas</i> (or any revisions)<sup>26</sup>;</li> <li>• access into and egress from subdivisions for firefighting and evacuation;</li> <li>• infrastructure for firefighting and community support;</li> <li>• the type and location of fencing and outbuildings;</li> <li>• the type and use of permissible structures; and</li> <li>• appropriate plants and horticultural practices in high risk areas.</li> </ul>	High	ACTPLA
29	New urban plantings and management of existing plantings by Government land managers will consider bushfire risk management issues in determining the location, species, density, extent and maintenance of plantings.	High	TAMS, ACTPLA, LDA
30	Where identified <sup>27</sup> , managers of ACT Government properties in Ember Zones and rural areas (and elsewhere as appropriate) will prepare Bushfire Operational Plans to reduce vulnerability to the impacts of bushfire. Bushfire Operational Plans will be prepared every two years, or less as required.	High	ACT Government agencies
31	Assessment of arrangements for evacuation and the provision of community refuge areas in the rural villages of the ACT and other areas where identified will be undertaken and as appropriate, strategies developed to address deficiencies.  Initial assessment will be undertaken prior to the commencement of the 2010-2011 bushfire season, with ongoing development of strategies.	High	Chief Officer ACT RFS and Chief Officer ACT FB

24. The ACT Planning and Land Authority (ACTPLA) is revising the Territory Plan's existing Planning for Bushfire Risk Mitigation General Code, which will remain in force until the review is completed and a new version implemented through the Residential Subdivision Development Code of the Territory Plan expected in 2010.

25. In new urban areas construction may be staged within and across subdivisions over the period of development. In this case, temporary zoning may be applied to provide for bushfire protection before completion of the development. In this case, temporary zoning and treatments will be considered as part of the bushfire risk assessment prepared.

26. Some areas of the ACT are declared bushfire prone; however other areas as identified in a bushfire risk assessment may require the application of these standards.

27. The ESA will assist in advising Government property managers where there are requirements for the preparation of Bushfire Operational Plans.

## Preparedness

Preparedness ensures that when bushfires occur, ACT Government agencies, the community and individual land managers are ready to respond in ways that are effective and soundly based. These will include early detection, having appropriately trained and experienced firefighters, a prepared community and the necessary plans, physical and information resources in place to respond to bushfire and provide information, advice and warnings to the community.

### Strategy: Ensure sufficient skilled and motivated personnel are available to meet bushfire management requirements

No.	Actions to achieve the strategy	Priority	Responsibility
32	<p>The necessary number of personnel, the mix of skills, their location and makeup (volunteer and paid) will be determined based on potential bushfire situations, resources and ability to maintain capability and experience. Actions taken to support and maintain capability may include:</p> <ul style="list-style-type: none"> <li>• strategies for the recruitment and retention of volunteer firefighters; and</li> <li>• workforce planning to maintain and recruit firefighters at identified skill levels.</li> </ul> <p>An agreed process will be established prior to the commencement of the 2010-11 bushfire season, with ongoing review.</p>	Medium	Chief Officer ACT RFS and Chief Officer ACT FB
33	<p>Training will be ongoing and delivered based on the operational requirements of the Services to meet or exceed national training and qualification standards, currency and competency requirements where they exist.</p> <p>The delivery and assessment of bushfire fighting related training should be applied consistently across the ESA and individual training pathways should follow a continuum of skills development that recognises and builds on prior learning.</p>	High	Chief Officer ACT RFS and Chief Officer ACT FB
34	<p>The experience, training and competencies to fill specialist firefighting and fire management roles will be established. Specialist skills include:</p> <ul style="list-style-type: none"> <li>• incident management roles;</li> <li>• situation analysis and fire behaviour modelling; and</li> <li>• specialist and high level fire fighting skills, including Divisional Commander, Remote Area Crews, large scale back burning skills, plant supervision and aircraft management; and</li> <li>• planning and implementation of prescribed burning.</li> </ul> <p>Delivery of specialist training is ongoing. Further assessment of requirements will be undertaken prior to the commencement of the 2010-11 bushfire season, with ongoing review and delivery of training competencies.</p> <p>Deployment of firefighters to interstate and overseas incidents and secondments to other fire agencies will be undertaken where possible to enhance and maintain skills.</p>	High	Chief Officer ACT RFS, Chief Officer ACT FB and TAMS

35	Strategies for the provision of incident support functions will be developed, including the support for staging, logistics and incident coordination. Further assessment of requirements will be undertaken prior to the commencement of the 2010-11 bushfire season and will be ongoing.	Medium	Chief Officer ACT RFS and Chief Officer ACT FB
36	Records of personnel expected to be involved in bushfire fighting, including training and experience in assigned roles, will be maintained and available for incident management and training purposes. An agreed process will be established prior to the commencement of the 2011-12 bushfire season, with ongoing implementation and review.	High	Chief Officer ACT RFS and Chief Officer ACT FB

### Strategy: Ensure the standard and quantity of equipment and resources available for bushfire suppression meet bushfire suppression objectives

No.	Actions to achieve the strategy	Priority	Responsibility
37	Current resources (which include firefighting vehicles) will be assessed annually against requirements. This includes: <ul style="list-style-type: none"> <li>documenting available equipment for firefighting;</li> <li>regular inspection and maintenance of equipment; and</li> <li>where deficiencies exist, development of strategies for addressing those deficiencies.</li> </ul> A strategic asset management plan has been prepared to define the ongoing management requirements for fleet and capital equipment for bushfire fighting and will be regularly reviewed.	Medium	Chief Officer ACT RFS and Chief Officer ACT FB
38	Backup stores and services for firefighting will be maintained and reviewed annually.	High	Chief Officer ACT RFS and Chief Officer ACT FB and TAMS
39	Ensure timely access to specialist equipment that will enable rapid and effective response to bushfire. This includes: <ul style="list-style-type: none"> <li>aircraft including fixed and rotary wing for fire suppression and insertion of firefighters into remote areas;</li> <li>aircraft support facilities, and arrangements for the use of fire retardants including the locations and conditions under which it may be used; and</li> <li>light and heavy plant for rapid response and containment line construction.</li> </ul> Arrangements for the provision of specialist equipment will be reviewed annually.	High	Chief Officer ACT RFS and TAMS
40	Incident Control Centres and coordination facilities will be prepared and maintained. These facilities may be pre-emptively activated and staffed based on the level of bushfire risk to enable immediate operation if required. Annual exercises will be undertaken to test these facilities (unless they have been sufficiently activated and exercised in actual incident response).	High	Chief Officer ACT RFS and Chief Officer ACT FB

**Strategy: Ensure critical information and detection methods are available and arrangements are in place for firefighters to rapidly and effectively respond to bushfires**

No.	Actions to achieve the strategy	Priority	Responsibility
41	During the bushfire season <sup>28</sup> , determine the daily requirements for the quantity and availability of personnel and equipment for bushfire suppression <sup>29</sup> , and ensure that a system of early detection is in place throughout the year and in accordance with variations in the existing and forecast seasonal trends in weather and fuel characteristics <sup>30</sup> .	High	Chief Officer ACT RFS Chief Officer ACT FB
42	Develop procedures and, as appropriate provide resources, to facilitate the rural community in reporting ignitions and undertaking initial attack. Procedures will be prepared prior to the commencement of the 2011-12 bushfire season.	Medium	Chief Officer ACT RFS
43	Ensure an effective ACT-wide radio network with the ability to be linked with other response agencies, both within and external to the ACT. Communications arrangements are to be reviewed and updated annually.	High	Commissioner ESA
44	Develop, exercise and apply technical capabilities to predict bushfire behaviour and spread, supported as required by technical specialists in fire behaviour modelling and meteorology. Development and specialist training is underway. Full and integrated assessment of requirements will be undertaken prior to the commencement of the 2010-11 bushfire season with ongoing review.	High	Chief Officer ACT RFS Chief Officer ACT FB
45	Provide geographic information systems capability to enable the production of bushfire specific maps. Information is to be available in print and electronic form and capable of modification during firefighting operations. Information needs to be portable and readily available to Incident Controllers and fire ground Commanders. Capability will be reviewed annually.	High	Chief Officer ACT RFS and Chief Officer ACT FB and TAMS
46	The ESA and Government land management agencies in the ACT are to ensure that maps of public and private land in the ACT are subjected to periodic review and update.	High	Chief Officer ACT RFS TAMS & ACTPLA
47	Pre-suppression plans will be prepared and distributed to provide necessary information to undertake initial attack of fires. Planning has been undertaken and further development and integrated procedures will be completed prior to the commencement of the 2011-12 bushfire season.	High	Chief Officer ACT RFS and Chief Officer ACT FB and TAMS

28. These requirements may be established prior to and after the bushfire season as appropriate.

29. Resource requirements will be determined considering a number of factors including the Fire Danger Index as identified in the National framework for scaled advice and warnings to the community (2009).

30. The detection system will include the use of the ACT fire tower network; aircraft; and spatial and satellite information.

### Strategy: Provide support to the community to enhance its awareness and capacity to *Prepare, Act and Survive* the threat of bushfire

No.	Actions to achieve the strategy	Priority	Responsibility
48	<p>Develop and implement an integrated Bushfire Education and Awareness Program consistent with the <i>National framework for scaled bushfire advice and bushfire warnings</i>, which includes:</p> <ul style="list-style-type: none"> <li>• information that reflects the current knowledge and understanding of how the community should prepare for and respond to bushfires;</li> <li>• information and advice that is targeted for communities and individuals, particularly in the rural area and Ember Zones;</li> <li>• the necessary information for the preparation of a home emergency plan;</li> <li>• Information on the Fire Danger Rating system and the manner in which it will be used;</li> <li>• utilisation of a range of mediums for the dissemination of information; and</li> <li>• the use of the Standard Emergency Warning Signal (SEWS) and the use of telephony warning systems.</li> </ul> <p>This action has commenced and will be ongoing to fully integrate the actions identified.</p>	High	Commissioner ESA
49	<p>Provide support to community members, particularly those in areas identified as Ember Zones to participate in an integrated bushfire education and awareness program in order to assist in understanding how bushfires may affect them and to plan for personal bushfire response. type of messages they will contain.</p>	High	Commissioner ESA
50	<p>Establish and maintain formal agreements between the ESA and local ACT media outlets, and develop Memoranda of Understanding to provide for:</p> <ul style="list-style-type: none"> <li>• The provision of warnings and information to the community during bushfire events; and</li> <li>• Information and advice to assist the community in preparing for bushfires.</li> </ul> <p>Memorandums of Understanding are in place and will be reviewed annually.</p>	High	Commissioner ESA
51	<p>Clearly define and annually exercise the operational arrangements, responsibilities and delegations for the provision of information, warnings and directions to the public in the event of bushfires.</p>	High	Chief Officer ACT RFS and Chief Officer ACT FB
52	<p>Ensure firefighting and support agencies understand principles and policy relating to <i>Prepare, Act, Survive</i> and are trained in the evacuation protocols that will apply.</p> <p>This action has commenced and will be ongoing.</p>	High	Chief Officer ACT RFS and Chief Officer ACT FB and AFP
53	<p>Undertake planning to identify groups or individuals who have specific needs<sup>31</sup>.</p> <p>Planning has been undertaken and further development and integrated procedures will be completed prior to the commencement of the 2010-11 bushfire season.</p>	High	Chief Officer ACT RFS and Chief Officer ACT FB

31 Specific needs includes those members of the community who may require specialist support, information or advice in relation to bushfires and may include the schools and community care facilities, physically and intellectually disabled, supported care, elderly, and culturally and linguistically diverse communities

## Response

Effective response to bushfires when they start can mitigate bushfire risk, through limiting the spread and the consequences of bushfire. Response includes the firefighting component of the overall bushfire management process. Firefighting is generally the role of the Fire Services but, just as importantly response includes those critical actions that community members will take when bushfires threatens.

<b>Strategy: Respond to bushfires safely, effectively and efficiently to control and extinguish the fires</b>			
No.	Actions to achieve the strategy	Priority	Responsibility
54	<p>Bushfires will be responded to as quickly as possible by the Fire Services with the principal objective of extinguishing the bushfire.</p> <ul style="list-style-type: none"> <li>consideration should be given to allowing bushfires to burn to defined containment lines if they meet other fire management objectives and do not pose a risk to assets; and</li> <li>mop up and patrol are integral to suppression and will be undertaken to prevent re-ignition and to minimise damage to infrastructure and assets.</li> </ul>	High	Chief Officer ACT RFS and Chief Officer ACT FB
55	<p>Response actions will consider:</p> <ul style="list-style-type: none"> <li>safety of firefighters;</li> <li>current and predicted fire behaviour;</li> <li>assets at risk from the bushfire fighting activities;</li> <li>resources available locally and through broader emergency arrangements;</li> <li>bushfire fighting methods most appropriate to the area, considering production, environmental, catchments and heritage assets;</li> <li>recovery and rehabilitation of production, environmental, catchment and heritage assets; and</li> <li>likelihood of success of alternative bushfire fighting methods.</li> </ul>	High	Chief Officer ACT RFS and Chief Officer ACT FB
56	Existing bushfires will be assessed in a structured framework commensurate with the level of risk and to assess likely spread and impacts.	High	Chief Officer ACT RFS and Chief Officer ACT FB
57	<p>The control structure and corresponding scaling up of resources for bushfire fighting will follow the Australasian Inter-service Incident Management System (AIIMS).</p> <p>The Incident Controller will be appointed based on their skills, competence and experience, and the scale and type of incident<sup>32</sup>.</p>	High	Chief Officer ACT RFS and Chief Officer ACT FB

32. Through the Memorandum of Understanding with NSW fire agencies, (see action 10) procedures are established to determine control arrangements for bushfires that cross, or have the potential to cross jurisdictional boundaries.

58	Documented Incident Action Plans will be prepared consistent with the scale of the incident.	High	Chief Officer ACT RFS and Chief Officer ACT FB
59	Records will be maintained of each bushfire attended consistent with the Operating Procedures <sup>33</sup> . Minimum requirements for recording bushfire information are identified at Schedule D.	High	Chief Officer ACT RFS and Chief Officer ACT FB

**Strategy: Provide the necessary information, advice and warnings to the community to enable immediate response and appropriate actions by individuals when bushfires occur**

No.	Actions to achieve the strategy	Priority	Responsibility
60	Consistent with the principles established in the <i>National framework for scaled bushfire advice and warnings to the community</i> (2009), response to bushfire includes information to the community that: <ul style="list-style-type: none"> <li>• is scaled to described the type of threat, potential impact and timing;</li> <li>• is targeted to at risk communities; and</li> <li>• considers the actions communities members should undertake.</li> </ul>	High	Chief Officer ACT RFS and Chief Officer ACT FB
61	Responsibility for the release of information, including the provision of advice or warnings relating to the bushfire will rest with the Incident Controller <sup>34</sup> . If a State of Emergency has been declared, this responsibility will rest with the Territory Controller.	High	Chief Officer ACT RFS and Chief Officer ACT FB, Territory Controller
62	Responsibility for the issuing of directions relating to the movements of people, including evacuation, establishing refuge areas and re-occupation and will rest with the Incident Controller <sup>35</sup> . If a State of Emergency has been declared, this responsibility will rest with the Territory Controller. Permission for access to evacuated areas during an incident must consider the needs of particular groups and individuals, including: <ul style="list-style-type: none"> <li>• rural landholders who may require access to respond to animal welfare, infrastructure and environmental requirements;</li> <li>• managers of social and critical infrastructure for the maintenance of services;</li> <li>• businesses and commercial enterprises; and</li> <li>• residents.</li> </ul>	High	Chief Officer ACT RFS and Chief Officer ACT FB, Territory Controller
63	The Public Information Coordination Centre may be activated and will support the Incident Controller or Territory Controller for the provision of information and advice.	High	Chief Officer ACT RFS and Chief Officer ACT FB, Territory Controller

33. Records shall be maintained that allow reporting against ACT Government and, where appropriate, national performance indicators.

34. Other information relating to the incident may be released by other agencies, such as recovery information or issues relating to criminal investigation.

35. Evacuation and re-occupation of areas will be undertaken consistent with the ACT Emergency Evacuation Policy (2008) or subsequent revisions.

64	<p>Actions should ensure stakeholders are engaged as appropriate during bushfire fighting activities and the development of response strategies, to take advantage of local knowledge and address the specific requirements of :</p> <ul style="list-style-type: none"> <li>• Government land managers;</li> <li>• rural landholders;</li> <li>• business and critical infrastructure managers;</li> <li>• recovery services; and</li> <li>• other response agencies.</li> </ul>	High	Chief Officer ACT RFS and Chief Officer ACT FB
----	--	------	--

**Strategy: Where multiple agencies are involved or significant events occur, ensure the response to bushfires is undertaken in a coordinated manner**

No.	Actions to achieve the strategy	Priority	Responsibility
65	<p>Depending on the scale, number, and complexity of the incident(s), an Incident Coordinator may be established to coordinate resources in support of the Incident Controller. This may include:</p> <ul style="list-style-type: none"> <li>• the acquisition and of resources (organisational, personnel and equipment) to support incident response and recovery; and</li> <li>• the transfer of information and intelligence.</li> </ul> <p>Dependent on the scale and type of incident, an Emergency Coordination Centre (ECC) may be activated<sup>36</sup>.</p>	High	Chief Officer ACT RFS and Chief Officer ACT FB
66	<p>As required, the Incident Controller will provide information and advice on response to the incident to the appropriate Government agencies and the ACT Government.</p> <p>If a State of Emergency has been declared, this responsibility may rest with the Territory Controller.</p>	High	Chief Officer ACT RFS and Chief Officer ACT FB, Territory Controller
67	<p>A range of specific roles and functions identified in the ACT Emergency Plan may be activated depending on the scale and complexity of the incident(s) and potential consequences. The ACT Emergency Plan will be used to activate these roles and functions. These may include:</p> <ul style="list-style-type: none"> <li>• whole of Government Incident notification;</li> <li>• arrangements for incident support, including whole of government coordination of resources;</li> <li>• activation of the Territory Crisis Centre;</li> <li>• appointment of a Territory Controller; and</li> <li>• declaration of State of Emergency;</li> </ul>	High	Chief Minister Minister for Police and Emergency Services Commissioner ESA Chief Police Officer AFP JACS CMD

36. The role of the Incident Coordinator is to provide support to the Incident Controller, and is not involved in combating the incident



## Recovery

Recovery is risk mitigation that limits the consequences after a bushfire. Recovery is complex as it deals with social, economic, physical and environmental rehabilitation. It is an integral part of the whole process and consciously considered at each other stage of the process.

### Strategy: Restore healthy, diverse, and resilient ecological systems on a priority basis through long-term restoration

No.	Actions to achieve the strategy	Priority	Responsibility
68	As soon as practicable following commencement of firefighting operations, consider routine rehabilitation activities and assess the need for a formal rehabilitation plan.	High	Chief Officer ACT RFS, Chief Officer ACT FB, land managers
69	Develop an ACT capacity to assess burned areas and the need for environmental rehabilitation by 2014. Apply methods consistent with the BAER model <sup>37</sup> .	Medium	TAMS

### Strategy: Coordinate and deliver programs and services to assist the recovery of affected communities and individuals, including firefighting personnel and support staff

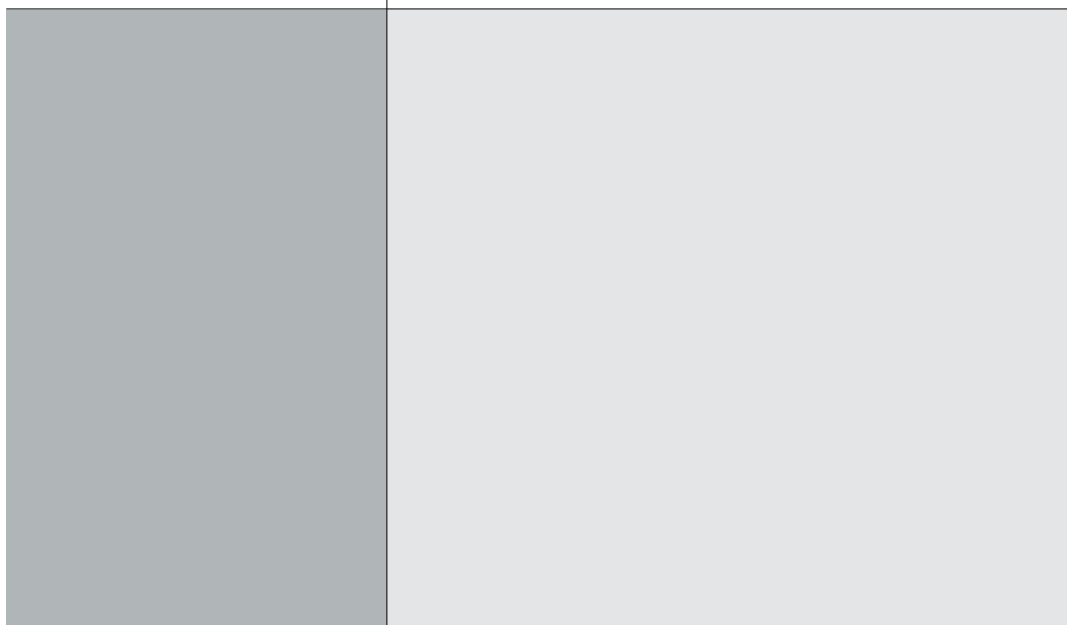
No.	Actions to achieve the strategy	Priority	Responsibility
70	Develop procedures for the provision of Critical Incident Stress Management and Peer Support within the Fire Services. When firefighting has been prolonged, or there have been associated traumatic experiences (such as 'near misses', injury or death), an opportunity for critical incident stress debriefing will be provided. Procedures are in place and arrangements will be reviewed as required.	High	Chief Officer ACT RFS, Chief Officer ACT FB
71	In the event of or in anticipation of significant bushfire consequences, the ACT Community Recovery Plan <sup>38</sup> may be activated and may include the activation of established recovery centres where appropriate. The Incident Controller is responsible for ensuring recovery planning is initiated. If a State of Emergency has been declared, this responsibility will rest with the Territory Controller.	High	Chief Officer ACT RFS and Chief Officer ACT FB, Territory Controller
72	In the event of significant bushfire consequences on rural and other business enterprises, Government agencies will work with rural landholders and industry bodies to enhance distribution of recovery information and support, which may include assistance to rural landholders.	High	Commissioner ESA, DHCS and TAMS

37. The concept of interagency Burned Area Emergency Response (BAER) teams was developed in the United States of America to support agencies in their analysis of post-fire effects. The BAER teams aim to provide a holistic, multidisciplinary, rapid assessment of post-wildfire environmental issues and provide assessments and recommendations on emergency stabilisation (immediate response) and burned area rehabilitation.

38. Available via the ACT Department of Housing and Community Recovery Website: [www.dhcs.act.gov.au/community\\_recovery](http://www.dhcs.act.gov.au/community_recovery).

73	In the event of significant bushfire consequences, coordinate the immediate support arrangements and assistance measures for those affected and work with the community, community organisations and other agencies to ensure that the elements of the recovery are coordinated and targeted to address different needs of individuals or groups.	High	DHCS and community partners
----	---	------	-----------------------------

## PART SIX – Resource Requirements



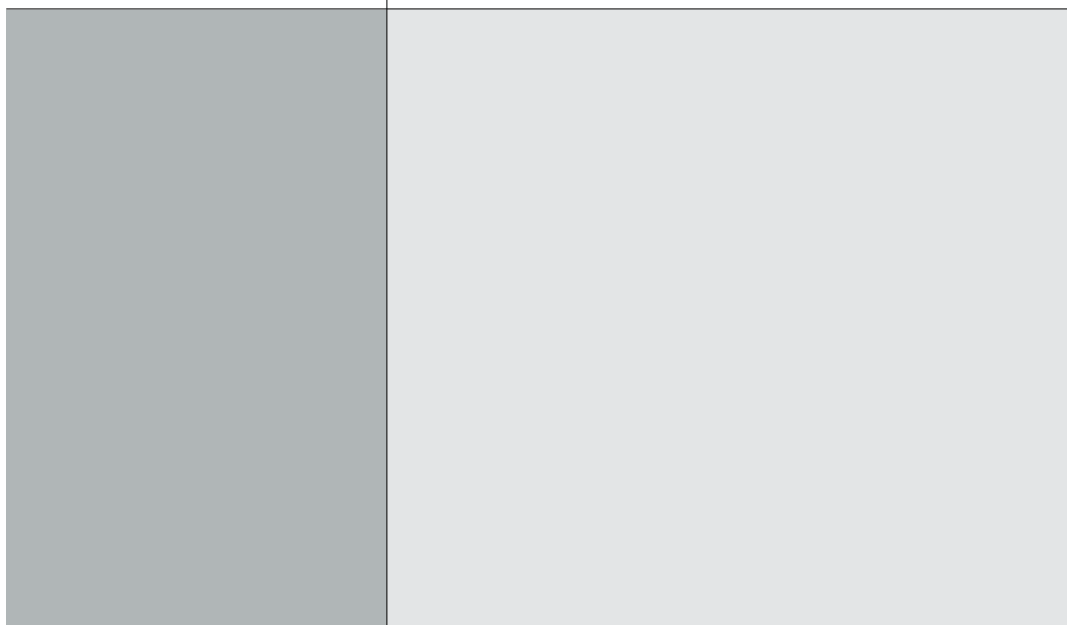
## Chapter Six: Resourcing

The resourcing of this Plan may require additional funding and will be determined in the context of whole-of-government budget considerations over the life of the Plan.

The various elements and aspects of the Strategic Bushfire Management Plan will generate demands on the agencies and individuals responsible for them. In some cases these may be significant across the life of the plan and will require specific calculation and procuring. Bushfire management is a long term process requiring strategic, management and operational consistency over an extended period. Hence the Strategic Bushfire Management Plan is for 10 years. It is critical that the need for consistent implementation of the requirements of the plan is understood and supported throughout the ACT community and on the part of government. Clear calculations of costs are pivotal to the maintenance of this understanding and the continuity of resource provision.

The use of the SBMP for resource planning requires the interpretation and application of the principles and concepts to achieve the specific outcomes. Requirements are being developed and will be refined over 2009/2010 bushfire season. A key requirement is the development and adherence to longer-term bushfire management plans that incorporate the cyclic conduct of actions, such as prescribed burns, that occur over several year gaps.

## PART SEVEN – Schedules



## **Schedule A: Audit reporting**

Audit reports document compliance with this Plan. Specifically, they should:

- include an outline of the audit procedure, discussion of findings, conclusions about level of compliance with this Plan and recommendations for improvement;
- outline agreed management actions, that:
- address each recommendation made within an Audit Report;
- describe the implementation status of previously published agreed management actions, until such time as those actions have been finalised; and
- contain recommendations for improving the audit function where appropriate.

The ESA will maintain records of audit plans, audit reports, and other evidence that demonstrates action taken as a result of audit recommendations.

## Schedule B: Classification and recommended standards for access

### Ground access standards

Fire access includes a range of vehicular tracks, roads and walking tracks. These features reduce the response time to fires and make it safer to undertake bushfire suppression operations. Together, this increases the range of weather conditions under which bushfire containment and suppression are likely to succeed. In addition, vehicular tracks, roads and walking tracks provide potential control lines for containing bushfires and for conducting prescribed burns.

### Classification

The classification of fire roads, tracks and trails (Table 1) is performance-based, to provide clear guidance to land managers and response agencies during incidents.

Table 2 identifies the requirements for the provision of passing opportunities on fire trails, and requirements for the provision of vehicle turnaround capability on dead end trails (“dead ends”)

*Table 1: Ground access standards*

Classification	Performance standard	Nominal width and maximum grade	Surface	Nominal Horizontal curve radius	Nominal Vegetation maintenance
Walking track	To allow the safe passage of firefighters on foot	Generally these features will be less than 1 m in width	Natural surface, grass, sealed or gravel surface	Not Applicable	Vegetation maintained to allow single file walking
Light unit	To allow the safe passage of light units (4x4 Landcruiser or similar carrying a water tank of 400 – 600 litres)	Generally these features will have a width of 3 m, with a maximum grade of 20 degrees	Natural surface, grass, sealed or gravel surface	Corners of sufficient radius to make 3 point turns by light units unnecessary	Roadside vegetation maintained to allow unimpeded access by light units
Tanker	To allow the safe passage of tankers (4x4 trucks 8 – 12 tonnes carrying a tank of 2500 – 5000 litres)	Generally these features will have a width of 4 m, with a maximum grade of 15 degrees	Natural surface, grass, sealed or gravel surface	Corners of sufficient radius to make 3 point turns by tankers unnecessary	Roadside vegetation maintained to allow unimpeded access by tankers

Rigid float	To allow the safe passage of a truck including large CAFS Tankers and large rural tankers with a rigid body carrying a small (D3- or D4-sized) dozer	Generally these features will have the same characteristics as tanker roads but will have smaller rollovers, no splash creek crossings and no switchback corners.			
Articulated float	To allow the safe passage of articulated floats (truck and trailer carrying a D6-sized dozer	Generally these features will have a width of 5 m, a maximum grade of 12 degrees	Natural surface , grass, sealed or gravel surface	Corners of sufficient radius to make 3 point turns by a float unnecessary	Roadside vegetation maintained to allow unimpeded access by an articulated float

**Table 2 – Nominal Requirements for passing and dead end fire trails**

Passing opportunities	Utilise road verges and natural areas wherever possible to allow two vehicles to safely pass (in the case of light unit trails to allow two light units to pass, in the case of tanker trails to allow two tanker trails to pass). If there are no opportunities for vehicles to pass in a 250 m section, where terrain and ecological constraints allow, provide for widening of pavement, verges or the construction of passing bays. Where dormant trails are reopened during suppression operations, suitable passing areas should be constructed where terrain and ecological constraints allow to ensure vehicles can pass within 250 m section
Dead ends	Avoid as far as possible, and signpost where occur. Where dead ends exist, a turnaround of sufficient radius for the standard of the trail must be provided (e.g.: in the case of light unit trails the turnaround must allow a light unit to turn around on full lock). If there is insufficient space for such a turnaround due to the topography or other constraints, provision should be made to allow a maximum three-point turn or a "T" or "Y" shaped turnaround area provided. The dimensions of the "T" or "Y" shaped turn around must be appropriate for the type of vehicles that will use the trail. Turnarounds should be constructed when dormant trails are reconstructed for suppression operations, and temporary signage will be provided at the start of these trails.

In grassland areas or in rural areas or reserves, the mineral earth ground fire access network may be supplemented by slashed grass breaks or *ad hoc* access trails through properties or reserves. These breaks provide additional vehicle access during suppression operations, but do not provide as safe suppression areas as mineral earth roads. These slashed trails are generally not mapped and the locations may change over time.

### **Aerial access classification**

Helipads are natural or constructed features on which helicopters may safely land. Helipads provide access for firefighters to walk to remote area fires, and locations from which helicopters



may operate during wildfire suppression and prescribed burning operations. Helipads are classified according to the size of the helicopter that may safely land on them, although this decision is ultimately the judgement of the pilot in charge of the aircraft. Indicative helipad standards are at Table 3.

In addition to identified helipads, remote area firefighters may access other areas by being winched in by helicopter, however this is slower and riskier than using a helipad. In some circumstances remote area firefighters may construct a temporary helipad closer to the bushfire to allow helicopters to safely land.

**Table 3: Helipad standards**

<b>Classification</b>	<b>Nominal Description</b>
Light	To allow the safe landing of light helicopters (e.g. Jet Ranger, Squirrel). These helipads will usually consist of a rock/grassed/mineral earth area 7x7 m, an area cleared of trees and tall shrubs for an additional 13 m and tall trees removed to ensure an approach angle of 40 degrees in one or more directions.
Medium (1)	To allow the safe landing of medium sized helicopters (e.g. BK117). These helipads will usually consist of a rock/grassed/mineral earth area 10x10 m, an area cleared of trees and tall shrubs for an additional 15 m and tall trees removed to ensure an approach angle of 40 degrees in one or more directions.
Medium (2)	To allow the safe landing of heavy or large sized helicopters (e.g. Bell 214). These helipads will usually consist of a rock/grassed/mineral earth area 15x15 m, an area cleared of trees and tall shrubs for an additional 20 m and tall trees removed to ensure an approach angle of 40 degrees in one or more directions.

### **Road sign standards**

Sufficient roads and tracks will be signposted to allow navigation through the fire trail network (note that this may not require all roads and trails to be signposted). A systematic program of phasing in new signs on identified fire access will be implemented consistent with resource availability.

## Schedule C: Fuel management standards for fire management zones

*Table 1: Default Widths applied to determine the Ember Zone and Inner and Outer Asset Protection Zones<sup>39</sup>*

Vegetation type	Asset Interface Classification (as mapped)	Ember Zone Width (m)	Inner APZ Width (m)	Outer APZ Width (m)
Forest and shrubland	primary	400	30	target 300, min. 200
	secondary	200	20	100
	lee	50	10	0
Grass and woodland	primary	200	30	100
	secondary	50	20	0
	lee	50	10	0

*Table 2: Fuel management standards for fire management zoning*

Inner Asset Protection Zone (IAPZ)	Treatment Standards	
Default standards to be applied over at least 80% of the zones as mapped. Where default standards cannot be achieved, the responsible land manager may identify alternative treatments to meet the overall objectives for the zone. Any significant variation on the default standards shall be approved by the ESA.	Vegetation type	Fuel management standards
	Forest and shrubland	Maintained at an overall fuel hazard $\leq$ low  3-5 m canopy separation or fuel gap to crown $>3$ m maintained
	Grass and open woodland	Grassland maintained at less than 200 mm height when grassland curing $\geq$ 70%.

39. The maps of the Fire Management Zones included in this document as explanatory text have the default standards to the rural-urban interface for the Ember Zone, Inner and Outer Asset Protection Zones. Where default standards cannot be achieved, the responsible land manager or developer may identify alternative treatments to meet the overall objectives for the zone. Any significant variation on the default standards shall be approved by the ESA.

<b>Outer Asset Protection Zone (OAPZ)</b>	<b>Treatment standards</b>	
Default standards to be applied over at least 70% of the zones as mapped. Where default standards cannot be achieved, the responsible land manager may identify alternative treatments to meet the overall objectives for the zone. Any significant variation on the default standards shall be approved by the ESA.	<b>Vegetation type</b>	<b>Fuel management standards</b>
	Forest and shrubland	Overall fuel hazard $\leq$ moderate
	Grass and open woodland	Grassland fire hazard $\leq$ 35 when grassland curing $\geq$ 70%
<b>Strategic Firefighting Advantage Zone</b>	<b>Treatment standards</b>	
Default standards to be applied over at least 70% of the zones as mapped. Where default standards cannot be achieved, the responsible land manager may identify alternative treatments to meet the overall objectives for the zone. Any significant variation on the default standards shall be approved by the ESA.	<b>Vegetation type</b>	<b>Fuel management standards</b>
	Forest and shrubland	Overall fuel hazard $\leq$ high
	Grass and open Woodland	Grassland fire hazard $\leq$ 50 when grassland curing $\geq$ 70%.
	Plantations	Manage stands as crown fire-reduced areas with progressive treatment to attain the following standards: <ul style="list-style-type: none"> <li>• immature stands (&lt; 15 years old). Pruned to 2.0 m and thinned to 650 sph nominally at Year 8-10. Debris from thinning and pruning to be &lt; 1 m high. In areas immediately adjacent to potential ignition sources or built assets consider mechanical crushing of thinning and pruning debris or burning as soon as practicable without damaging the residual stand.</li> <li>• mature stands (&gt; 15 years old). Schedule harvesting to reduce contiguous areas of untreated slash during the fire season. Remove the outside row of trees (adjacent to fire trails) during first commercial thinning operation to improve access on fire trails..</li> <li>• Maintain strategic fuel breaks through the maintenance of road pavements and verges, and edge pruning and thinning.</li> </ul>
Identified arterial roads, rural roads and easements	Grassland fire hazard $\leq$ 35 when grassland curing $\geq$ 70%.	

<b>Landscape Fire Management Zone</b>	<b>Treatment standards</b>
	Standards not applied.
<b>Agricultural Fire Management Zone</b>	<b>Treatment standards</b>
	Requirements will be defined in Bushfire Operational Plans, developed through the Farm FireWise program.

## ***Explanatory Notes***

### ***Asset Interface Classification (AIC)***

The location and width of the Ember Zone and the Inner and Outer Asset Protection Zones in the SBMP Version Two is determined by the Asset Interface Classification. This classification of primary, secondary and lee edges along the rural-urban interface is based on the level of bushfire risk the interface is exposed to. It considers:

- the maximum fire size an asset may be subject to;
- the part of the fire (head, flank, back) an asset may be subject to recognising the major fire threat from the north and west; and
- the length of potential fire run.

Further discussion relating to the AIC and a map detailing the AIC for the urban area of the ACT can be found at in the ***Supporting Information - Part One***.

### ***Overall fuel hazard***

Overall Fuel Hazard Assessment is currently undertaken consistent with the Territory and Municipal Services Fuel Assessment Methodology. This encompasses the processes identified in:

- Overall Fuel Hazard Guide (Department of Sustainability and Environment. Third Edition May 1999)
- Project Vesta – Fire in Dry Eucalypt Forests: Fuel Structure, Fuel Dynamics and fire behaviour. (JS Gould, WL McCaw, NP Cheney, PF Ellis, IK Knight, AL Sullivan, CSIRO / SCION 2007)

The process used for the assessment of bushfire fuels is included in the ***Supporting Information - Part One***. Subsequent revisions or changes to methodologies may be applied as appropriate.

### ***Grassland curing***

Assessment of grassland curing is currently undertaken consistent with the Victorian Country Fire Authority ***Grassland Curing Guide*** (CFA, 1999). Subsequent revisions or changes to methodologies may be applied as appropriate.

### *Grassland Fuel Hazard*

A combination of height and cover is currently used to determine triggers for short to medium term treatments when grasses are sufficiently cured to carry free burning fires (approximately 70% cured). Although significant variation exists, grass height (m) and cover (%) are related to fuel load and visibility, which are important factors affecting the ability to suppress grassfires. A score (the Grassland Fuel Hazard – see Table 4) was developed for the ACT and derived by multiplying these two factors provides a means of defining allowable fuel conditions in Outer Asset Protection and Strategic Firefighting Advantage Zones. Subsequent revisions or changes to methodologies may be applied as appropriate.

**Table 4: Grassland Fuel Hazard**

<b>Height</b>	<b>Cover %</b>									
(m)	10	20	30	40	50	60	70	80	90	100
0.1	1	2	3	4	5	6	7	8	9	10
0.2	2	4	6	8	10	12	14	16	18	20
0.3	3	6	9	12	15	18	21	24	27	30
0.4	4	8	12	16	20	24	28	32	36	40
0.5	5	10	15	20	25	30	35	40	45	50
0.6	6	12	18	24	30	36	42	48	54	60
0.7	7	14	21	28	35	42	49	56	63	70
0.8	8	16	24	32	40	48	56	64	72	80
0.9	9	18	27	36	45	54	63	72	81	90
1	10	20	30	40	50	60	70	80	90	100

## **Schedule D: Bushfire history records**

The ESA will maintain records of:

- bushfire origins (where and when they originated);
- bushfire causes (their sources and causes, if known);
- location and area (hectares) burnt; and
- estimated annual fire damage; and other economic or ecological consequences.

## **Schedule E: Mapping components of the SBMP and supporting documents**

Maps provide the critical means of identifying strategies and communicating information and concepts relating to fire management. A suite of maps has been prepared to support this Plan, and are identified below.

### **Asset Interface Classification**

The Asset Interface Classification has been mapped identifying the location of:

- Primary Asset Interfaces;
- Secondary Asset Interfaces; and
- Lee Asset Interfaces.

This classification is provided in *Supporting Information - Part One* for explanatory purposes will be reviewed annually to reflect changes in the urban footprint of the ACT. Changes will be approved by the Commissioner ESA.

### **Bushfire ignition and spread**

The modelled analysis of the probability of bushfires starting and spreading was undertaken as part of the planning process for the development of the SBMP, utilising existing models for fire behaviour, fuel accumulation and historical data of bushfire ignition and Fire Dangers Indices for the ACT. Detailed discussion of the process undertaken and mapping outputs for explanatory purposes can be found in *Supporting Information - Part One*.

The modelling may be revised as appropriate. Changes will be approved by the Commissioner ESA.

### **Assets at risk**

Assets at risk from the effects of bushfire have been mapped and details:

- Property;
- Business and social Infrastructure;
- Critical infrastructure;
- Agricultural production;
- Biodiversity and threatened species;
- Cultural heritage; and
- Water Catchments

A current map of these assets is provided in **Supporting Information - Part One** for explanatory purposes, which may be reviewed and updated as appropriate. Changes will be approved by the Commissioner ESA.

Note: Some critical infrastructure, heritage and environmental assets may not be identified on publicly available maps, in consideration of legislative and security issues.

### **Overall fuel hazard maps**

Overall fuel hazard has been estimated and included in the supporting documentation. Overall Fuel Hazard has been modelled and estimated for three time points, reflecting the increase of the fuel hazard over time without treatment. The time points are:

- 2009;
- 2014; and
- 2019.

Current maps of Overall Fuel Hazard are provided in **Supporting Information - Part One** for explanatory purposes. These maps may be reviewed updated as appropriate. Changes will be approved by the Commissioner ESA.

### **Fire management zoning**

Maps of fire management zones have been prepared as supporting documents to detail the location of

- Ember Zones;
- Inner Asset Protection Zones;
- Outer Asset Protection Zones;
- Strategic Firefighting Advantage Zones;
- Agricultural Fire Management Zones; and
- Cooperative Management Areas

These maps are included for explanatory purposes in Part Three of the Plan and discussed in detail in **Supporting Information - Part Two**. The maps are approved by the Commissioner ESA. They will be reviewed annually and any amendments required may be approved by the Commissioner ESA.

### **Regional Fire Management Plans**

Regional Fire Management Plans have been prepared as supporting documents to this Plan, based on the sixteen 1:25000 mapsheets that provide coverage of the ACT and adjacent areas of NSW. The plans detail the proposed fuel management, access and infrastructure activities to be undertaken over the next ten years. They are available for viewing on the ESA website.



### ***Consultation in the preparation of Regional Fire Management Plans***

When initially preparing Regional Fire Management Plans, the ESA and Government land managers undertook a process of community engagement and consultation. This included:

- neighbouring land managers, in particular areas where Government land managers and rural landholders are adjacent; this aimed to ensure each land manager considered the key fire management issues associated with their land and integrate fire management practices across property boundaries;
- specialists in flora and fauna;
- specialists in catchment and hydrological management, recognising the significant component of the ACT natural areas that forms Canberra's water catchment;
- non-government organisations and the wider community, in particular those with a specific interest in the management of natural areas;
- managers of National Land, such as the Department of Defence and National Capital Authority; and
- consideration of the capabilities of community members who may play a critical role in minimising the spread of bushfire into built-up areas and surrounding regions.

### ***Review of Regional Fire Management Plans***

Regional Fire Management Plans are dynamic documents. They will be reviewed annually to reflect changes that have occurred in the preceding year. This may include:

- completed fuel management and access activities that provide strategic advantages;
- unplanned bushfires that may provide strategic advantage;
- changes to the location or extent of assets, for example development of new urban areas;
- changes in agricultural practices; and
- new research results.

Any amendments required may be approved by the Commissioner ESA and may be notified to the public without prior consultation.

### ***Spatial components of Regional Fire Management Plans***

Regional Fire Management Plans should show the following information as appropriate:

- fuel management, including prescribed burning (in two year windows), grazing, physical removal, slashing, chemical treatment;
- return interval for prescribed burning, including planned burning exclusion areas;
- areas burnt since 2003;
- access, including existing trails to be maintained at their current standard, fire trails to be upgraded, and new fire trails planned to be constructed;

- existing fuel breaks planned to be upgraded, and new fire breaks planned to be constructed;
- existing water points to be maintained, existing water points planned to be upgraded, and new water points planned to be constructed;
- existing helipads to be maintained, existing helipads planned to be upgraded, and new helipads planned to be constructed; and
- map notes to explain features on the map.



