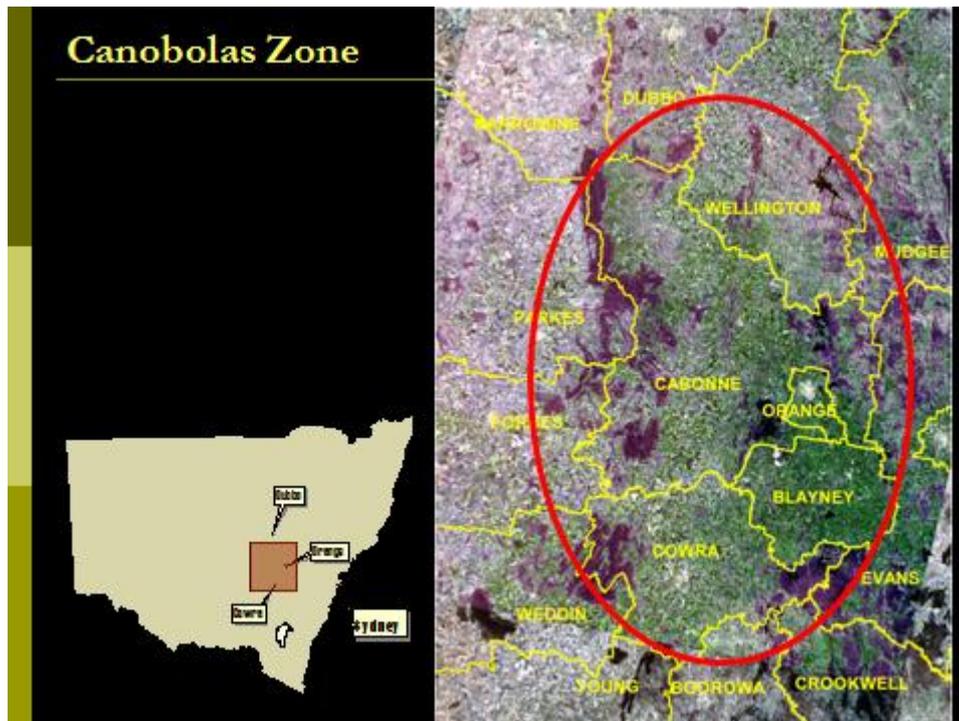


# Canobolas Zone Bush Fire Management Committee



## Bush Fire Risk Management Plan

**GOAL:** OUR AGENCIES, VOLUNTEERS AND BRIGADES WILL PROTECT OUR COMMUNITY FROM FIRES AND OTHER EMERGENCIES AND AIM TO PREVENT THEM FROM BECOMING DISASTERS THAT WOULD SEVERELY IMPACT ON OUR PEOPLE, FAMILIES, FRIENDS, OUR ASSETS AND THE LANDSCAPE.

**TARGET:** TO MAINTAIN A ROLLING LEVEL OF HAZARD REDUCTION THAT IS AT LEAST 7 TIMES GREATER THAN THE AREA LOST FROM WILDFIRE, I.E. 7 HECTARES OF HAZARD REDUCTION FOR EVERY HECTARE LOST FROM WILDFIRE. (THE ROLLING AVERAGE COMMENCED IN 2004/2005 AND IS UPDATED ANNUALLY AS WILDFIRES OCCUR AND HAZARD REDUCTION IS IMPLEMENTED)

**“WHERE RISK MANAGEMENT IS OUR PASSION AND HAZARD REDUCTION IS OUR PRIORITY”**

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## **Authorisation**

In accordance with Part 3 Division 4 of the Rural Fires Act 1997, this Draft Plan has been prepared by the Canobolas Zone Bush Fire Management Committee and has been endorsed at the BFMC meeting on 26 May 2016 for submission to the Bush Fire Coordinating Committee.

## **Recommended**

Chairperson  
Canobolas Zone Bush Fire Management Committee

## **Approved**

On behalf of the  
NSW Bushfire Coordinating Committee

## Amendment List

Amendment		Entered	
Number	Date	Signature	Date

## Glossary

**Assets:** anything valued by the community which includes houses, crops, heritage buildings and places, infrastructure, the environment, businesses, and forests, that may be at risk from bush fire.

**Bush Fire:** a general term used to describe fire in vegetation, includes grass fire.

**Bush Fire Hazard:** the potential severity of a bush fire, which is determined by fuel load, fuel arrangement and topography under a given climatic condition.

**Bush Fire Risk:** the chance of a bush fire igniting, spreading and causing damage to the community or the assets they value.

**Bush Fire Risk Management:** a systematic process that provides a range of treatments which contribute to the well being of communities and the environment, which suffer the adverse effects of wildfire/bush fire.

**Bush Fire Threat:** potential bush fire exposure of an asset due to the proximity and type of a hazard and the slope on which the hazard is situated.

**Community Protection Plan:** a fine scale document that consists of a Bush Fire Survival Map, a Bush Fire Preparation Map and an Operational Brigade Map.

**Consequence:** outcome or impact of a bush fire event.

**Fire Fighting Authorities:** the NSW Rural Fire Service, NSW Fire Brigades, the National Parks and Wildlife Service and Forests NSW.

**Likelihood:** the chance of a bush fire igniting and spreading.

**Major Bush Fire:** A bush fire which requires the attendance of multiple brigades, or causes damage to property or injury to one or more persons.

**Display area:** geographic area determined by the Bush Fire Management Committee which is used to provide a suitable area and scale for community participation and mapping display purposes.

**Recovery costs:** the capacity of an asset to recover from the impacts of a bush fire.

**Risk Acceptance:** an informed decision to accept the consequences and the likelihood of a particular risk.

**Risk Analysis:** a systematic process to understand the nature of and to deduce the level of risk.

**Risk Assessment:** the overall process of risk identification, risk analysis and risk evaluation.

**Risk Identification:** the process of determining what, where, when, why, and how something could happen.

**Risk Treatment:** the process of selection and implementation of measures to modify risk.

**Vulnerability:** the susceptibility of an asset to the impacts of bush fire.

## Chapter 1. Introduction

### 1.1 Background

Under the *Rural Fires Act 1997* the Bush Fire Coordinating Committee (BFCC) must constitute a Bush Fire Management Committee (BFMC) for each area in the State, which is subject to the risk of bush fires. Each BFMC is required to prepare and submit to the BFCC a draft Bush Fire Risk Management Plan (BFRMP).

A BFRMP is a strategic document that identifies community assets at risk and sets out a five-year program of coordinated multi-agency treatments to reduce the risk of bush fire to the assets. Treatments may include such things as hazard reduction burning, grazing, community education, fire trail maintenance and establishing community fireguard groups.

Annual programs to implement the treatments identified in this Plan will be undertaken by the relevant land managers and fire fighting authorities.

In exercising its functions under the *Rural Fires Act 1997*, including the preparation of a draft BFRMP, the Canobolas Zone BFMC is required to have regard to the principles of ecologically sustainable development (ESD).

This document and the accompanying maps together form the BFRMP for the Canobolas Zone BFMC area.

This BFRMP has been prepared by the Canobolas Zone BFMC and covers both public and private lands. This BFRMP must be reviewed and updated within each successive five-year period from the constitution of the BFMC.

The BFCC recognises that climate change has the potential to increase bush fire risk. The risk assessment process applied in this BFRMP is based on current climatic conditions. The BFCC will monitor information on climate change and will modify the process when necessary.

### 1.2 Aim and Objectives

The **aim** of this BFRMP is to minimise the risk of adverse impact of bush fires on life, property and the environment.

The **objectives** of this BFRMP are to:

- reduce the number of human-induced bush fire ignitions that cause damage to life, property and the environment;
- manage fuel to reduce the rate of spread and intensity of bush fires, while minimising environmental/ecological impacts;
- reduce the community's vulnerability to bush fires by improving its preparedness; and
- effectively contain fires with a potential to cause damage to life, property and the environment.

In addition, the Canobolas Zone BFMC seeks to undertake an analysis, evaluation and treatment of bush fire risk across the BFMC area on a tenure blind basis as well as fostering ongoing community consultation and collaboration.

### 1.3 Scope and Purpose of Plan

This Plan has supporting documents being the *Canobolas Zone Brigade Threat Area Map* and *Description of Bush Fire Management Zones in the Canobolas Zone BFRMP*. These are local documents that are supplementary to the Canobolas Zone BFRMP and are contained in Appendix 5. The *Canobolas Zone Fire Threshold Map* also forms an important part of this Plan which is provided in Appendix 4.

The purpose of this BFRMP is to provide a strategic level document which:

- Identifies the level of bush fire risk across the Canobolas Zone BFMC area.
- Records treatment strategies identified by the BFMC, including the location of Bush Fire Management Zones, which will be implemented to manage the bush fire risk.
- Records the agencies responsible for implementing the treatment strategies.
- Provides a process to prioritise treatments and monitor the progress of the implementation program over the life of the Plan.

### 1.4 Description of the Canobolas Zone BFMC Area

#### 1.4.1 Location and land tenure

The Canobolas Zone BFMC area is located in the Central Ranges of New South Wales and includes the Local Government areas of Blayney, Orange, Cabonne and Cowra.

The area covered by the Canobolas Zone BFMC is **1,062,057** hectares and includes the land tenures outlined in Table 1.1.

Land Manager	% of BFMC area
National Parks & Wildlife Service	4.22%
Forestry Corporation of NSW	2.37%
Department of Lands	0.37%
Local Government	0.24%
Private	92.76%
State Rail	0.03%
RMS	0.001%

**Table 1.1 Land Tenure**

#### 1.4.2 Climate and bush fire season

The typical / average climate in the Canobolas Zone BFMC area is split into two distinct areas. The eastern tablelands country has a higher rainfall and later growing season compared to the slopes to the west. Rainfall is spread throughout the year and there is no clear pattern of winter or summer dominance. The bush fire season runs from October to March each year with the main danger period occurring between December and February.

Prevailing weather conditions associated with the bush fire season in the Canobolas Zone BFMC area are north-westerly winds accompanied by high daytime temperatures and low relative humidity. There are also frequent dry lightning storms occurring during the bush fire season.

### **1.4.3 Population and demographic information**

The population of the Canobolas Zone BFMC area is approximately 72,300 people. The major population centres are Orange, Cowra, Blayney, Molong, Canowindra, Manildra, Cumnock, Eugowra, Yeoval, Millthorpe and Woodstock. The following issues have been identified within the Canobolas Zone BFMC area as potentially impacting on the ability of certain sections of the community to prepare themselves for bush fire: general community apathy that fires will not happen to them (this is evidenced by the low percentage of the population that have Bush Fire Survival Plans) and the ageing of the population with fewer young people volunteering to protect their community than has occurred during previous generations.

### **1.4.4 History of bush fire frequency and ignition cause**

The Canobolas Zone BFMC area has on average 300 to 500 incidents per year. Of these incidents approximately 200 bush and grass fires. All these have the potential to be major fires and 95% are usually contained to less than 10 hectares. Approximately 10 fires each year are considered major fires based on their potential and the fire danger rating applicable on the day.

The fire history has been compiled for Canobolas Zone BFMC area is based primarily on National Parks and Wildlife Service and State Forest's datasets. These were supplemented with anecdotal evidence from the community. Fire history from 1942-43 to the present is stored as a spatial GIS layer and updated annually.

It is recognised that whilst the fire history is not perfect it is biased toward fires in forested areas and larger fires. Historically the smaller fires in grass lands have often not been recorded and the data shows a bias against these events. All significant, large fire events since 1942-43 have been accounted for in the spatial layer.

The main sources of ignition in the Canobolas Zone BFMC area are lightning strikes, electrical infrastructure failures, arson, machinery, vehicles and welding / grinding activities.

## Chapter 2. Identifying and Assessing the Bush Fire Risk

### 2.1 Process

The Australia/New Zealand Standard *AS/NZS 4360: 2004 Risk Management* was used as the basis for the risk assessment process. See Figure 2.1 for the steps involved. For a detailed description of the process undertaken see the Bush Fire Risk Management Planning Guidelines for Bush Fire Management Committees on the NSW RFS website: [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au).

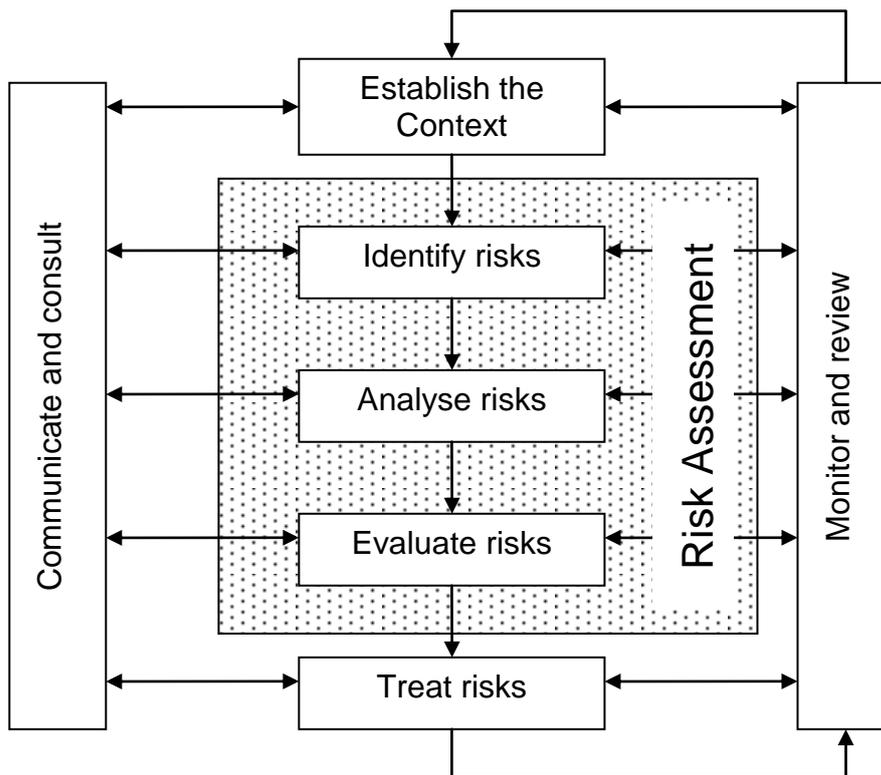


Figure 2.1 Overview of the risk assessment process

### 2.2 Communication and Consultation

Community participation is an integral part of risk management. The Community Participation Strategy involved developing and implementing a process to address the needs, issues and concerns of stakeholders within the BFMC area in regards to the BFRMP. See Appendix 1 for the Community Participation Strategy used by the Canobolas Zone BFMC in preparing this BFRMP.

The Canobolas Zone BFMC has a strong commitment to the community consultation process. Traditionally community participation was seen as “informing” the public of a pre-determined decision. The BFMC has taken the approach of “collaborating” with and involving the community in developing alternatives and identifying the preferred solution.

The Canobolas Zone BFMC determined it was necessary to gather local knowledge and experience to assist in the risk planning process. This included fire history, brigade knowledge and identification of community and environmental assets.

As a result of this consultation an ownership of the BFRMP was developed by the whole community.

## **2.3 Identifying the Bush Fire Risk**

Identifying the level of bush fire risk firstly involved identifying important community assets considered to be at risk from bush fire in the Canobolas Zone BFMC area, and then assessing the likelihood and consequence ratings.

### **2.3.1 Assets**

BFMC members and the community, including NSW RFS volunteers, identified assets within the Canobolas Zone BFMC area that they believed were at risk of bush fire.

The assets were divided into four asset types:

#### **Human settlement**

- Residential areas including urban bushland interface areas and rural properties;
- Special Fire Protection areas including schools, hospitals, nursing homes, and tourist facilities; and
- Other human settlement areas including commercial and industrial areas where distinct from major towns.
- Neighbourhood Safer Place (NSP) is defined by the *Rural Fires Act 1997* as *land or a building designated as a neighbourhood safer place under section 62C*. NSPs provide a place of last resort for people during a bush fire. All designated NSP locations for NSW are available at [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au).

#### **Economic**

- Agricultural; e.g. major silos, regional saleyards, cropping/grazing land;
- Commercial/industrial e.g. major industries, waste treatment plants, sawmills;
- Infrastructure e.g. large power lines, gas pipelines, railway lines, electricity substations, communication facilities;
- Tourist and recreational e.g. tourist sites and facilities, resorts, retreats;
- Mines;
- Commercial forests e.g. pine plantations, eucalypt plantations and commercial native forests.
- Drinking water catchments.

### **Environmental**

- Threatened species, populations and ecological communities and Ramsar wetlands;
- Locally important species and ecological communities, such as species and ecological communities especially sensitive to fire.

### **Cultural**

- Aboriginal significance – Aboriginal places and items of significance;
- Non-indigenous heritage – places and items arising from the early occupation of NSW by European or other non-indigenous settlers; and
- Other cultural assets – community halls, clubs and recreational facilities.

Each community within the Canobolas Zone BFMC area contains a different mix of the various assets identified above.

See Appendix 2 for the full list of assets in the Canobolas Zone BFMC area. See Map 1 for the location of assets to be treated under this BFRMP.

### **2.3.2 Assessing the Bush Fire Risk - Consequence**

Once the assets were identified, the consequence of a bush fire impacting on these assets was assessed.

See Appendix 2 for the consequence ratings assigned to each asset identified in the Canobolas Zone BFMC area.

The different asset types had different assessment processes used to determine the consequence. These processes are identified below.

### **Human settlement**

A potential fire behaviour model using vegetation type, slope and separation distance was used to produce a threat rating for human settlement assets. The vulnerability of the asset to a bush fire was also assessed and a rating assigned. These ratings were then used to assess the consequence of a bush fire impacting upon a human settlement asset.

Special Fire Protection (SFP) assets were considered inherently more vulnerable to bush fire due to mobility capacity, knowledge or other issues relating to their inhabitants, (e.g. the elderly, infirm, children or tourists) and therefore stricter requirements for vulnerability assessment and rating were applied. Due to circumstances surrounding NSPs and their use during a bush fire, stricter requirements for vulnerability assessment and rating will also apply to these assets.

### **Economic**

The level of economic impact e.g. local, regional or state, as well as the economic recovery costs (how long and complicated a financial recovery will be) of the asset were

identified. These ratings were used to assess the consequence of a bush fire impacting upon an economic asset.

### **Environmental**

Environmental assets with known minimum fire threshold were assessed to determine if they were at risk of a bush fire within the 5 year life of the BFRMP using fire history and fire threshold data. Those environmental assets which were within or above the fire threshold were not assessed in the BFRMP, as the negative impact of a fire within the 5 year period was determined as being low and may even be of benefit to the asset and surrounding habitat.

The vulnerability of an environmental asset was determined by its conservation status and its geographic extent (distribution across the landscape). Vulnerability and potential impact of bush fire were used to assess the consequence of a bush fire impacting upon an environmental asset.

### **Cultural**

For non-indigenous historical, Aboriginal and other cultural assets a potential fire behaviour model using fuel load, slope and proximity was used to produce a threat rating. The physical vulnerability of the asset to a bush fire was also assessed. These ratings were then used to assess the consequence of a bush fire impacting upon a cultural asset.

### **2.3.3 Assessing the Bush Fire Risk - Likelihood**

For all asset types the likelihood of a bush fire occurring was assessed. This involves considering fire history, including ignition cause and patterns, known fire paths, access, containment potential and potential fire run (size of the vegetated area). See Appendix 2 for the likelihood ratings assigned to each asset identified in the Canobolas Zone BFMC area.

### **2.3.4 Identifying the level of risk**

The consequence and likelihood ratings were then used to identify the level of risk. See Appendix 2 for the risk ratings assigned to each asset identified in the Canobolas Zone BFMC area.

As a support document for this BFRMP, the *Canobolas Zone Brigade Bush Fire Threat Map* has been prepared by the BFMC. This map combines the risk to Human Settlement assets identified in Appendix 2 for a brigade to generate a risk rating for that area. This process has been applied to each brigade within the Canobolas Zone to depict the risk profile across the BFMC area. The purpose of this map is to assist in the communication of bush fire risk with stakeholders and has been included in Appendix 5 of the Plan.

### **2.3.5 Evaluating the Bush Fire Risk**

Once the risk ratings for each asset were identified, they were evaluated to:

- a) confirm that risk levels identified in the risk analysis process are appropriate and reflect the relative seriousness of the bush fire risk;
- b) identify which assets require treatments; and
- c) identify treatment priorities.

### **2.3.6 Prioritising Treatments**

No organisation has limitless resources to deal with adverse risk. It is therefore necessary to define priorities. The bush fire risk ratings determined were used to prioritise the risk treatments, i.e. areas of extreme risk were considered first for treatment, then very high, then high, then medium, then low.

### **2.3.7 Risk Acceptability**

Risks below a certain level were assessed as not requiring treatment within the life of this Plan. This is due to a combination of higher priority works taking precedence and the ability to achieve works over the life of this Plan. Within the Canobolas Zone BFMC area the level of acceptability is medium. Areas of medium or low are likely to be managed by routine procedures. However, Non Indigenous Cultural Heritage items have a risk acceptability of high and specific treatments have only been allocated to the Extreme and Very High risk assets within this category.

All NSPs for a BFMC area will require ongoing treatment, where required, by the applicable land owner to ensure that the asset remains viable as a place of last resort for people during a bush fire. Therefore, all NSP assets are allocated specific treatments in this Plan, regardless of the level of bush fire risk identified and the risk acceptability nominated by the Canobolas Zone BFMC.

## Chapter 3. Treating the Risk

### 3.1 Bush Fire Management Zones

Bush Fire Management Zones were identified within the Canobolas Zone BFMC area and mapped (see Map 1). These zones identify the fire management intent for a specific area. See Table 3.1 for descriptions of the zones and their purposes. The four categories of Bush Fire Management Zones are:

- Asset Protection Zone (APZ);
- Strategic Fire Advantage Zone (SFAZ);
- Land Management Zone (LMZ); and
- Fire Exclusion Zone (FEZ).

Some of these zones (usually Land Management Zones) may be further classified within this category by the land manager, e.g. LMZ – Heritage Management Zone (NPWS).

In the Canobolas Zone BFMC area, Land Management Zones have been classified into three separate categories which includes:

1. LMZ General
2. LMZ Agricultural
3. LMZ Pine

LMZs General consists of timbered fire prone areas that are not otherwise identified as another type of Bush Fire Management Zone. Generally, these LMZs are managed on a 20 year cycle in line with the biodiversity thresholds of the vegetation types located within the BFMC area (see Table 3.3).

LMZ Agricultural covers non timbered agricultural land within the BFMC area that is not identified as APZ or SFAZ. This LMZ is managed for primary production and treatment strategies reflect normal agricultural practices that minimise the impact and threat of fire.

LMZ Pine applies to all commercial pine plantations throughout the BFMC area that are not identified as APZ or SFAZ. This LMZ has been identified in the Forestry Corporation NSW Plans of Management and have been incorporated into this BFRMP to create strong linkages between the two documents and ensure a consistent approach to the management of pine plantations. Some retained native vegetation within the pine plantations are identified as SFAZ for the purposes of the Bush Fire Environmental Assessment Code.

A local document has been prepared titled *Description of Bush Fire Management Zones in the Canobolas Zone BFRMP* which informs our land managers and the community on the purpose each Zone and the applicable treatments strategies. Making this information available to community members is particularly important in Canobolas Zone BFMC area as 92.7% of our landscape is privately owned. This is a supporting document to the BFRMP and has been included in Appendix 5.

Zone	Purpose	Suppression Objective(s)	Zone characteristics
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<b>Asset Protection Zone</b>	To protect human life, property and highly valued public assets and values.	To enable the safe use of <b>Direct Attack</b> suppression strategies within the zone. To minimise bush fire impacts on undefended assets.	As per RFS document <i>Standards for Asset Protection Zones</i> .
<b>Strategic Fire Advantage Zone</b>	To provide strategic areas of fire protection advantage which will reduce the speed and intensity of bush fires, and reduce the potential for spot fire development; To aid containment of wildfires to existing management boundaries.	To improve the likelihood and safe use of: <b>Parallel Attack</b> suppression strategies within the zone. and/or <b>Indirect Attack</b> (back burning) in high to very high fire weather conditions within the zone.  To reduce the likelihood of: Crown fire development within the zone. and/or Spot fire ignition potential from the zone	Zone width related to suppression objectives and dependent upon: <ul style="list-style-type: none"> <li>• Topography</li> <li>• Aspect</li> <li>• Spotting propensity</li> <li>• Location of adjacent firebreaks</li> <li>• Mosaic pattern of treatment</li> </ul> Assess Overall Fuel Hazard (OFH) once vegetation communities reach minimum fire thresholds within this Plan. Management practices should aim to achieve mosaic fuel reduction patterns so that the majority of the SFAZ has an OFH of less than high.
<b>Land Management Zone</b>	To meet relevant land management objectives in areas where APZs or SFAZs are not appropriate.	As per the land management and fire protection objectives of the responsible land management agency. To reduce the likelihood of spread of fires. To undertake mosaic burning.	As appropriate to achieve land management e.g. heritage and/or fire protection e.g. broad scale mosaic burning objectives.
<b>Fire Exclusion Zone</b>	To exclude bush fires.	To exclude and prevent fire.	Variable dependant on size of fire sensitive area requiring protection.

**Table 3.1 Bush Fire Management Zones: Purpose, objectives and characteristics**

NB: OFH refers the Overall Fuel Hazard Guide as described in the document published by (Dept. of Sustainability and Environment 3<sup>rd</sup> ed. 1999 & NPWS version); State-wide procedures for assessment of fuel hazard will be developed in conjunction with the BFCC.

For the purpose of the Bush Fire Environmental Assessment Code:

1. Plantations that are approved under the *Plantations & Reafforestation Act 1999* after closure of the public exhibition period for this BFRMP are considered to be identified in this BFRMP; and

2. Retained vegetation within the aforementioned plantations is considered to be a Strategic Fire Advantage Zone identified in the text of this BFRMP as long as it meets the suppression objectives for SFAZs included in the BFRMP, and is not mapped or otherwise described as a Fire Exclusion Zone in the BFRMP.

### **3.2 BFMC Wide Treatments**

BFMC wide treatments are activities which reduce the overall bush fire risk within the BFMC area and are undertaken on an ongoing basis as part of normal business. These treatments are not linked to specific assets in the BFRMP, rather they are applied across all or part of the BFMC area as designated by legislation or agency policy. BFMC wide treatments include the following:

- **Reviewing the bush fire prone land map**

These maps identify bush fire prone land and are used to trigger whether a development application is assessed using *Planning for Bush Fire Protection*<sup>1</sup>.

- **Ensuring developments in bush fire prone land comply with *Planning for Bush Fire Protection***

This assessment process requires new applications for development to include bush fire protection measures.

- **Using the Local Environment Plan/s (LEPs) to control developments in areas with a bush fire risk**

LEPs can be used to exclude development in extreme bush fire risk areas or where bush fire protection measures cannot be incorporated.

- **Varying the standard bush fire danger period as required**

In years where the weather is particularly adverse the bush fire danger period may be brought in early or extended. This is assessed every year by the BFMC.

- **Requiring permits during the bush fire danger period**

In the bush fire danger period a fire safety permit is required to light a fire in the open. Permits specify conditions such as fire fighting equipment that must be on site, or restrict burns based on weather conditions.

- **Prosecution of arsonists/offenders**

Under the *Rural Fires Act 1997* persons may be prosecuted for breaching the conditions on a fire permit, lighting a fire during a Total Fire Ban, allowing fire to escape their property, or other breaches of the Act.

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<sup>1</sup> NSW Rural Fire Service 2006 *Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers*.

- **Investigation of bush fire cause**

All bush fires which do not have a known cause are investigated to identify how they started.

- **Fire suppression activities**

Responding to bush fire is a normal business activity for the fire fighting authorities.

Canobolas Zone responds to fires according to our “Operational Response Code” which allocates a predetermined response based on the Fire Danger Index on the day. This ensures that an appropriate weighted response is deployed with the aim to extinguish fires that pose a threat to the community whilst they are small and as quickly as possible.

- **Assessing and managing compliance with strategic fire fighting resource allocation provisions**

Strategic fire fighting resource allocation provisions is the process used to identify the number of stations, brigades and appliances required in an area, and considers members, training, assets and hazards.

- **Preparation of a S52 Operations Coordination Plan**

The Operations Coordination Plan is prepared biannually and sets out how coordinated fire fighting will occur. It includes specific operational restrictions on fire fighting techniques in certain areas, where fires will be managed from, and how agencies involved can communicate during operations.

- **Fire Management Plans or Plans of Management**

Some land management agencies have developed fire management plans or plans of management with specific fire or fuel management strategies, for example a Forests NSW Regional Fuel Management Risk Plan, a NPWS Fire Management Strategy. These publicly exhibited plans form the basis for operational fire planning on public parks, reserves and forests.

- **Bush Fire Hazard Complaints**

If someone is concerned about possible bush fire hazards on a neighbouring property or any other land, then this can be reported to the RFS Commissioner or their local RFS Fire Control Centre. The complaint will be investigated and may result in a notice being issued to the landowner or manager to reduce the hazard.

### **3.3 Asset Specific Treatments**

There are six broad strategy groups available to treat the bush fire risk to assets identified in the BFRMP.

The types of asset specific treatments in each strategy group used in the Canobolas Zone BFMC area are listed below. A full list of the treatment strategies in the Canobolas Zone BFMC area are in Appendix 3.

<b>Strategy</b>	<b>Targeted treatments used in the Canobolas Zone BFMC area</b>
Ignition Management	Bush Fire Danger period and permits issued Public Awareness and Community Education Fire Towers
Hazard Reduction	Prescribed Burning based upon fire management zones, vegetation types, fire thresholds and time since fire. Mechanical treatments and roadside mowing and trittering Grazing and Mosaic farming practices Section 66 Notices Issuing HRC's under the Code where required Encouragement of "Personal Responsibility" for all residents to prepare their properties and prepare for fire.
Community Education and Consultation	"Gum Tree" meetings with Brigades and the Community Media, Public Awareness and Community Education Canobolas Zone Website and Facebook. Distribution of Bush Fire Survival Plans by Brigades School visits
Property Planning	Development Approval Processes Community Protection Planning in appropriate areas
Preparedness	Operational Response and Readiness Standards of Fire Cover Section 52 Plan Pre Incident Planning Canobolas Zone Operational Response Code
Other*	Volunteer Preparedness and Training Asset and Infrastructure Maintenance and Management Integration of Risk Plan treatments into the Zone RFS Business Planning for holistic protection of the community

**Table 3.2 Asset specific treatments used in the Canobolas Zone BFMC area**

### 3.4 Fire Thresholds

The vegetation in the Canobolas Zone BFMC area was classified into fire threshold categories (see Table 3.3).

Vegetation formation	Minimum SFAZ Threshold	Minimum LMZ Threshold	Maximum Threshold	Notes
Rainforest	NA	NA	NA	Fire should be avoided.
Alpine complex	NA	NA	NA	Fire should be avoided.
Wet Sclerophyll forest (shrubby subformation)	25	30	60	Crown fires should be avoided in the lower end of the interval range.
Wet Sclerophyll forest (grassy subformation)	10	15	50	Crown fires should be avoided in the lower end of the interval range.
Grassy woodland	5	8	40	Minimum interval of 10 years should apply in the Southern Tablelands area. Occasional intervals greater than 15 years may be desirable.
Grassland	2	3	10	Occasional intervals greater than 7 years should be included in coastal areas. There was insufficient data to give a maximum interval; available evidence indicates maximum intervals should be approximately 10 years.
Dry sclerophyll forest (shrub/grass subformation)	5	8	50	Occasional intervals greater than 25 years may be desirable.
Dry sclerophyll forest (shrub subformation)	7	10	30	Occasional intervals greater than 25 years may be desirable.
Heathlands	7	10	30	Occasional intervals greater than 20 years may be desirable.
Freshwater wetlands	6	10	35	Occasional intervals greater than 30 years may be desirable.
Forested wetlands	7	10	35	Some intervals greater than 20 years may be desirable.
Saline wetlands	NA	NA	NA	Fire should be avoided.
Semi-arid woodlands (grassy subformation)	6	9	No max	Not enough data for a maximum fire interval.
Semi-arid woodlands (shrubby subformation)	10	15	No Max	Not enough data for a maximum fire interval.
Arid shrublands (chenopod subformation)	NA	NA	NA	Fire should be avoided.
Arid shrublands (acacia subformation)	10	15	No Max	Not enough data for a maximum fire interval.

**Table 3.3 Fire Thresholds for Vegetation Categories (Bradstock)**

### **3.5 Annual Works Programs**

The land management agencies and fire fighting authorities responsible for implementing the treatments identified in this Plan will include those treatments in their annual works programs detailing how, when, and where the required activities will be undertaken.

Annual works programs will be reviewed in October each year and presented at the November BFMC meeting to allow agencies and organisation to develop their future programs.

### **3.6 Implementation**

When the treatments identified in this BFRMP are implemented there are a number of issues that need to be considered by the responsible agency including environmental assessments and approvals, smoke management and prescribed burn plans.

### **3.7 Fire Trails**

Fire trails are important fire control advantages that provide access for fire fighting appliances. The NSW BFCC standards are used as the basis for fire trail construction and maintenance. The Canobolas Zone BFMC endeavours to comply with the BFCC policy subject to slope and topography.

Where it is possible, the agencies of the Canobolas Zone BFMC will seek to create and maintain essential fire trails with a 4 metre wide trafficable surface and a 2 metre wide shoulder on each side (4m-2m-2m).

Shoulders are to be free of all obstacles (trees, rocks, holes) and be maintained in a suitable condition to allow vehicles to pass. Small shrubs, grasses and other low vegetation are permitted.

It is recognised that in some areas the desired "4-2-2" for fire trails cannot be met due to steep terrain and other environmental constraints. Where this is the case, turning bays (approximate 1km spacing) and passing bays (approximate 250m spacing) will be installed.

## Chapter 4. Performance Monitoring and Reviewing

### 4.1 Review

This BFRMP must be reviewed and updated within each successive five-year period from the constitution of the BFMC. The Canobolas Zone BFMC will also review this Plan as necessary to account for any changes in context or risk. This may be triggered by a range of circumstances, including but not limited to:

- changes to the BFMC area, organisational responsibilities or legislation;
- changes to the bush fire risk in the area; or
- following a major fire event.

### 4.2 Monitoring

The BFMC is required to monitor progress towards the completion of treatment works listed in the BFRMP, and the timeliness of the works.

The review of the annual works programs by the BFMC will identify completed and outstanding treatments and will assist in monitoring performance of the BFMC in implementing the strategies contained in the BFRMP.

Furthermore, the *Canobolas Zone Fire Threshold Map* will be updated as annual works programs are implemented and fire activity occurs. This will also provide another tool to assist in monitoring the performance of land management agencies in carryout hazard reduction activities across the BFMC area.

### 4.3 Reporting

The BFMC is required to report annually to the BFCC on its progress in implementing the bush fire risk management activities identified in this Plan.

### 4.4 Performance Measurements

State wide performance measurements which are linked to the BFRMP have been identified by the BFCC. All BFMCs must use these to monitor and report on their success in reducing the bush fire risk in their BFMC area.

### 4.5 Canobolas Zone Performance Measures

Performance measures in the form of annual targets for area treated and properties protected have been established by the Canobolas Zone BFMC to achieve the long term strategic outcomes required by this Plan. The targets have been developed according to the total area of the Bush Fire Management Zones and the treatment cycle required to manage these areas and to protect properties. This involved an analysis of fire history and the frequency at which the area can be treated. The analysis is shown on the *Canobolas*

*Zone Fire Threshold Map* which assists in monitoring the state of fuel across the landscape. Furthermore, the annual targets are linked with treatments in the Bush Fire Risk Register to facilitate a risk based approach to achieving the outcomes.

The BFMC acknowledges that the ability to achieve these results will be impacted by weather conditions, fuel loads, major fire activity and other factors from time to time. Nevertheless the targets provide a goal for the BFMC to aim for as our contribution to the State targets. All agencies have agreed to the annual targets.

#### **4.5.1 Canobolas Zone Annual Targets**

Table 4.1 identifies the annual hazard reduction targets for all tenures within the Canobolas Zone BFMC area. The annual targets have been specified by Bush Fire Management Zone and information on the treatment cycle, total area, annual hazard reduction targets in hectares, annual targets for properties protected and where relevant, the target fuel loads for the zone have been included.

At this stage the hazard reduction activity of grazing is not recorded and is not taken into account in the completed works analysis.

Grazing as a hazard reduction activity takes place on private land and on Crown land (whilst it also occurs on Forest Corporation land and acts as a hazard reduction activity it is not in widespread use in Canobolas Zone)

The following assumptions are made for grazing:

The impact of grazing is assumed to be 50% of the privately owned SFAZ's and 70% on privately owned LMZ's. This figure was agreed to by the community and results in the following calculations for the Benchmarks:

- APZ – Maximum 3 year cycles, with allowance for identified roads treated biannually.
- SFAZ – Total area mapped less 50% grazed with the remainder treated on an approximate 10 year cycle to maintain a fuel level of less than 10 ton per hectare.
- LMZ – Total area mapped less 70% grazed and the remainder treated on a 20 year cycle in line with our vegetation type.

**Table 4.1 – Annual Targets for the Canobolas Zone BFMC Area**

Fire Management Zone	Cycle	Total Area	Annual Target Hectares	Annual Target Properties Protected	Target Fuel Loads per Hectare
SFAZ	6 Monthly (Roads)	1,208 ha	2,416 ha	3,000	
APZ	1 Year	35 ha	35 ha	275	
SFAZ	10 Year	41,246 ha	3,111 ha	1,800	Overall Fuel Hazard of <High (i.e. Approximately <10 ton per ha)
LMZ General	20 Year	110,497 ha	3,169 ha	950	Not to be treated when Overall Fuel Hazard is <High
TOTALS		152,986 ha	8,731 ha	6,025	

The idealised benchmark for Canobolas Zone BFMC area for all of the above Bush Fire Management Zones is an annual treatment area of 8,731 ha and the protection of 6,025 properties. This may vary from year to year depending on weather conditions and fuel loads requiring treatment.

Table 4.2 – 4.8 provide a breakdown of the Canobolas Zone BFMC annual hazard reduction targets by land tenure.

**Table 4.2 – Annual Targets for National Parks and Wildlife Service**

Fire Management Zone	Cycle	Total Area	Annual Target Hectares	Annual Target Properties Protected	Target Fuel Loads per Hectare
APZ	1 Year	13 ha	13 ha	125	
SFAZ	10 Year	7,700 ha	770 ha	500	<10 ton per ha
LMZ	20 Year	30,340 ha	1,517 ha	300	Not to be treated when <7 ton per hectare
TOTALS		38,053 ha	2,300 ha	925	

**Table 4.3 – Annual Targets for Forestry Corporation NSW**

Fire Management Zone	Cycle	Total Area	Annual Target Hectares	Annual Target Properties Protected	Target Fuel Loads per Hectare
APZ	1 Year	6 ha	6 ha	50	
SFAZ	10 Year	1,795 ha	179 ha	200	<10 ton per ha
LMZ	20 Year	9,430 ha	472 ha	150	Not to be treated when <7 ton per hectare
LMZ Pine	Fire Exclusion	14,852 ha	Nil	0	
TOTALS		26,083 ha	657 ha	400	

**Table 4.4 – Annual Targets for Department of Primary Industries Crown Lands**

Fire Management Zone	Cycle	Total Area	Annual Target Hectares	Annual Target Properties Protected	Target Fuel Loads per Hectare
APZ	1 Year	16 ha	16 ha	100	
SFAZ	10 Year	1,609 ha	161 ha	200	<10 ton per ha
LMZ	20 Year	1,400 ha	140 ha	50	Not to be treated when <7 ton per hectare
TOTALS		3,025 ha	317 ha	350	

**Table 4.5 – Annual Targets for Private Property**

Fire Management Zone	Cycle	Total Area	Annual Target Hectares	Annual Target Properties Protected	Target Fuel Loads per Hectare
SFAZ	10 Year	29,622 ha	1,481 ha	500	<10 ton per ha
LMZ	20 Year	69,317 ha	1,040 ha	450	Not to be treated when <7 ton per hectare
TOTALS		98,939 ha	2,521 ha	550	

**Table 4.6 – Annual Targets for State Rail**

Fire Management Zone	Cycle	Total Area	Annual Target Hectares	Annual Target Properties Protected	Target Fuel Loads per Hectare
SFAZ	1 Year	445 ha	445 ha	200	
TOTALS		445 ha	445 ha	200	

**Table 4.7 – Annual Targets for the Roads and Maritime Services**

Fire Management Zone	Cycle	Total Area	Annual Target Hectares	Annual Target Properties Protected	Target Fuel Loads per Hectare
SFAZ	1 Year	75 ha	75 ha	200	
TOTALS		75 ha	75 ha	200	

**Table 4.8 – Annual Targets for the Local Government**

Fire Management Zone	Cycle	Total Area	Annual Target Hectares	Annual Target Properties Protected	Target Fuel Loads per Hectare
SFAZ	6 Monthly (Roads & Villages)	1,208 ha	2,416 ha	3,000	
TOTALS		1,208 ha	2,416 ha	3,000	

## Appendix 1 Community Participation Strategy

The Canobolas Zone BFMC has a strong history of effectively engaging our community and its commitment to the consultation process. Traditionally community participation was seen as “informing” the public of a pre-determined decision. The BFMC has taken the approach of “collaborating” with and involving the community in developing alternatives and identifying the preferred solution (see Figure A1.1).

The previous Bush Fire Risk Management Plan was developed in 2003/2004 with a strong basis of community consultation. Some 80 meetings were held at that time and over 2500 were consulted and involved in the process.

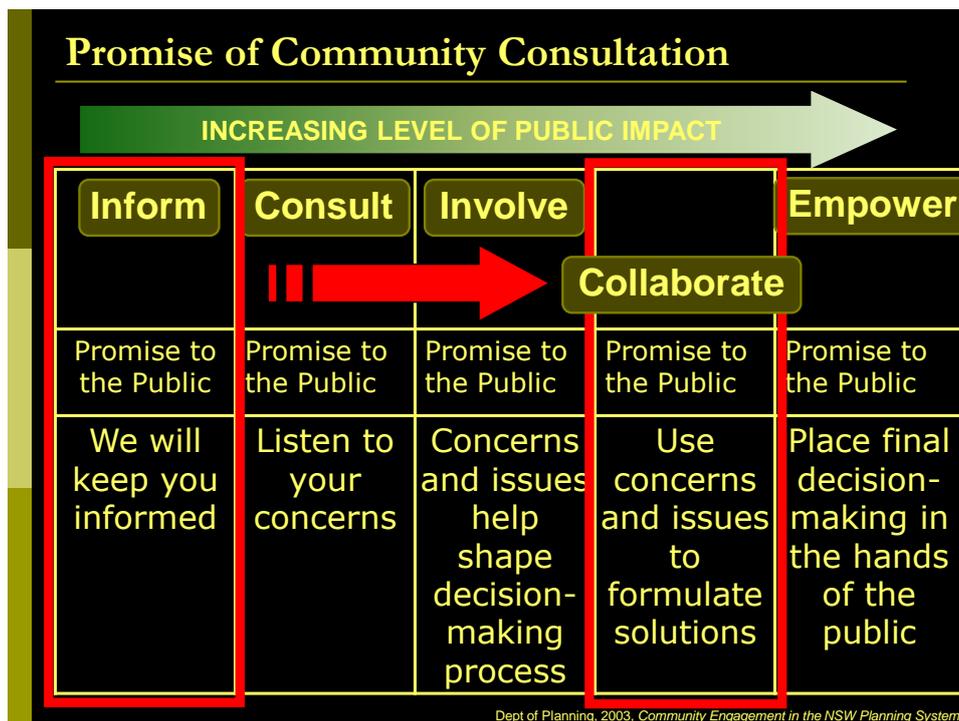
Since 2003/2004 the consultation process has continued with regular face to face meetings occurring with the community throughout the BFMC area. These meetings have been branded as “Gum Tree” meetings and are held twice per year in May and November. During each week some 6 – 10 meetings are held (15-20 per year). Between 100 to 200 members of the community are involved in Gum Tree meetings every six months as part of the regular and ongoing consultation delivered by the Canobolas Zone BFMC. This program has successfully kept our community involved in the development and progression of the BFRMP.

The Canobolas Zone BFMC *How Are We Going Map?* (now known as the *Canobolas Zone Fire Threshold Map* in the BFRMP) is displayed and discussed at each meeting to provide information on the progress of implementing the BFRMP.

Further meetings were held to specifically validate the different versions of the draft BFRMP with the community. These meetings also reflected on and analysed the performance of the previous plan which has been in operation for 8 years.

Between 2012 and 2015 the following meetings were held:

Local Government Area	Meeting Type	Number Held
Blayney	Gum Tree Meetings	6
Cabonne	Gum Tree Meetings	13
	Specific RMP Consultation	2
Cowra	Gum Tree Meetings	14
	Specific RMP Consultation	1
Orange	Gum Tree Meetings	4
	Specific RMP Consultation	1
	TOTAL MEETINGS	41



**Figure A1.1 The Community Engagement Spectrum**

The Canobolas Zone BFRMP is an example of community based fire management planning that has been successfully implemented. The process employed has provided many community benefits which include:

- Community ownership of fire protection planning
- A community that is safer from the dangers of wildfires
- Increased community awareness of the risks of bush fire
- Developing and strengthening community and agency relationships
- SMART goals that monitor progress and inform the community
- Leadership from the community with the interest in contributing to the wider fire management debate

As a result of this process, residents and community of the Canobolas Zone BFMC area have experienced a significant increase in their protection from major fire events. The

community awareness of the brigades and their activities are highly respected within the community. Most importantly relationships in the fire management community are stronger and more effective which results in a safer community.

Recent meetings endorsed the continuation of this planning methodology and endorsed the concepts and principles within the BFRMP.



**Figure A1.2 Canobolas Zone “Gum Tree” meeting consultation**

## Appendix 2 Asset Register

- *Appendix 2 attached*

## Appendix 3 Treatment Register

- *Appendix 3 attached*

## Appendix 4 Maps

- *BFRMP Maps attached*
- *Canobolas Zone BFMC Fire Threshold Map attached*

## Appendix 5 Supporting Documents

- *Canobolas Zone Brigade Threat Areas Map*
- *Description of Bush Fire Management Zones in Canobolas Zone BFRMP*