

Murrumbidgee Irrigation Area Bush Fire Management Committee

Bush Fire Risk Management Plan

**Prepared by the
Murrumbidgee Irrigation Area Bush Fire Management
Committee
pursuant to Section 52 of the
Rural Fires Act, 1997**

Authorisation

In accordance with Part 3 Division 4 of the Rural Fires Act 1997, this Plan has been prepared by the Murrumbidgee Irrigation Area Bush Fire Management Committee and has been endorsed at the BFMC meeting on 12 June 2007 for submission to the Bush Fire Coordinating Committee.

Recommended

Roy Stacy 08/02/2008

Roy Stacy
Chairperson
Murrumbidgee Irrigation Area
Bush Fire Management Committee

Approved


26-8-08

On behalf of the
NSW Bush Fire Co-ordinating Committee

Amendment List

[illegible]

Glossary

Assets: anything valued by the community which includes houses, crops, heritage buildings and places, the environment, businesses, and forests.

BRIMS: Bushfire Risk Information System, an integrated web based application for bush fire risk management in New South Wales.

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/bushfire.

Bush Fire Threat: potential bush fire exposure of an asset due to the proximity of a hazard.

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.

MIA: Murrumbidgee Irrigation Area; Region of south west NSW. Reference to 'MIA Zone' includes the local government areas of Griffith, Leeton, Murrumbidgee and Narrandera.

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

Resilience: 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 event.

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.

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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 which identifies community assets at risk and sets out a five year program of co-ordinated multi-agency treatments to reduce the risk of bush fire to these assets. Treatments may include such things as hazard reduction burning, grazing, community education, fire trail maintenance and establishing community fireguard groups.

All owners and land managers (both public and private) have a duty to prevent the occurrence and spread of bush fires on or from their land. This responsibility is legislated under section 63 of the *Rural Fires Act 1997*.

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 bush fire risk management plan, the MIA BFMC is required to have regard to the principles of ecologically sustainable development (ESD). These principles include the precautionary principle in relation to the interpretation of scientific advice, inter-generational equity which seeks to ensure future generations have access to natural resources, the conservation of biodiversity and ecological processes and the recognition of the value of natural resources.

This document and the accompanying maps together form the Bush Fire Risk Management Plan for the MIA BFMC area.

This BFRMP has been prepared by the MIA 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.

1.3 Description of the MIA BFMC area

1.3.1 Location and land tenure

The MIA BFMC area is located in south west New South Wales and includes the local government areas of Griffith, Leeton, Murrumbidgee and Narrandera.

The area covered by the MIA BFMC area is 1 043 200 hectares (10432 km²) and includes the following land tenure:

Table 1.1 Land Tenure

Land Manager	% of BFMC area
DECC (NPWS)	2.1%
Forests NSW	1.9%
Department of Lands	12.7%
Local Government	Total approx 0.5%
All other	82.8%

1.3.2 Climate and Bush Fire Season

The MIA Zone generally experiences hot dry summers with low rainfall levels. Average annual rainfall for Griffith is 401 mm, and Narrandera is 473mm (Bureau of Meteorology). Spring rainfall is the primary determinant in regard to the quantity of grass fire fuel available during the fire season. Typical conditions favour a flush of green fuel growing in spring which undergoes curing by early summer. This curing normally results in a rapid increase in the fire danger by December.

The Murrumbidgee Irrigation Area Bush Fire Management Committee has varied the local Bush Fire Danger Period, declaring that the ordinary start date

of the Bushfire Danger Period for the MIA Zone is 1st November. This start date may be adjusted according to seasonal conditions.

The standard end date of the Bush Fire Danger Period is 31st March. This may be altered in negotiation with stakeholders should conditions vary.

Typical days of extreme fire danger occur with periods of dry north westerly winds, bringing maximum temperatures to the vicinity of 43 degrees. Usually these days occur around January and February. The mean number of days above 35 degrees in Griffith is 6.1 in December, 9 in January, and 7.4 in February. The mean maximum temperature for the zone is 33 degrees occurring in January (Bureau of Meteorology).

1.3.3 Population

The population of the MIA BFMC area is approximately 45640 people, with 24600 in Griffith LGA, 12040 in Leeton LGA, 6478 in Narrandera LGA and 2519 in Murrumbidgee LGA. The major population centres are Griffith, Leeton, Narrandera, with smaller towns being Coleambally, Darlington Point, Barellan, Yenda, Grong Grong, Whitton, Yanco, Hanwood and Murrumbidgee. The following issues have been identified within the MIA BFMC area as potentially impacting on the ability of certain sections of the community to prepare themselves for bush fire: backpackers and temporary / seasonal farm labourers, a relatively aged population in Narrandera, absentee land owners across the MIA Zone, and non-English speaking population or persons with a limited ability in the English language in the Griffith area. There are popular camping areas along the Murrumbidgee River which can become crowded during peak holiday periods.

1.3.4 History of bush fire frequency and ignition cause

The MIA BFMC area has on average 495 bush fires per year, of which 10 on average can be considered to be major fires. Per district, Griffith has an average of 250 fires per year, Leeton 95, Narrandera 80 and Murrumbidgee 70 fires per year.

The main sources of ignition in the MIA BFMC area are of natural causes including lightning, and escapes from agricultural burns.

Historical accounts describe several larger fires of the area in the late 1800's and early 1900's. Of particular note, the entire Narrandera district experienced a large fire in February 1851, and in 1892 – 93 fires burnt 72000 hectares in Narrandera Shire. In January 1905 a large fire started at the Narrandera Common and ran east along the Murrumbidgee River for 40 kilometres in four hours¹.

December 1, 1918 saw a most destructive fire in the Murrumbidgee / Narrandera districts, where the fire swept from *Kerarbury* and *Fairlie Grange* through *Yamma*, *Goree*, *Tubbo*, *Oak Plain*, and *Yarrabee* before being controlled on Yanko and Washpen Creeks, burning 120000 acres².

The Narrandera Argus reported on 14 December 1926 of a "Disastrous Fire" which started on 10 December 1926 at *Tubbo* burning about 25000 acres. Additionally, several thousand acres of grassland were burnt in several fires during this fire season, as the grass was high after a wet winter².

Riverina farmers of this era were aware of common local dangerous fire weather patterns of strong northerly winds which may suddenly swing to the south or west, usually between 1500 – 1900 hours³.

What is common from these historical accounts is that the most destructive fires occurred following wet winter seasons which enabled grasses to grow up to eight feet high, thus providing dangerously high fuel loads.

Since the development of the irrigation networks (MIA & CIA), many fires that have occurred in irrigated areas have either been self extinguishing or have been rapidly suppressed by local brigade units.

In more recent times major fires occurred in the Leeton / Narrandera districts in 1990, 1991, 1998 and 2006. Some of these fires followed seasons conducive to high fuel growth and occurred in the relatively inaccessible areas of the Colinroobie and Brobenah Ranges in the central and central west parts of Narrandera Shire / north eastern parts of Leeton Shire. Extreme temperatures, strong gusty south westerly winds and the terrain hampered fire fighting efforts. The cause of these fires was lightning.

The Brobenah Hills fire of 1991 ran from the edge of the Irrigation Area to the east and south burning 1640 hectares in Leeton Shire. The Brobenah Hills fire of 1998 was confined to 800 hectares. Fires burning in the Brobenah Hills area can present considerable suppression difficulties due to the hilly inaccessible terrain.

Colinroobie Ranges have had bushfires in 1990 and 2001 which burnt the majority of the northern section of the range. The most recent Colinroobie fire of November 2006 was contained to 1800 hectares. Prior to these occurrences, the only other fire in the Colinroobie Ranges that can be recalled is in the 1890s.

¹ GAMMAGE, B. 1986, 'Narrandera Shire'

² LOTT, A. & GRANT, K. 'Where on Earth is Euroley? A District History From 1829 Onwards'

³ BEATTIE, S. 'The Odd Good Year – Early Scots to Port Phillip, Northern Australia, Gap, Gisborne, & Beyond'

Fires occurring in the flat open grasslands of the zone are generally fast and intense. In 1990 the 'Hay Plains Fire' burnt out 120 000Ha which included part of Murrumbidgee Shire. It started to the north west of Murrumbidgee Shire on the Sturt Highway.

Fires on Scenic Hill, Griffith have been numerous over the years and the area burnt variable. A major part of Scenic Hill was burnt in 1974. The most common ignition cause for Scenic Hill is arson.

Chapter 2. Identifying and assessing the bush fire risk

2.1 Process

The Australia/New Zealand Standard AS/NZS 4360: 2004 Risk Management is 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 RFS website: www.rfs.nsw.gov.au.

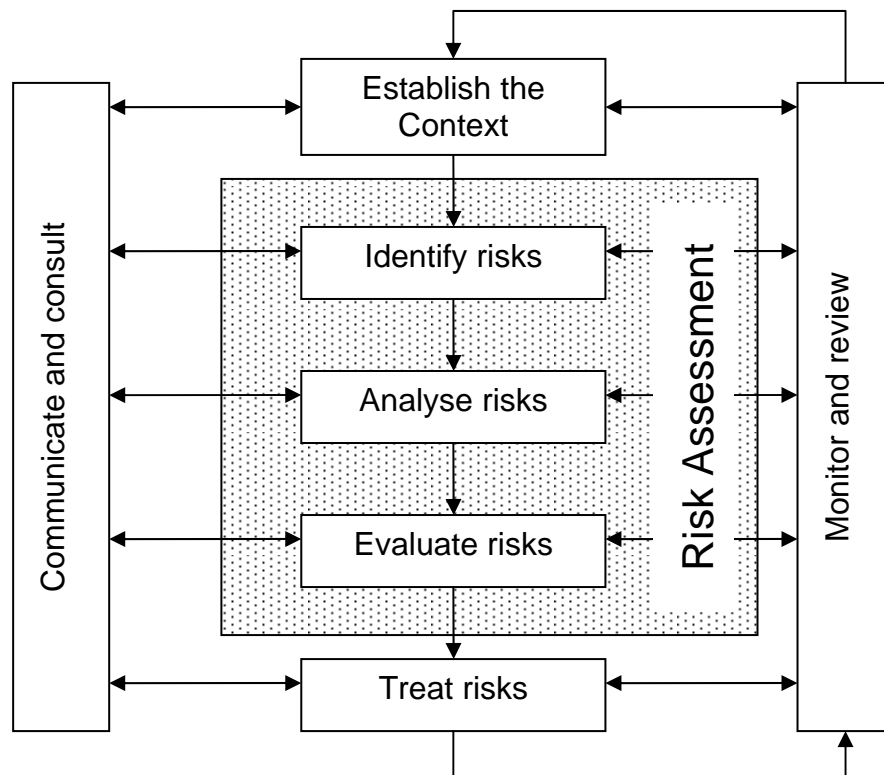


Figure 2.1 Overview of the risk assessment process

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 MIA BFMC in preparing this BFRMP.

2.3 Identifying the bush fire risk

Identifying the level of bush fire risk involves firstly identifying the assets considered important by the community in the MIA BFMC area, and then identifying the threat to the assets. This involves consideration of fuel (vegetation type and arrangement), slope, separation (the distance between

the asset and the fuel), the vulnerability or resilience of the asset, and the likelihood and consequences of a bush fire impacting on these assets.

2.3.1 Assets

The assets are 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 areas where distinct from major towns.

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 and oil 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; and
- Drinking water catchments.

Environmental

- Threatened species, populations and ecological communities;
- Regionally significant species and ecological communities, such as species and ecological communities especially sensitive to fire.

Cultural

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

Assets requiring bush fire risk assessment within the MIA BFMC are identified by agency staff and community members including RFS volunteers.

See Appendix 2 for the full list of assets identified in the MIA BFMC area. See Maps 1- 5 for the location of assets to be treated under this BFRMP.

2.3.2 Assessing the bush fire risk - consequence

Once the assets are identified the consequence of a bush fire impacting on these assets is assessed. The different asset types have different assessment processes used to determine the consequence.

See Appendix 2 for the consequence ratings assigned to each asset identified in the MIA 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 fuel load, slope and proximity is used to produce a threat rating for human settlement assets. The vulnerability of the community to a bush fire is also assessed and ratings assigned. These ratings are then used to assess the consequence of a bush fire impacting upon these assets.

Special Fire Protection (SFP) assets are 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 have stricter requirements for vulnerability assessment and rating.

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*. 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 is assessed. This involves considering fire history, including ignition cause and patterns, known fire paths, typical bush fire weather and when and how often this occurs in the area, 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 MIA BFMC area.

2.3.4 Identifying the level of risk

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

2.3.5 Evaluating the bush fire risk

Once the risk ratings for each asset are 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 treatment; 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 previously are used to prioritise the risk treatments, i.e. areas of extreme risk are considered first for treatment, then high, then medium. It is also necessary to prioritise within the risk levels i.e. determining which of the high risks is the most serious. This is done on the basis of the consequence and likelihood ratings.

2.3.7 Risk acceptability

Risks below a certain level are assessed as not requiring treatment within the life of this plan. This is due to a combination of risk priority and capacity to undertake the works. Within the MIA BFMC area the level of acceptability is Low. Areas of low risk are likely to be managed by routine procedures and so do not require a specific application of resources.

Chapter 3. Treating the risk

3.1 Bush Fire Management Zones

Bush Fire Management Zones were identified within the MIA BFMC area and mapped (see maps 1-5). 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).

Zone	Purpose	Suppression Objective(s)	Zone characteristics
Asset Protection Zone	To protect human life, property and highly valued public assets and values.	To enable the safe use of Direct Attack suppression strategies within the zone. To minimise bush fire impacts on undefended assets.	As per RFS document <i>Standards for Asset Protection Zones</i> . Max. fuel load 5 t/ha for forested areas.
Strategic Fire Advantage Zone	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 enable the safe use of Parallel Attack suppression strategies within the zone. To enable the safe use of Indirect Attack (back burning) in high to very high fire weather conditions within the zone. To prevent crown fire development within the zone. To minimise spot fire ignition potential from the zone.	Zone width related to suppression objectives and dependant upon: <ul style="list-style-type: none"> • Topography • Aspect • Spotting propensity • Location of adjacent firebreaks • Mosaic pattern of treatment Suggest fuel load managed between 8-12 t/ha for forested areas.
Land Management Zone	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.
Fire Exclusion Zone	To exclude bush fires.	N/A	Variable dependant on size of fire sensitive area requiring protection.

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

Note: All areas that are not mapped or described as APZs or SFAZs are considered as LMZs.

*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, 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 categorise vegetation into two categories of bush fire prone land plus a 100m or 30m buffer around the vegetation. This map is used to trigger whether a development application is assessed using Planning for Bush Fire Protection⁴.

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

This assessment process requires new applications for development to include certain fire resistance measures as well as cleared Asset Protection Zones (APZs).

- **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 areas where for example, adequate APZs cannot be incorporated due to the topography of the land, or access is not adequate.

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

In years where the weather is particularly bad the bush fire danger period may be brought in early or extended; this is assessed every year by the BFMC. The standard bush fire danger period in the MIA BFMC area is 1 November to 31 March.

⁴ NSW Rural Fire Service 2006 *Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers*.

- **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, these specify conditions such as fire fighting equipment that must be on site, or weather conditions that fires cannot be lit during.

- **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.

- **Investigation of bush fire cause**

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

- **Normal fire suppression activities**

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

- **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, as well as 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 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.

3.2.1 Annual works programs

The land management agencies and fire fighting authorities responsible for implementing the treatments identified in this plan will prepare annual works programs detailing how, when, and where the required activities will be undertaken and lodged via BRIMS, where applicable.

3.3 Asset specific treatments

There are five 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 MIA BFMC area are listed below. A full list of the treatment strategies in the MIA BFMC area are in Appendix 3.

Strategy	Targeted treatments used in the MIA BFMC area
Ignition Management	Ignition management treatments in the MIA BFMC are focussed on State Forests and involve restricting the use of fire and patrolling areas.
Hazard Reduction	Hazard reduction in the MIA BFMC has been identified as a treatment to create and maintain Asset Protection Zones and Strategic Fire Advantage Zones.
Community Education	Community Education programs and activities to raise awareness of fire and enhance preparedness levels.
Property Planning	Property Planning in the form of has been identified in the MIA BFMC to treat risks at historical heritage / tourist and recreational assets.
Preparedness	Preparedness treatments identified in the MIA BFMC area involve fire trail maintenance and inspecting firebreaks.

Table 3.2 Asset specific treatments used in the MIA BFMC area

3.4 Fire thresholds

The vegetation in the MIA BFMC area was classified into fire threshold categories. See Map 6 for fire threshold mapping of the vegetation in the MIA BFMC area.

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

3.5 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.

Local permit issuing/hazard reduction burning exclusion periods

In the MIA BFMC area the issuing of permits is not permitted during 25th Dec. to 1st Jan, and any Public Holidays. No permits may be issued in non-irrigable areas in Narrandera in January.

Chapter 4. Performance monitoring and reviewing

4.1 Review

Under the *Rural Fires Act 1997* this plan must be reviewed and updated within five years of its approval by the BFCC. The MIA BFMC will also review this plan as necessary. 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

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.

Appendices

Appendix 1 Communications Strategy

MIA BFMC

2007 Bush Fire Risk Management Plan Communications Strategy

Purpose

- To ensure that specific and targeted communication occurs between the BFMC and the community throughout the development of Bush Fire Risk Management Plans (BFRMP).
- To ensure prominent stakeholders do not make judgements of the acceptability of a risk based on their own perception of risk
- To provide greater opportunity for local brigades, land holders and other stakeholders to have input into the bush fire risk management process
- To determine the concerns of the community regarding bush fire risks within the community
- To ensure that the community's perceptions of risk, as well as their perceptions of benefits, be identified, understood, documented and addressed in the BFRMPs
- To improve community confidence in bush fire risk management across the landscape and provide the community with a sense of ownership of the BFRMP.
- Educate the community regarding bush fire risk management in the area so that they can contribute towards risk reduction.

Target Audience

Target Audience	Description
General Community	People who live or have assets within the area, particularly those potentially affected by bush fire.
Community Groups	Local Aboriginal Lands Council MIA Landcare Group Rotary, Lions, Apex groups CWA Farmers' Association
MIA RFS Volunteers / Brigades	Formal Volunteer groups with an active interest in fire management.
Other BFMCs	BFMCs adjacent to the MIA Zone: Riverina BFMC, Bland – Temora BFMC, Hay – Carrathool BFMC, Mid Murray BFMC.
	LEMO

Issues to be Communicated

Identification of Risks – where are the hazards and assets
Determination of the likelihood / consequence
Prioritisation of risks
Risk treatment strategies

Methods of Communication

Community Meetings are to be held in three different locations within the MIA Zone (Griffith, Coleambally, Leeton and Narranderra). The meetings are to serve as an open forum to allow members of the public to have input to the MIA Zone Bush Fire Risk management Plan. BFMC facilitators will run the meetings and will have appropriate maps of the area where the meeting is being held. Feedback will be sought regarding the identification of assets, their risk rating, and intended treatment.

RFS volunteer members will be made aware of the BFRMP review through the MIA Zone RFS website – www.miazone.conxion.com.au
Volunteer members will be encouraged to attend the community meetings

Media is to be involved in the consultative process to assist with advertising the community meetings and the website. Local radio (Star FM, Griffith community radio, Narranderra community radio, 2RG) will be given details of the community meetings, and it is envisaged that they will take the opportunity to broadcast to the community information regarding this. The radio stations will be notified that a BFMC member may be made available for an interview should the station wish to conduct an interview regarding the risk plan.

Local print media (Area News, The Irrigator, Narranderra Argus, Coleambally Observer) shall be utilised to advertise the risk plan consultation process including the community meetings and the website address. Depending on funding availability the media article may be a Public Notices advertisement, or a media release, or a combination of both.

A **website** will be used to allow members of the public who are perhaps unable to attend the public meetings to still find out about the risk plan and make a submission. One agency / organisation will need to be able to host the web page. Information displayed on the web page will need to be kept basic, but give a general overview of the bush fire risk planning process in the MIA Zone. A contact e-mail address and phone number will be displayed on the web site to allow for comments / submissions.

Flyers / Posters are intended to be used to raise awareness of the risk plan and the consultative process. The posters will be placed in prominent locations eg. shop windows, community notice boards and as such, a reasonable quantity will be required to evenly distribute to communities throughout the MIA.

Information phone line would be advertised as a point of contact for the public with general enquiries regarding the risk management plan. The MIA Zone RFS office number would be used for this purpose.

An **information e-mail address** is set up and will be monitored to allow the public to make enquiries and comments regarding the risk management plan. Monitoring the e-mail account will be the responsibility of the RFS and the supply of any specific information that is requested would be the responsibility of the appropriate agency / organisation. The e-mails received, like all written comments and submissions will be kept on file. The community can also write postal letters.

e-mail address: MiaRisk.Plan@rfs.nsw.gov.au

Postal address:

The Executive Officer

MIA Zone Bush Fire Management Committee

46 Jensen Rd Griffith NSW 2680,

Implementation

The communications implementation strategy is set out below.

Date	Target Group	Method of Communication	Method of Notification	Key messages/ purpose	Resources required	Responsibility
Wed 9 May 2007 7pm	General public Precincts: Griffith, Leeton	Community meeting – Griffith (Griffith Exies Club)	Advertisement articles in local news paper & radio. Letters to local community groups.	Introduce BFRMPs Community Issues Identify Assets Asset Assessment Discuss treatment options Community Responsibilities	- Media article - Venue - Tables & chairs - Facilitators - Powerpoint presentation - Maps	Matthew Ross RFS + John Brickhill DEC + Rod Foster FNSW Joanne Tarbit GCC
Tue 15 May 2007 7pm	General public Precincts: Narrandera, Leeton	Community meeting – Narrandera (Narrandera RFS Training Centre)	Advertisement articles in local news paper & radio. Letters to local community groups.	Introduce BFRMPs Community Issues Identify Assets Asset Assessment Discuss treatment options Community Responsibilities	- Media article - Venue - Tables & chairs - Facilitators - Powerpoint presentation - Maps	Matthew Ross RFS + Gary Galwey NSWFB + Steve Campbell Forests NSW Bob Manning NSC
Tue 22 May 2007 7pm	General Public Precincts: Leeton	Community Meeting – Leeton (Leeton Soldiers Club)	Advertisement articles in local news paper & radio. Letters to local community groups.	Introduce BFRMPs Community Issues Identify Assets Asset Assessment Discuss treatment options Community Responsibilities	- Media article - Venue - Tables & chairs - Facilitators - Powerpoint presentation - Maps	Matthew Ross RFS Rod Foster FNSW Gary Galwey NSWFB Eric Whiting NCC (alternative – Brian McKellar LSC)

Date	Target Group	Method of Communication	Method of Notification	Key messages/ purpose	Resources required	Responsibility
Thu 24 May 2007 7pm	General public Precincts: CIA, Murrumbidgee	Community meeting – Coleambally (Coleambally Bowling Club)	Advertisement articles in local news paper & radio. Letters to local community groups.	Introduce BFRMPs Community Issues Identify Assets Asset Assessment Discuss treatment options Community Responsibilities	- Media article - Venue - Tables & chairs - Facilitators - Powerpoint presentation - Maps	Matthew Ross RFS + Stephen Campbell FNSW + John Brickhill DEC Russell Boyd MSC
May 2007	General public Precincts: All	Contact number/ information line / e- mail address	Number advertised on notice boards, and in local news papers	- maintain community participation - record and consider issues and comments - provide feedback	- BFMC rep. - Landline number	Matthew Ross RFS
May 2007	RFS Volunteer Members	BFRMP Information on MIA Zone RFS Website	E-mail RFS members.		Internet site design capability	

Documentation

Records and business arising from all consultation meetings held shall be documented by recording minutes of the meetings and will be kept on file at the MIA RFS in Griffith.

An issues database has been created in the MIA RFS filing system. Any issues raised shall be recorded on the database and follow up actions shall also be recorded.

Written public comments / submissions are to be actioned by the BFMC and filed.

Appendix 2 Asset Register

PRECINCT	ASSET DISPLAY NUMBER	ASSET NAME	LOCATION	TENURE	CLASS	LIKELIHOOD	CONSEQUENCE	RISK RATING	PRIORITY	TREATMENTS
CIA	2	Darlington Point Sawmill	Kidman Way Darlington Point	SF	Economic	Possible	Major	High	3B	10
CIA	10	Cypress View Hostel	Brolga Place	Private	Human Settlement	Unlikely	Moderate	Low	NA	
CIA	11	Bluebonnet Crescent	Coleambally	Private	Human Settlement	Unlikely	Moderate	Low	NA	6;8;16
CIA	12	Kookaburra Ave	Coleambally	Private	Human Settlement	Unlikely	Moderate	Low	NA	16;30
CIA	20	Darlington Point Town	Kidman Way, Darlington Point	Private	Human Settlement	Unlikely	Major	Medium	4	16;21;28
CIA	21	Darlington Point Caravan Park	Bridge St Darlington Point	Private	Economic	Unlikely	Moderate	Low	NA	
CIA	22	Tirkandi Inaburra Cultural Centre	Kidman Way, 13km North of Coleambally	Other	Human Settlement	Unlikely	Moderate	Low	NA	
CIA	23	Isolated Properties Murrumbidgee	Farms and Stations in the Murrumbidgee Precinct	Private	Human Settlement	Likely	Moderate	High	3A	5;16
CIA	27	Isolated Properties CIA	Various farms and Stations in the CIA Precinct	Private	Human Settlement	Unlikely	Moderate	Low	NA	16
CIA	38	Cropping and Grazing areas CIA	Various farms in the CIA Precinct	Private	Economic	Unlikely	Moderate	Low	NA	16;24
CIA	40	Altina Wildlife Park	Sturt Highway, Darlington Point	Private	Economic	Unlikely	Major	Medium	4	
CIA	47	Grazing areas Murrumbidgee	Various farms and stations	Private	Economic	Likely	Major	Very High	2A	5;16;24
CIA	48	Coleambally West	Western side of Coleambally township	Private	Human Settlement	Unlikely	Moderate	Low	NA	16;31
CIA	53	Murrumbidgee R. Camp grounds	Various camping areas on Murrumbidgee River	SF	Human Settlement	Possible	Catastrophic	Very High	2B	2;3;20
CIA	55	Coleambally School	Kingfisher Ave, Coleambally	LGA	Human Settlement	Unlikely	Moderate	Low	NA	
CIA	59	Stanbridge Swamp	4km East Of Whitton	LGA	Environmental	Possible	Minor	Low	NA	

PRECINCT	ASSET DISPLAY NUMBER	ASSET NAME	LOCATION	TENURE	CLASS	LIKELIHOOD	CONSEQUENCE	RISK RATING	PRIORITY	TREATMENTS
CIA	62	Whitton Township	21km west of Leeton	Private	Human Settlement	Unlikely	Moderate	Low	NA	
CIA	66	Banandra State Forest	Sturt Hwy, Narrandera / Murrumbidgee LGA Boundary	SF	Economic	Possible	Moderate	Medium	4	3;19;20
CIA	67	Boona State Forest	Eulo Road	SF	Economic	Possible	Moderate	Medium	4	3;19;20
CIA	68	Bretts State Forest	Vicinity of Coleambally	SF	Economic	Possible	Moderate	Medium	4	3;19;20
CIA	69	Ugobit State Forest	Darlington Point Rd	SF	Economic	Possible	Moderate	Medium	4	3;19;20
CIA	88	Fauna in the MIA	Irrigated areas of the CIA Precinct	Private	Environmental	Unlikely	Major	Medium	4	
CIA	89	Aboriginal Heritage Vuln/Val	'Warangesda'	Private	Cultural Heritage	Unlikely	Major	Medium	4	
CIA	91	Aboriginal Heritage Vuln/Val	In the vicinity of Bretts State Forest	SF	Cultural Heritage	Unlikely	Moderate	Low	NA	
CIA	94	Aboriginal Heritage - Valuable	Various locations along Murrumbidgee River	Other	Cultural Heritage	Unlikely	Moderate	Low	NA	
GRIFFITH	3	Pioneer Park Museum	Scenic Drive	LGA	Economic	Possible	Major	High	3B	13;14
GRIFFITH	13	Mallinson Rd Interface	Estates in the area of Mallinson Rd, Lake Wyangan	Private	Human Settlement	Unlikely	Moderate	Low	NA	9;16
GRIFFITH	14	McPherson Rnge Rd Residences	McPherson Rd, Myall Park	Private	Human Settlement	Unlikely	Moderate	Low	NA	16
GRIFFITH	15	North Griffith	North West Griffith Residential Area	Private	Human Settlement	Possible	Moderate	Medium	4	6;16
GRIFFITH	16	North East Griffith	North East Area of Griffith	Private	Human Settlement	Possible	Moderate	Medium	4	6;16
GRIFFITH	17	Griffith Broadcast Studios	Remembrance Drive	Private	Economic	Possible	Major	High	3B	25
GRIFFITH	28	Isolated Properties Griffith	Various farms in Griffith precinct	Private	Human Settlement	Unlikely	Moderate	Low	NA	16

PRECINCT	ASSET DISPLAY NUMBER	ASSET NAME	LOCATION	TENURE	CLASS	LIKELIHOOD	CONSEQUENCE	RISK RATING	PRIORITY	TREATMENTS
GRIFFITH	29	Rural Prpties McPherson Rnge E.	Properties adjacent to eastern side of McPherson Range	Private	Human Settlement	Unlikely	Moderate	Low	NA	16
GRIFFITH	31	Campbells Swamp	Boorga & Jones Rd, Lake Wyangan	DL	Environmental	Unlikely	Minor	Low	NA	
GRIFFITH	32	Nericon Swamp	Boorga Rd, Lake Wyangan	DL	Environmental	Unlikely	Minor	Low	NA	
GRIFFITH	33	Tharbogang Swamp	West of Lakes Rd, Tharbogang	DL	Environmental	Unlikely	Minor	Low	NA	
GRIFFITH	34	Warburn Swamp	Whites Rd, Warburn	DL	Environmental	Unlikely	Minor	Low	NA	
GRIFFITH	35	Griffith Golf Club	Remembrance Drive, Griffith	LGA	Economic	Possible	Moderate	Medium	4	13
GRIFFITH	36	Cropping Grazing Areas Griffith	Various farms in Griffith Precinct	Private	Economic	Possible	Major	High	3B	16;24
GRIFFITH	43	Pioneer Park Museum	Scenic Drive	LGA	Cultural Heritage	Possible	Major	High	3B	13;14
GRIFFITH	44	Griffith Communications Towers	Scenic Hill	Other	Economic	Possible	Major	High	3B	25
GRIFFITH	45	Dalton Park Griffith	Remembrance Drive	LGA	Economic	Unlikely	Minor	Low	NA	
GRIFFITH	46	Winery and Factory Yenda		Private	Economic	Unlikely	Minor	Low	NA	
GRIFFITH	64	Tabbita State Forest	Hillston Rd, 22km NW of Griffith	SF	Economic	Possible	Moderate	Medium	4	3;19;20
GRIFFITH	93	Aboriginal Heritage - Valuable	Vicinity of Barren Box Swamp	Other	Cultural Heritage	Unlikely	Moderate	Low	NA	
LEETON	18	Fivebough Tuckerbill Swamp	4 km NNE of Leeton	DL	Environmental	Unlikely	Catastrophic	High	3C	16
LEETON	26	Isolated Properties Leeton	Various farms in Leeton Precinct	Private	Human Settlement	Unlikely	Moderate	Low	NA	16
LEETON	30	Square Nob Comms Tower		Other	Economic	Unlikely	Major	Medium	4	25

PRECINCT	ASSET DISPLAY NUMBER	ASSET NAME	LOCATION	TENURE	CLASS	LIKELIHOOD	CONSEQUENCE	RISK RATING	PRIORITY	TREATMENTS
LEETON	51	Barellan Township	Barellan Township	Private	Human Settlement	Unlikely	Minor	Low	NA	26;29
LEETON	52	Cropping Grazing areas Leeton	Various farms and stations in Leeton Precinct	Private	Economic	Unlikely	Moderate	Low	NA	16;24
LEETON	57	Tabains Storage	Corbie Hill Rd	Private	Economic	Unlikely	Moderate	Low	NA	
LEETON	58	Allgold Foods	Murrarni Rd	Private	Economic	Unlikely	Moderate	Low	NA	
LEETON	60	Fivebough Chaff Mill	Fivebough Rd	Private	Economic	Possible	Minor	Low	NA	
LEETON	61	Aboriginal Heritage Valuable	Koonadan Historic Site	NPWS	Cultural Heritage	Unlikely	Moderate	Low	NA	18
LEETON	63	Binya Village	Burley Griffin Way, 30km ENE of Griffith	CA	Human Settlement	Unlikely	Moderate	Low	NA	
LEETON	72	Bungabil State Forest	Colinroobie Willows Rd	SF	Economic	Possible	Moderate	Medium	4	3;19;20
LEETON	73	Mejum State Forest	Midgeon Kamarah Rd	SF	Economic	Possible	Moderate	Medium	4	3;19;20
LEETON	74	Moombooldool State Forest	Burley Griffin Way	SF	Economic	Possible	Moderate	Medium	4	3;19;20
LEETON	75	Willows State Forest	12km SW of Ardlethan	SF	Economic	Possible	Moderate	Medium	4	3;19;20
LEETON	78	Murrarni Village	Murrarni	Private	Human Settlement	Unlikely	Moderate	Low	NA	
LEETON	79	Milbrae Quarry Offices	Brobenah North Eastern Boundary of Leeton Shire	Private	Economic	Likely	Moderate	High	3A	25
LEETON	85	Flora in the MIA	Brobenah Hills	Private	Environmental	Possible	Major	High	3B	
LEETON	86	Fauna in the MIA	Brobenah Hills Area	Private	Environmental	Possible	Major	High	3B	
MURRUMBIDGEE	41	Oolambeyan National Park	30 km south of Carrathool	NPWS	Environmental	Unlikely	Minor	Low	NA	22

PRECINCT	ASSET DISPLAY NUMBER	ASSET NAME	LOCATION	TENURE	CLASS	LIKELIHOOD	CONSEQUENCE	RISK RATING	PRIORITY	TREATMENTS
MURRUMBIDGEE	54	Murrumbidgee R. Camp grounds	Various Camping Areas along Murrumbidgee River	SF	Human Settlement	Possible	Catastrophic	Very High	2B	2;3;20
MURRUMBIDGEE	84	Flora n the MIA	Oolambeyan NP	NPWS	Environmental	Unlikely	Major	Medium	4	
NARRANDERRA	4	John Lake Fish Centre	Sturt Hwy	CA	Economic	Unlikely	Moderate	Low	NA	
NARRANDERRA	5	Narrandera Sawmill	River St	Private	Economic	Unlikely	Major	Medium	4	23
NARRANDERRA	6	Red Hill Industrial Area	Driscoll Rd	Private	Economic	Unlikely	Moderate	Low	NA	
NARRANDERRA	7	Gillenbah Caravan Park Motel	Sturt/Newell Hwys	Private	Economic	Unlikely	Moderate	Low	NA	
NARRANDERRA	8	Nullaboamah	Main Rd 80	Private	Human Settlement	Unlikely	Moderate	Low	NA	16
NARRANDERRA	9	Pine Hill Residences	Pine Hill Area, Narrandera	Private	Human Settlement	Unlikely	Moderate	Low	NA	16
NARRANDERRA	24	Yanco Agricultural High School	Euroley Rd Yanco	Other	Human Settlement	Possible	Moderate	Medium	4	
NARRANDERRA	25	Isolated Properties Narrandera	Farming properties across the Narrandera Precinct	Private	Human Settlement	Unlikely	Moderate	Low	NA	16
NARRANDERRA	39	Cropping Grazing areas Ndera	Various farms in Narrandera Precinct	Private	Economic	Unlikely	Major	Medium	4	16;24
NARRANDERRA	42	Narrandera Nature Reserve	South East of Narrandera	NPWS	Environmental	Possible	Minor	Low	NA	
NARRANDERRA	49	Murrumbidgee R. Camp Grounds	Various beaches on Murrumbidgee River	SF	Human Settlement	Possible	Catastrophic	Very High	2B	2;3;20
NARRANDERRA	50	Narrandera Common	South East of Narrandera township	LGA	Environmental	Possible	Minor	Low	NA	
NARRANDERRA	65	Billenbah State Forest	Uroleley Rd	SF	Economic	Possible	Moderate	Medium	4	3;19;20
NARRANDERRA	70	Gillenbah State Forest	Newell Hwy	SF	Economic	Possible	Moderate	Medium	4	3;19;20

PRECINCT	ASSET DISPLAY NUMBER	ASSET NAME	LOCATION	TENURE	CLASS	LIKELIHOOD	CONSEQUENCE	RISK RATING	PRIORITY	TREATMENTS
NARRANDERRA	71	Buckingbong State Forest	Strontian Rd	SF	Economic	Possible	Moderate	Medium	4	3;19;20
NARRANDERRA	76	Narrandera State Forest	2km West of Narrandera	SF	Economic	Possible	Moderate	Medium	4	3;19;20
NARRANDERRA	77	M'bidgee R. Red Gum Forests	Murrumbidgee River	SF	Economic	Likely	Moderate	High	3A	2;3;19;20
NARRANDERRA	80	Flora in MIA	Various sites in Narrandera Shire	SF	Environmental	Possible	Major	High	3B	
NARRANDERRA	81	Flora in MIA	Various locations in Narrandera Shire	SF	Environmental	Possible	Catastrophic	Very High	2B	
NARRANDERRA	82	Flora in the MIA	Buckingbong State Forest	SF	Environmental	Unlikely	Major	Medium	4	
NARRANDERRA	83	Flora in the MIA	Sturt Hwy Narrandera	Private	Environmental	Possible	Major	High	3B	
NARRANDERRA	87	Fauna in the MIA	Various forests in the Narrandera Area	Other	Environmental	Possible	Major	High	3B	
NARRANDERRA	90	Valuable Heritage Assets MIA	Various Locations along the Murrumbidgee River	Private	Cultural Heritage	Unlikely	Major	Medium	4	
NARRANDERRA	92	Aboriginal Heritage Vuln/Val	Cudgell Area	Private	Cultural Heritage	Unlikely	Moderate	Low	NA	
NARRANDERRA	95	Aboriginal heritage - Valuable	West of Yanco Creek	Private	Cultural Heritage	Unlikely	Moderate	Low	NA	

Appendix 3 Treatment Register

TREATMENT NUMBER	STRATEGY	PRIORITY	ACTIONDESCRIPTION	RESPONSIBLE AGENCY	SCHEDULEDACTIONDATE
2	Ignition Management	2B	Seasonal solid fuel fire ban during bush fire danger period.	SF	2007;2008;2009;2010;2011;2012
3	Preparedness	2B	Fire trail maintenance.	SF	2007;2008;2009;2010;2011;2012
5	Hazard Reduction	2A	Inspect SFAZ along Gum Creek Rd - Conargo Rd and maintain when required.	LGA	2007;2008;2009;2010;2011;2012
6	Preparedness	4	Maintain Fire Trails	LGA (DL)	2007;2008;2009;2010;2011;2012
8	Hazard Reduction	NA	Inspect APZ between hazard and residences annually and conduct HR when fuel is >5t/ha or when necessary.	LGA	2007;2008;2009;2010;2011;2012
9	Hazard Reduction	NA	Maintain APZ	DL	2007;2008;2009;2010;2011;2012
10	Preparedness	3B	Inspect firebreak surrounding asset	SF (Private)	2007;2008;2009;2010;2011;2012
13	Preparedness	3B	Maintain firetrail network	LGA	2007;2008;2009;2010;2011;2012
14	Property Planning	3B	Develop an Emergency Relocation Plan	LGA	2007;2008;2009;2010;2011;2012
16	Community Education	2A	Media releases, attend local shows emphasizing property preparedness.	RFS	2007;2008;2009;2010;2011;2012
18	Hazard Reduction	NA	Inspect firebreak around property and maintain when necessary.	NPWS	2007;2008;2009;2010;2011;2012
19	Hazard Reduction	3A	Grazing as specified in the FNSW EMS Plan.	SF	2007;2008;2009;2010;2011;2012
20	Ignition Management	2B	Patrols of any areas subject to regular visitor use during TOBANS	SF	2007;2008;2009;2010;2011;2012

TREATMENT NUMBER	STRATEGY	PRIORITY	ACTIONDESCRIPTION	RESPONSIBLE AGENCY	SCHEDULEDACTIONDATE
21	Hazard Reduction	4	Create APZ.	LGA	2007;2008;2009;2010;2011;2012
22	Hazard Reduction	NA	Maintain NPWS APZs and SFAZs.	Private	2007;2008;2009;2010;2011;2012
23	Preparedness	4	Inspect firebreak surrounding asset annually and maintain when required.	RFS (Private)	2007;2008;2009;2010;2011;2012
24	Hazard Reduction	2A	Inspect annually and maintain fuel reduced areas on shoulders of Sturt Hwy, Newell Hwy, Kidman Way, Burley Griffin Way.	RTA	2007;2008;2009;2010;2011;2012
25	Hazard Reduction	3A	Inspect annually and maintain Asset Protection Zone when fuel is >5t/ha or when necessary.	Private (RFS)	2007;2008;2009;2010;2011;2012
26	Hazard Reduction	NA	RFS to inspect Barellan Common annually and inform leasee should fuel reduction be required.	Private (RFS)	2007;2008;2009;2010;2011;2012
28	Hazard Reduction	4	Inspect APZ annually and maintain when fuel is >5t/ha or when necessary.	LGA	2007;2008;2009;2010;2011;2012
29	Hazard Reduction	NA	Fuel reduction carried out by leasee when required.	Private	2007;2008;2009;2010;2011;2012
30	Hazard Reduction	NA	Inspect APZ between hazard and residences annually and conduct HR when fuel is >5t/ha or when necessary.	LGA	2007;2008;2009;2010;2011;2012
31	Hazard Reduction	NA	Inspect APZ between hazard and residences annually and conduct HR when fuel is >5t/ha or when necessary.	LGA	2007;2008;2009;2010;2011;2012

Appendix 4 - 10 Maps

List of Maps:

Map 1 - Murrumbidgee Precinct

Map 2 - Griffith Precinct

Map 3 - CIA Precinct

Map 4 - Leeton Precinct

Map 5 - Narrandera Precinct

Supporting Maps

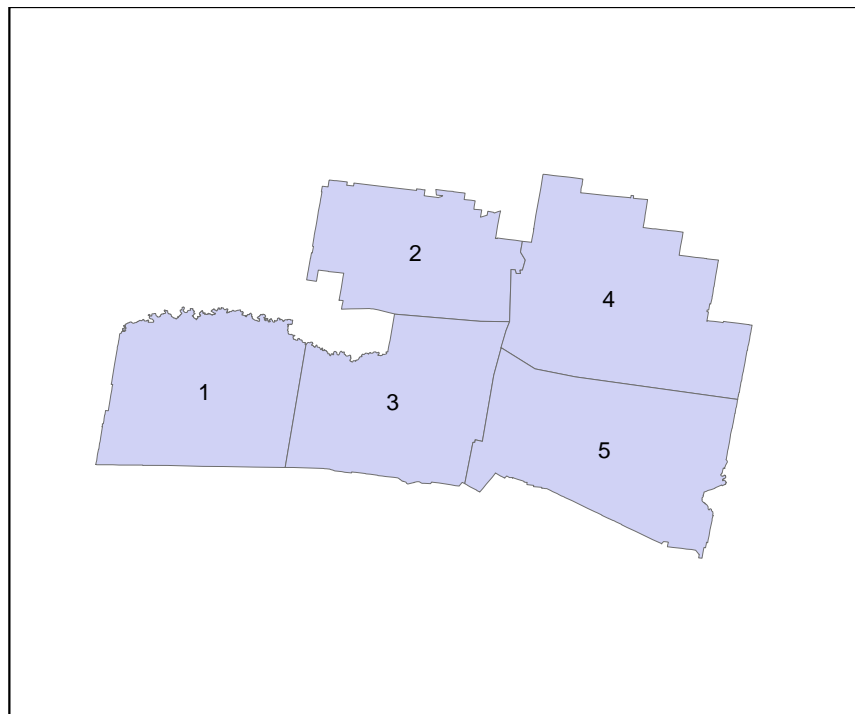
Map 6 – MIA Fire History

Map 7 – MIA Time Since Fire

Map 8 – MIA Fire Frequency





Map 9 – MIA Fire Threshold

Map 10 – MIA Vegetation Categories
























MIA BPMC Area
Precinct Key

Human

Residential			
Other			
Special Fire Protection			










Economic

Agricultural			
Commercial			
Infrastructure			
Tourist and Recreational			
Mines			
Commercial Forests			
Drinking Water Catchments			





Environmental

Regionally Significant			
Endangered			











Cultural

Aboriginal Significance			
Historic Heritage			
Other Cultural Assets			

Bush Fire Management Zone

Asset Protection Zone	
Strategic Fire Advantage Zone	
Land Management Zone	
Fire Exclusion Zone	

Other Features

Major Roads Sealed	
Major Roads Unsealed	
Secondary Roads Sealed	
Secondary Roads Unsealed	
Local Roads Sealed	
Local Road Unsealed	
Local Road Unspecified	
4WD Track Unspecified	
Path	
Rail	

Assets					
Priority	Asset name	Risk level	Asset type	Treatment ID(s)	Map Ref
ZB	Murrumbidgee R. Camp grounds	Very High	Human	2,3,20	54
NA	Otambeyan National Park	Low	Environment	22	41

MIA BFMC Bush Fire Risk Management Plan 2008

This Bush Fire Risk Management Plan (BFRMP) has been prepared by the MIA Bush Fire Management Committee (BFMC) pursuant to section 52 of the *Rural Fires Act 1997*.

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

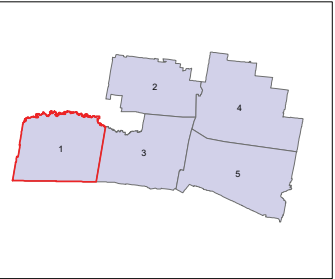
The objectives of this BFRMP are to

- reduce the number of human-induced bush fire ignitions that cause damage to life, property or the environment;
- manage fuel to reduce the spread and impact of bush fires;
- 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.

Murrumbidgee Precinct

Map 1 of 5

This map forms part of the BFRMP for the MIA BFMC, covering the local government area(s) of Griffin Lexion Murrumbidgee Narandera. It should be viewed in conjunction with the accompanying BFRMP document which provides further details on the BFMC area as well as the risk assessment and plan preparation processes used.



Review

Under the *Rural Fires Act 1997* this plan must be reviewed and updated within five years of its approval by the Bush Fire Coordinating Committee (BFCC). The MIA BFMC will also review this plan as necessary. 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.

Assets

This BFRMP identifies the assets considered important by the MIA BFMC and community then assesses the bush fire risk to those assets and assigns treatments designed to mitigate the risk. Assets in the BFMC area identified as requiring treatments are listed in the assets table. Other assets within the BFMC area that were assessed as not requiring treatments within the life of this plan are listed in the appendix to the BFRMP document.

Treatments

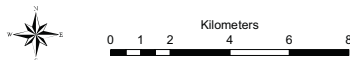
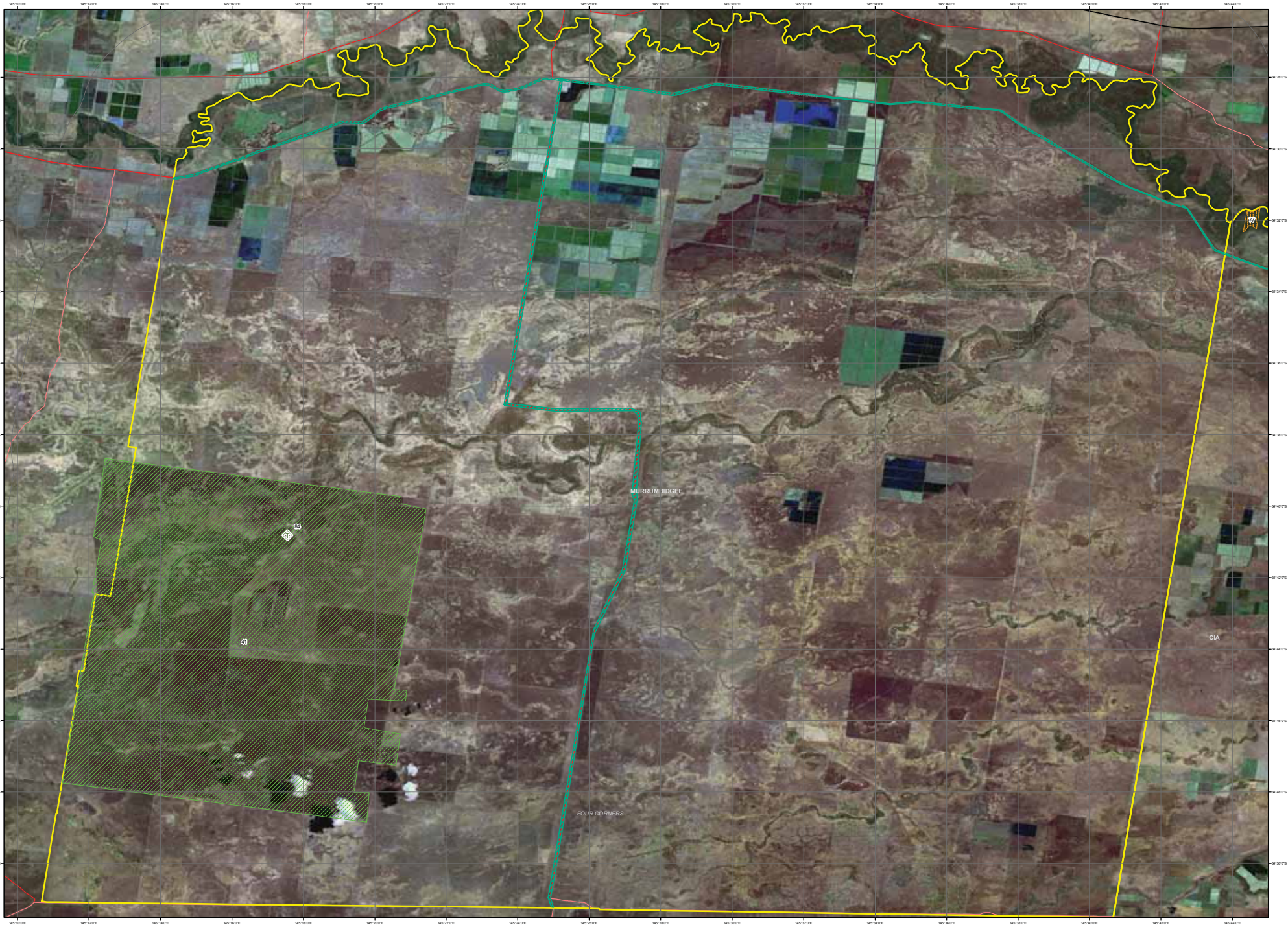
Specific treatments assigned to assets in the MIA area are listed in the treatments table, and linked to the assets which they are designed to protect. Standard BFMC wide treatments (i.e. not linked to a specific asset) which occur on an ongoing basis within the BFMC area are:

- reviewing the bush fire prone land map;
- ensuring developments in the bush fire prone land comply with Planning for Bushfire Protection;
- using the Local Environment Plan's (LEPs) to control development in areas with a bush fire risk;
- varying the standard bush fire danger period as required;
- requiring permits during bush fire danger periods
- prosecution of arsonists/offenders
- investigation of bush fire cause;
- normal fire suppression activities;
- assessing and managing compliance with strategic fire-fighting resource allocation management systems;
- preparation of a SES Operations Coordination Plan;
- fire management plans or plans of management; and
- bush fire hazard complaints.

Disclaimer

Data supplied by various stakeholders under the ANZLIC* guidelines. The information contained herein has been provided in good faith. Particular effort has been made to ensure its accuracy and completeness. The stakeholders take no responsibility for errors or omissions nor any loss or damage which may result from the use of this information. The information may be used for BFMC bush fire risk management planning purposes only.

* Australia New Zealand Land Information Council



Zone	Purpose	Suppression Objective(s)	Zone Characteristics
Asset Protection Zone	To protect human life, property and highly valued public assets and values.	To allow a more offensive fire fighting approach such as Direct Attack , as well as Parallel and Indirect Attack approaches. To minimise bush fire impacts on undefended property assets.	As per RFS document Standards for Asset Protection Zones. Max. fuel load 5 t/ha, for forested vegetation types.
Strategic Fire Advantage Zone	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 enable the safe use of Parallel Attack suppression strategies within the zone. To enable the safe use of Indirect Attack (back burning) in high to very high weather conditions within the zone. To minimise crown fire development within the zone. To minimise spot fire ignition potential from the zone.	Zone width related to suppression objectives and dependent upon: <ul style="list-style-type: none">- Vegetation type- Topography- Aspect- Spotting propensity- Location of adjacent fire breaks- Mosaic pattern of treatment Suggested fuel load managed between 8-12 t/ha, for forested vegetation types.
Land Management Zone	To meet relevant land management objectives in areas where Asset Protection or Strategic Fire Advantage Zones are not appropriate.	As per the land management and fire protection objectives of the responsible land management agency.	As appropriate to achieve land management/fire protection objectives, e.g. broad scale mosaic burning.
Fire Exclusion Zone	To exclude bush fires.	N/A	Variable dependent on size of fire sensitive area requiring protection.

Human

Residential
Other
Special Fire Protection

Economic

Agricultural
Commercial
Infrastructure
Tourist and Recreational
Mines
Commercial Forests
Drinking Water Catchments

Environmental

Regionally Significant
Endangered

Cultural

Aboriginal Significance
Historic Heritage
Other Cultural Assets

Bush Fire Management Zone

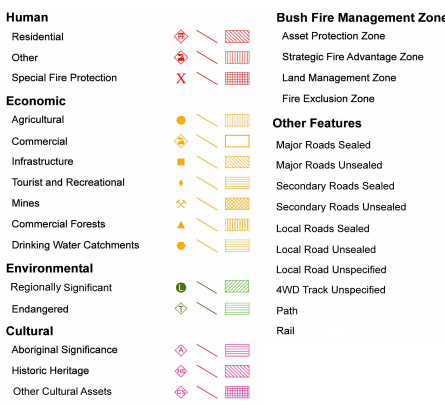
Asset Protection Zone
Strategic Fire Advantage Zone
Land Management Zone
Fire Exclusion Zone

Other Features

Major Roads Sealed
Major Roads Unsealed
Secondary Roads Sealed
Secondary Roads Unsealed
Local Roads Sealed
Local Road Unsealed
Local Road Unspecified
4WD Track Unspecified
Path
Rail

Treatments

Treatment ID	Treatment strategy	Agencies
2	Ignition Management	SF
3	Preparedness	SF
20	Ignition Management	SF
22	Hazard Reduction	NPWS



Treatments		
Treatment ID	Treatment strategy	Agencies
13	Preparedness	LGA
14	Property Planning	LGA
25	Hazard Reduction	Private
16	Community Education	RFS
24	Hazard Reduction	RTA
6	Preparedness	LGA (DL)
3	Preparedness	SF
19	Hazard Reduction	SF
20	Ignition Management	SF
9	Hazard Reduction	DL

Zone	Purpose	Suppression Objective(s)	Zone Characteristics
Asset Protection Zone	To protect human life, property and highly valued public assets and values.	To allow a more offensive fire fighting approach such as Direct Attack , as well as Parallel and Indirect Attack approaches. To minimise bush fire impacts on undefended property assets.	As per RFS document Standards for Asset Protection Zones. Max. fuel load 5 t/ha, for forested vegetation types.
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Fire Exclusion Zone	To exclude bush fires.	N/A	Variable dependant on size of fire sensitive area requiring protection.

* Australia New Zealand Land Information Council



- Human**
 - Residential
 - Other
 - Special Fire Protection
- Economic**
 - Agricultural
 - Commercial
 - Infrastructure
 - Tourist and Recreation
 - Mines
 - Commercial Forests
 - Drinking Water Catchment
- Environmental**
 - Regionally Significant
 - Endangered
- Cultural**
 - Aboriginal Significance
 - Historic Heritage
 - Other Cultural Assets

- Bush Fire Management Zone
 - Asset Protection Zone
 - Strategic Fire Advantage Zone
 - Land Management Zone
 - Fire Exclusion Zone
- Other Features
 - Major Roads Sealed
 - Major Roads Unsealed
 - Secondary Roads Sealed
 - Secondary Roads Unsealed
 - Local Roads Sealed
 - Local Road Unsealed
 - Local Road Unspecified
 - 4WD Track Unspecified
 - Path
 - Rail

Treatment ID	Treatment Strategy	Agencies
2	Ignition Management	SF
3	Preparedness	SF
20	Ignition Management	SF
5	Hazard Reduction	LGA
16	Community Education	RFS
24	Hazard Reduction	RTA
10	Preparedness	SF (Private)
21	Hazard Reduction	LGA
28	Hazard Reduction	LGA
19	Hazard Reduction	SF
6	Preparedness	LGA (DL)
8	Hazard Reduction	LGA
30	Hazard Reduction	LGA
31	Hazard Reduction	LGA

Inset map 1. Darlington Point



Inset map 2. Coleambally

This Bush Fire Risk Management Plan (BFRMP) has been prepared by the MIA Bush Fire Management Committee (BFMC) pursuant to section 52 of the *Rural Fires Act 1997*.

This Bush Fire Risk Management Plan (BFRMP) has been prepared by the MIA Bush Fire Management Committee (BFMC) pursuant to section 52 of the *Rural Fires Act 1997*.

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

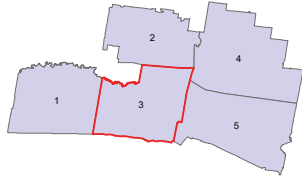
The **objectives** of this BFRMP are to

- reduce the number of human-induced bush fire ignitions that cause damage to life, property or the environment;
- manage fuel to reduce the spread and impact of bush fires;
- 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.

CIA Precinct

Map 3 of 5

This map forms part of the BFRMP for the MIA BFMC, covering the local government area(s) of Griffith Leeton Murrumbidgee Narrandera. It should be viewed in conjunction with the accompanying BFRMP document which provides further details on the BFMC area as well as the risk assessment and plan preparation processes used.



Review

Under the *Rural Fires Act 1997* this plan must be reviewed and updated within five years of its approval by the Bush Fire Coordinating Committee (BFCC). The MIA, BFMC will also review this plan as necessary. 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.

Assets

This BFRMP identifies the assets considered important by the MIA BFMC and community then assesses the bush fire risk to these assets and assigns treatments designed to mitigate the risk. Assets in the BFMC area identified as requiring treatments are listed in the assets table. Other assets within the BFMC area that were assessed as not requiring treatments within the life of this plan are listed in the appendix to the BFRMP document.

Treatments


































- reviewing the bush fire prone land map;
- ensuring developments in the bush fire prone land comply with Planning for Bushfire Protection;
- using the Local Environment Plans (LEPs) to control development in areas with a bush fire risk;
- varying the standard bush fire danger period as required;
- requiring permits during bush fire danger periods
- prosecution of arsonists/offenders
- investigation of bush fire cause;
- normal fire suppression activities
- assessing and managing compliance with strategic fire-lighting resource allocation management systems;
- preparation of a SES Operations Coordination Plan;
- fire management plans or plans of management; and
- bush fire hazard complaints.

Disclaimer

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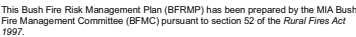
* Australia New Zealand Land Information Council



Human		Bush Fire Management Zones	
Residential			Asset Protection Zone
Other			Strategic Fire Advantage Zone
Special Fire Protection			Land Management Zone
			Fire Exclusion Zone
Economic		Other Features	
Agricultural			Major Roads Sealed
Commercial			Major Roads Unsealed
Infrastructure			Secondary Roads Sealed
Tourist and Recreational			Secondary Roads Unsealed
Mines			Local Roads Sealed
Commercial Forests			Local Road Unsealed
Drinking Water Catchments			Local Road Unspecified
Environmental			4WD Track Unspecified
Regionally Significant			Path
Endangered			Rail
Cultural			
Aboriginal Significance			
Historic Heritage			
Other Cultural Assets			

An aerial photograph showing a residential area with a river and a bridge. The river flows through the center of the image, with a bridge crossing it. The surrounding area is densely packed with buildings and vegetation. The colors are somewhat muted, suggesting an older photograph.

Inset map 1. Barellan



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

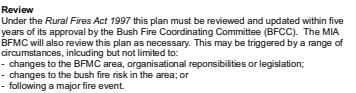
The **aim** of this BFRMP is to reduce the adverse impact of bush fires on life, property and the environment.

- The **objectives** of this BFRMP are to
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 - effectively contain fires with a potential to cause damage to life, property and the environment.

Leeton Precinct

Map 4 of 5

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Assets

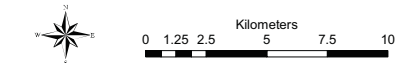
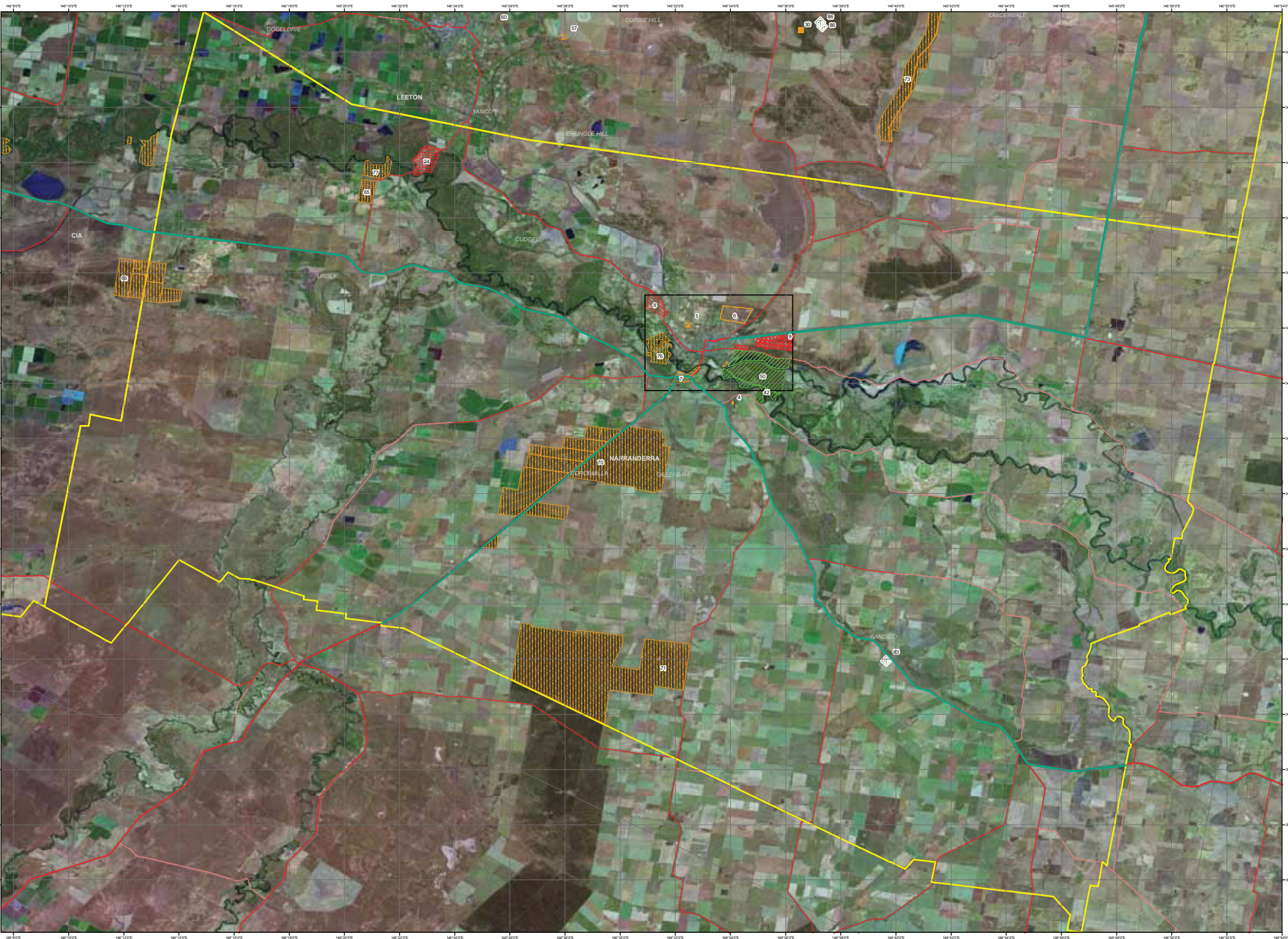
This BFRMP identifies the assets considered important by the MIA BFMC and community then assesses the bush fire risk to these assets and assigns treatments designed to mitigate the risk. Assets in the BFMC area identified as requiring treatments are listed in the assets table. Other assets within the BFMC area that were assessed as not requiring treatments within the life of this plan are listed in the appendix to the BFRMP document.

Treatments

- reviewing the bush fire prone land map;
- ensuring developments in the bush fire prone land comply with Planning for Bushfire Protection;
- using the Local Environment Plans (LEPs) to control development in areas with a bush fire risk;
- varying the standard bush fire danger period as required;
- requiring permits during bush fire danger periods
- prosecution of arsonists/offenders
- investigation of bush fire cause;
- normal fire suppression activities;
- assessing and managing compliance with strategic fire-fighting resource allocation management systems;
- preparation of a SES Operations Coordination Plan;
- fire management plans or plans of management; and
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Zone	Purpose	Suppression Objective(s)	Zone Characteristics
Asset Protection Zone	To protect human life, property and values.	To allow a more offensive fire fighting approach such as Direct Attack , as well as Parallel and Indirect Attack approaches. To minimise bush fire impacts on undefended property assets.	As per RFS document Standards for Asset Protection Zones. Max. fuel load 5 t/ha. for forested vegetation types.
Strategic Fire Advantage Zone	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 enable the safe use of Parallel Attack suppression strategies within the zone. To enable the safe use of Indirect Attack (back burning) in high to very high weather conditions within the zone. To minimise crown fire development within the zone. To minimise spot fire ignition potential from the zone.	Zone width related to suppression objectives and dependant upon: <ul style="list-style-type: none">- Vegetation type- Topography- Aspect- Spotting propensity- Location of adjacent fire breaks- Mosaic pattern of treatment Suggested fuel load managed between 8-12 t/ha. for forested vegetation types.
Land Management Zone	To meet relevant land management objectives in area where Asset Protection or Strategic Fire Advantage Zones are not appropriate.	As per the land management and fire protection objectives of the responsible land management agency.	As appropriate to achieve land management/fire protection objectives, e.g. broad scale mosaic burning.
Fire Exclusion Zone	To exclude bush fires.	N/A	Variable dependant on size of fire sensitive area requiring protection.

- Human

Residential

Other

Special Fire Protection

Economic

Agricultural

Commercial

Infrastructure

Tourist and Recreational

Mines

Commercial Forests

Drinking Water Catchments

Environmental

Regionally Significant

Endangered

Cultural

Aboriginal Significance

Historic Heritage

Other Cultural Assets
- Asset Protection Zone

Strategic Fire Advantage Zone

Land Management Zone

Fire Exclusion Zone

Other Features

Major Roads Sealed

Major Roads Unsealed

Secondary Roads Sealed

Secondary Roads Unsealed

Local Roads Sealed

Local Roads Unsealed

Local Road Unspecified

4WD Track Unspecified

Path

Rail

Treatment ID	Treatment strategy	Agencies
2	Ignition Management	SF
3	Preparedness	SF
20	Ignition Management	SF
19	Hazard Reduction	SF
23	Preparedness	RFS (Private)
16	Community Education	RFS
24	Hazard Reduction	RTA

Priority	Asset name	Risk level	Asset type	Treatment ID(s)	Map Ref
2B	Murumbidgee R. Camp Grounds	Very High	Human	2,3,20	49
3A	Mbridge R. Red Gum Forests	High	Economic	2,3,19,20	77
4	Narranderra Sawmill	Medium	Economic	23	5
4	Cropping Grazing areas Ndera	Medium	Economic	16,24	39
4	Bilenbah State Forest	Medium	Economic	3,19,20	65
4	Gillenbah State Forest	Medium	Economic	3,19,20	70
4	Buckinbong State Forest	Medium	Economic	3,19,20	71
4	Narranderra State Forest	Medium	Economic	3,19,20	76
NA	Nullaboomah	Low	Human	16	8
NA	Pine Hill Residences	Low	Human	16	9
NA	Isolated Properties Narranderra	Low	Human	16	25



Inset map 1. Narranderra

MIA BFMC Bush Fire Risk Management Plan 2008

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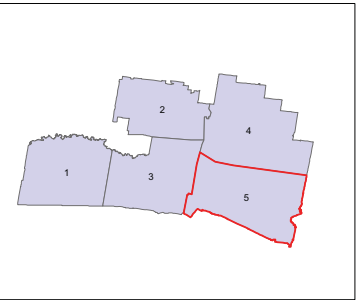
The aim of this BFRMP is to reduce the adverse impact of bush fires on life, property and the environment.

- The objectives of this BFRMP are to
- reduce the number of human-induced bush fire ignitions that cause damage to life, property or the environment;
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 - effectively contain fires with a potential to cause damage to life, property and the environment.

Narranderra Precinct

Map 5 of 5

This map forms part of the BFRMP for the MIA BFMC, covering the local government area(s) of Griffith Leeton Murumbidgee Narranderra. It should be viewed in conjunction with the accompanying BFRMP document which provides further details on the BFMC area as well as the risk assessment and plan preparation processes used.



- Review**
- Under the Rural Fires Act 1997 this plan must be reviewed and updated within five years of its approval by the Bush Fire Coordinating Committee (BFCC). The MIA BFMC will also review this plan as necessary. This may be triggered by a range of circumstances, including but not limited to:
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 - changes to the bush fire risk in the area; or
 - following a major fire event.

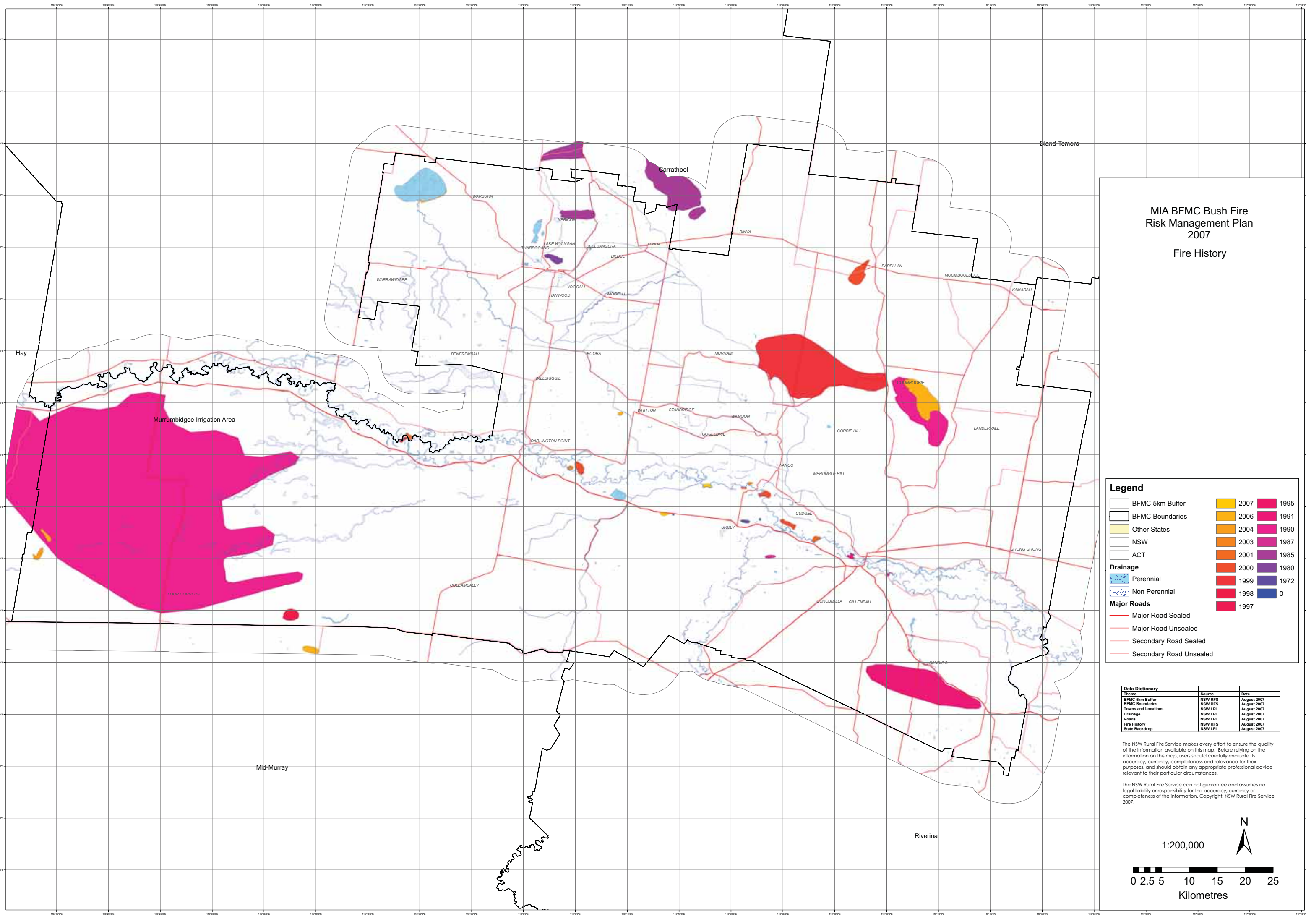
- Assets**
- This BFRMP identifies the assets considered important by the MIA BFMC and community then assesses the bush fire risk to these assets and assigns treatments designed to mitigate the risk. Assets in the BFMC area identified as requiring treatments are listed in the assets table. Other assets within the BFMC area that were assessed as not requiring treatments within the life of this plan are listed in the appendix to the BFRMP document.

- Treatments**
- Specific treatments assigned to assets in the MIA area are listed in the treatments table, and linked to the assets which they are designed to protect. Standard BFMC wide treatments (i.e. not linked to a specific asset) which occur on an ongoing basis within the BFMC area are:
- reviewing the bush fire prone land map;
 - ensuring developments in the bush fire prone land comply with Planning for Bushfire Protection;
 - using the Local Environment Plan/s (LEPs) to control development in areas with a bush fire risk;
 - varying the standard bush fire danger period as required;
 - requiring permits during bush fire danger periods
 - prosecution of arsonists/offenders
 - investigation of bush fire cause;
 - normal fire suppression activities;
 - assessing and managing compliance with strategic fire-fighting resource allocation management systems;
 - preparation of a SSO Operations Coordination Plan;
 - fire management plans or plans of management; and
 - bush fire hazard complaints.

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* Australia New Zealand Land Information Council



MIA BFMC Bush Fire
Risk Management Plan
2007

Fire History

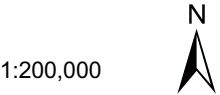
Legend

- BFMC 5km Buffer
- BFMC Boundaries
- Other States
- NSW
- ACT
- Drainage**
 - Perennial
 - Non Perennial
- Major Roads**
 - Major Road Sealed
 - Major Road Unsealed
 - Secondary Road Sealed
 - Secondary Road Unsealed
- 2007
- 2006
- 2004
- 2003
- 2001
- 2000
- 1999
- 1998
- 1997
- 1995
- 1991
- 1990
- 1987
- 1985
- 1980
- 1972
- 0

Data Dictionary		
Theme	Source	Date
BFMC 5km Buffer	NSW RFS	August 2007
BFMC Boundaries	NSW RFS	August 2007
Towns and Locations	NSW LPI	August 2007
Drainage	NSW LPI	August 2007
Roads	NSW LPI	August 2007
Fire History	NSW RFS	August 2007
State Backdrop	NSW LPI	August 2007

The NSW Rural Fire Service makes every effort to ensure the quality of the information available on this map. Before relying on the information on this map, users should carefully evaluate its accuracy, currency, completeness and relevance for their purposes, and should obtain any appropriate professional advice relevant to their particular circumstances.

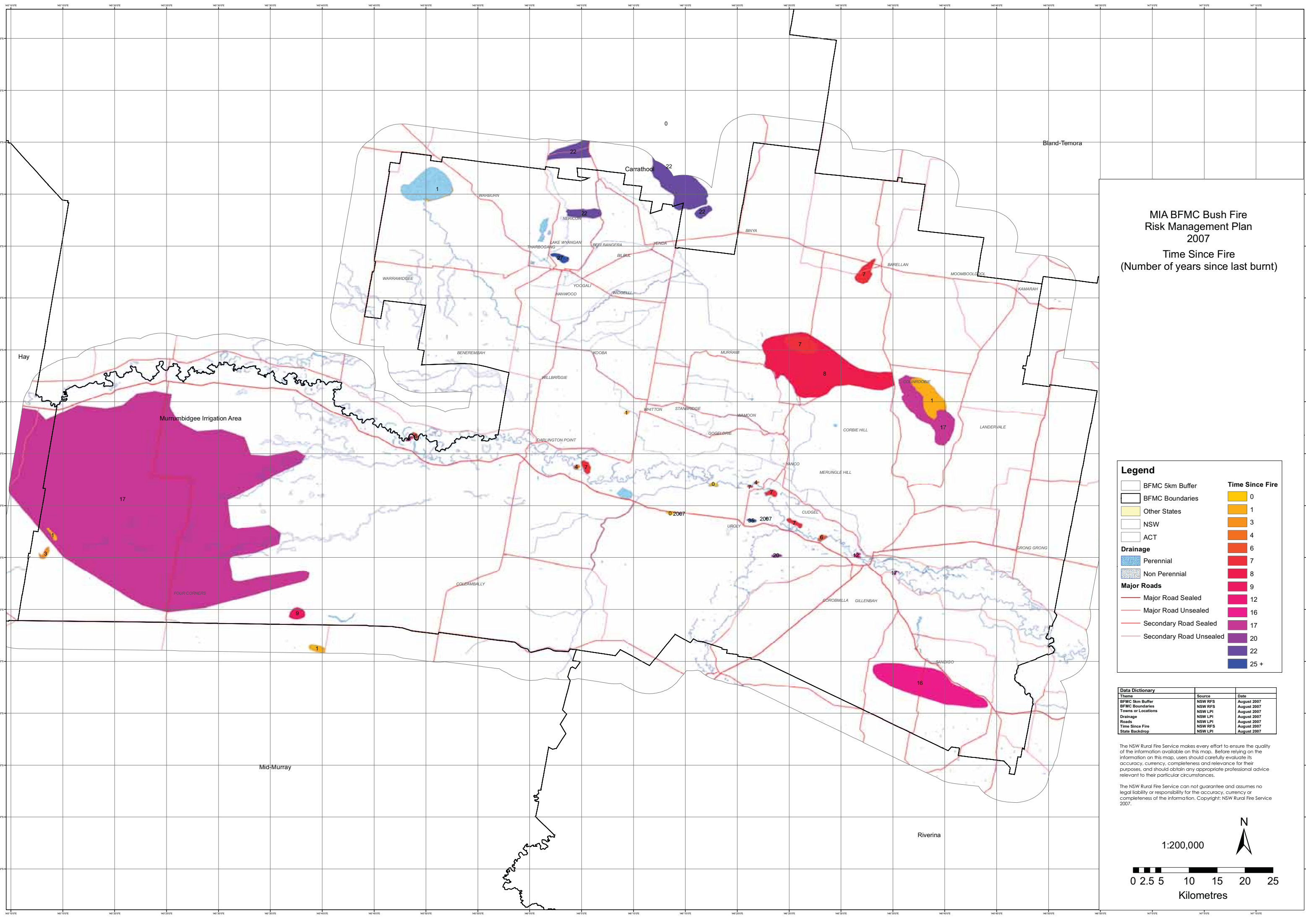
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1:200,000



Kilometres



MIA BFM Bush Fire Risk Management Plan 2007

Time Since Fire
(Number of years since last burnt)

Legend

BFMC 5km Buffer

BFMC Boundaries

Other States

NSW

ACT

Drainage

Perennial

Non Perennial

Major Roads

Major Road Sealed

Major Road Unsealed

Secondary Road Sealed

Secondary Road Unsealed

Time Since Fire

0

1

3

4

6

7

8

9

12

16

17

20

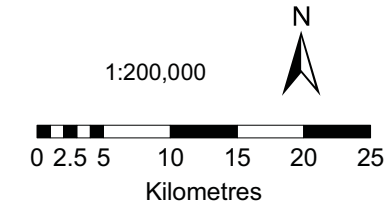
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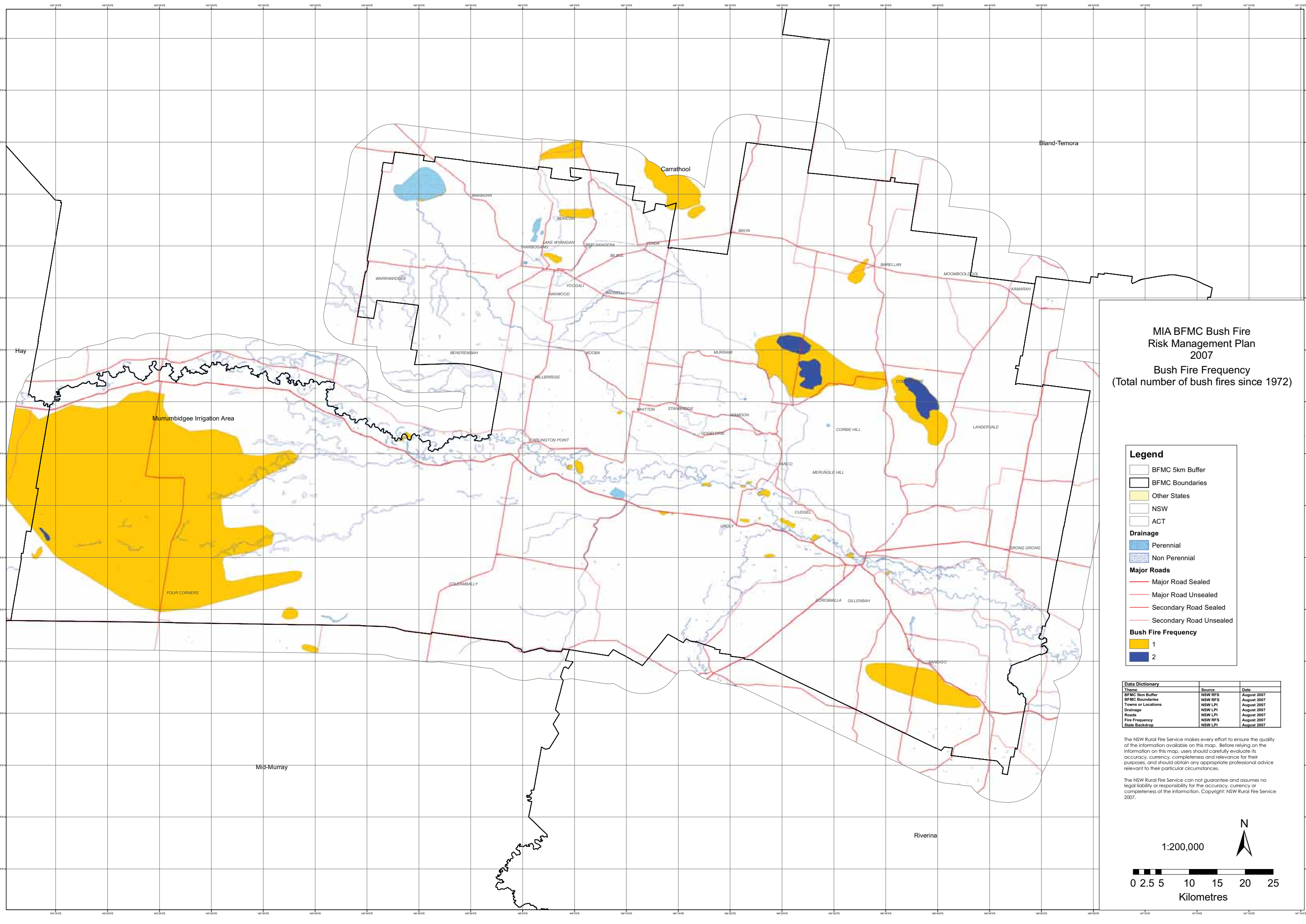
25 +

Data Dictionary		
Theme	Source	Date
BFMC 5km Buffer	NSW RFS	August 2007
BFMC Boundaries	NSW RFS	August 2007
Towns or Locations	NSW LPI	August 2007
Drainage	NSW LPI	August 2007
Roads	NSW LPI	August 2007
Time Since Fire	NSW RFS	August 2007
State Backdrop	NSW LPI	August 2007

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**MIA BFMC Bush Fire
Risk Management Plan
2007**
Bush Fire Frequency
(Total number of bush fires since 1972)

Legend

- BFMC 5km Buffer
- BFMC Boundaries
- Other States
- NSW
- ACT

Drainage

- Perennial
- Non Perennial

Major Roads

- Major Road Sealed
- Major Road Unsealed
- Secondary Road Sealed
- Secondary Road Unsealed

Bush Fire Frequency

- 1
- 2

Data Dictionary		
Theme	Source	Date
BFMC 5km Buffer	NSW RFS	August 2007
BFMC Boundaries	NSW RFS	August 2007
Towns or Locations	NSW LPI	August 2007
Drainage	NSW LPI	August 2007
Roads	NSW LPI	August 2007
Fire Frequency	NSW RFS	August 2007
State Backdrop	NSW LPI	August 2007

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1:200,000

N

0 2.5 5 10 15 20 25
Kilometres

MIA BFMC Bush Fire
Risk Management Plan
2007
Fire Threshold

Vegetation categories (Keith, D. 2004) and Time Since Fire datasets have been combined to produce this fire threshold map. Table 1 (interpretation of Kenny et al, 2004; NSW RFS, 2006) lists the fire threshold values used for each vegetation community to calculate the Fire threshold categories.

Each vegetation community has a minimum and maximum fire regime threshold (Kenny et al, 2004). A fire interval between these thresholds (within threshold) is the time between fire events that a specific plant or vegetation community needs, to avoid being at risk from a decline in biodiversity. A decline in biodiversity usually occurs as a result of either too infrequent (above maximum threshold) or too frequent burning (below minimum threshold). Some vegetation formations are classified as fire intolerant and therefore do not have a fire threshold.

Fire frequency, fire intensity, season, extent (patchiness) and type of fire also influence whether or not a specific fire event has caused or is likely to cause a decline in biodiversity.

This map will be used to assist the BFMC in developing appropriate fire management strategies to reduce the risk of assets being affected by wildfire, and where possible, not impacting negatively on local biodiversity.

Additional information about the fire threshold map may be found in the document 'Bush Fire Risk Management Planning Guidelines for BFMCs'.

NSW Rural Fire Service. (2006) *Bush Fire Environmental Assessment Code*, NSW Rural Fire Service.

Keith, D. (2004) *Ocean Shores to Desert Dunes*: The native vegetation of New South Wales and the ACT. Department of Environment and Conservation.

Kenny, B., Sutherland, E., Tasker, E., and Bradstock, B. (2004). *Guidelines for Ecologically Sustainable Fire Management. NSW Biodiversity Strategy*. NSW National Parks and Wildlife Service

Table 1: Fire Threshold values		
Vegetation formation	Minimum Threshold	Maximum Threshold
Rainforest	NA	NA
Alpine complex	NA	NA
Wet Sclerophyll forest (shrubby subformation)	25	60
Wet Sclerophyll forest (grassy subformation)	10	50
Grassy woodland	5	40
Grassland	2	10
Dry sclerophyll forest (shrub/grass subformation)	5	50
Dry sclerophyll forest (shrub subformation)	7	30
Heathlands	7	30
Freshwater wetlands	6	35
Forested wetlands	7	35
Saline wetlands	NA	NA
Semi-arid woodlands (grassy subformation)	6	No max
Semi-arid woodlands (shrubby subformation)	10	No Max
Arid shrublands (chenopod subformation)	NA	NA
Arid shrublands (acacia subformation)	10	No Max

Legend

BFMC 5km Buffer

BFMC Boundaries

Other States

NSW

ACT

Drainage

Perennial

Non Perennial

Major Roads

Major Road Sealed

Major Road Unsealed

Secondary Road Sealed

Secondary Road Unsealed

Above Fire Threshold

Within Fire Threshold

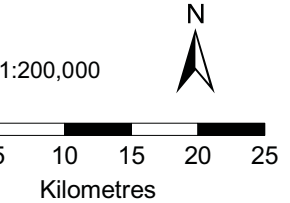
Below Fire Threshold

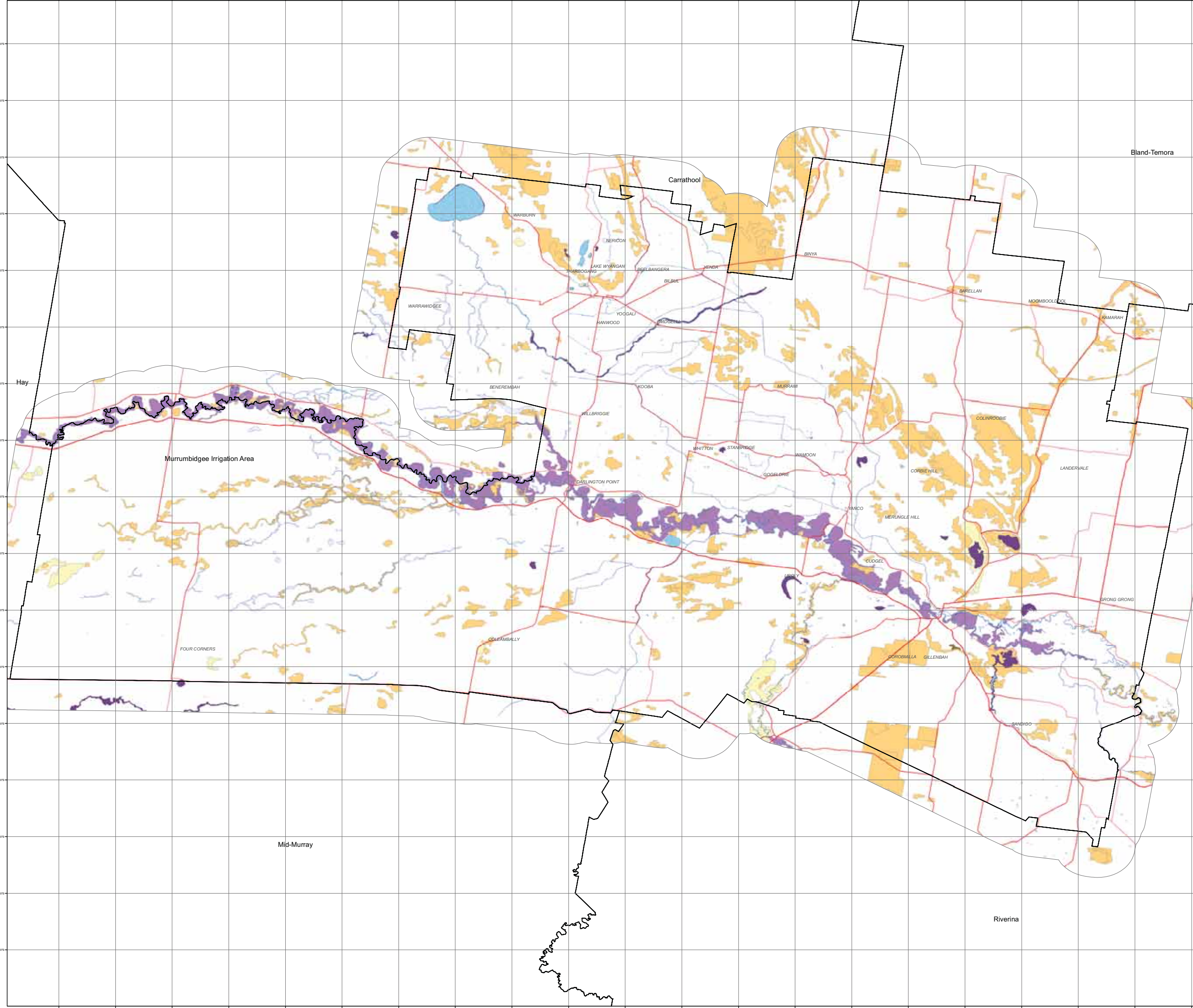
Fire Intolerant

Data Dictionary		
Theme	Source	Date
BFMC 5km Buffer	NSW RFS	August 2007
BFMC Boundaries	NSW RFS	August 2007
Towns or Locations	NSW LPI	August 2007
Drainage	NSW LPI	August 2007
Roads	NSW LPI	August 2007
Fire Threshold	NSW RFS	August 2007
State Backdrop	NSW LPI	August 2007

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MIA BFMC Bush Fire
Risk Management Plan
2007

Vegetation Categories*

Legend

BFMC 5km Buffer

BFMC Boundaries

Other States

NSW

ACT

Drainage

Perennial

Non Perennial

Major Roads

Major Road Sealed

Major Road Unsealed

Secondary Road Sealed

Secondary Road Unsealed

Keith Category

Alpine complex

Arid shrublands (acacia subformation)

Arid shrublands (chenopod subformation)

Dry sclerophyll forests (shrub/grass subformation)

Dry sclerophyll forests (shrubby subformation)

Forested wetlands

Freshwater wetlands

Grasslands

Grassy woodlands

Heathlands

Rainforests

Saline wetlands

Semi-arid woodlands (grassy subformation)

Semi-arid woodlands (shrubby subformation)

Wet sclerophyll forests (grassy subformation)

Wet sclerophyll forests (shrubby subformation)

Cleared Land

* Keith, D. (2004). Ocean Shores to Desert Dunes: The Native Vegetation of New South Wales and the ACT. Department of Environment and Conservation.

Data Dictionary		
Theme	Source	Date
BFMC 5km Buffer	NSW RFS	August 2007
BFMC Boundaries	NSW RFS	August 2007
Towns or Locations	NSW LPI	August 2007
Drainage	NSW LPI	August 2007
Roads	NSW LPI	August 2007
Vegetation	BFMC	August 2007
State Backdrop	NSW LPI	August 2007

The NSW Rural Fire Service makes every effort to ensure the quality of the information available on this map. Before relying on the information on this map, users should carefully evaluate its accuracy, currency, completeness and relevance for their purposes, and should obtain any appropriate professional advice relevant to their particular circumstances.

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Kilometres