



Shire of Augusta Margaret River Bushfire Risk Management Plan

2017-2022

Office of Bushfire Risk Management (OBRM) Bushfire Risk Management (BRM) Plan reviewed *2nd May 2017*

Local Government Council BRM Plan endorsement *14 June 2017*

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Document Endorsements

Shire of Augusta Margaret River Council endorses that the Bushfire Risk Management Plan (BRM Plan) has been reviewed and assessed by the Office of Bushfire Risk Management as compliant with the standard for bushfire risk management planning in Western Australia, the *Guidelines for Preparing a Bushfire Risk Management Plan*. The Shire of Augusta Margaret River is the owner of this document and has responsibility, as far as is reasonable, to manage the implementation of the BRM Plan and facilitate the implementation of bushfire risk management treatments by risk owners. The endorsement of the BRM Plan by the Shire of Augusta Margaret River Council satisfies their endorsement obligations under section 2.3.1 of the *State Hazard Plan for Fire (Westplan Fire)*.

Local Government	Representative	Signature	Date
Shire of Augusta Margaret River Council	Gary Evershed (CEO)		10/7/2017

Amendment List

Version	Date	Author	Section

Publication Information

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1. Introduction

1.1 Background

Under the *State Hazard Plan for Fire (Westplan Fire)* an integrated Bushfire Risk Management Plan (BRM Plan) is to be developed for local government areas with significant bushfire risk. This BRM Plan has been prepared for the Shire of Augusta Margaret River in accordance with the requirements of *Westplan Fire* and the *Guidelines for Preparing a Bushfire Risk Management Plan (Guidelines)*. The risk management processes used to develop this BRM Plan are aligned to the key principles of *AS/NZS ISO 31000:2009 Risk management – Principles and guidelines (AS/NZS ISO 31000:2009)*, as described in the Second Edition of the *National Emergency Risk Assessment Guidelines (NERAG 2015)*. This approach is consistent with the policies of the State Emergency Management Committee, specifically the *Emergency Risk Management Planning and Prevention Procedure 1, Policy 3.2 – Emergency Risk Management Planning*.

This BRM Plan is a strategic document that identifies assets at risk from bushfire and their priority for treatment. The Treatment Schedule sets out a broad program of coordinated multi-agency treatments to address risks identified in the BRM Plan. Government agencies and other land managers responsible for implementing treatments participate in developing the BRM Plan to ensure treatment strategies are collaborative and efficient, regardless of land tenure.

1.2 Aim and Objectives

The aim of the BRM Plan is to document a coordinated and efficient approach toward the identification, assessment and treatment of assets exposed to bushfire risk within the Shire of Augusta Margaret River.

The objective of the BRM Plan is to effectively manage bushfire risk within the Shire of Augusta Margaret River in order to protect people, assets and other things of local value. Specifically, the objectives of this BRM Plan are to:

- Guide and coordinate a tenure blind, multi-agency bushfire risk management program over a five-year period;
- Document the process used to identify, analyse and evaluate risk, determine priorities and develop a plan to systematically treat risk;
- Facilitate the effective use of the financial and physical resources available for bushfire risk management activities;
- Integrate bushfire risk management into the business processes of local government, land owners and other agencies;
- Ensure there is integration between land owners and bushfire risk management programs and activities;
- Monitor and review the implementation of treatments to ensure treatment plans are adaptable and risk is managed at an acceptable level.

1.3 Legislation, Policy and Standards

The following legislation, policy and standards were considered to be applicable in the development and implementation of the BRM Plan.

1.3.1 Legislation

- *Bush Fires Act 1954*
- *Emergency Management Act 2005*
- *Fire Brigades Act 1942*
- *Fire and Emergency Service Act 1998*
- *Conservation and Land Management Act 1984*
- *Environmental Protection Act 1986*
- *Environmental Protection and Biodiversity Conservation Act 1999*
- *Wildlife Conservation Act 1950*
- *Aboriginal Heritage Act 1972*
- *Metropolitan Water Supply, Sewerage and Drainage Act 1909*
- *Country Areas Water Supply Act 1947*
- *Building Act 2011*
- *Bush Fires Regulations 1954*
- *Emergency Management Regulations 2006*
- *Planning and Development (Local Planning Scheme) Regulations 2015*
- *National Trust of Australia (WA) Act 1964*

1.3.2 Policies, Guidelines and Standards

- National Emergency Risk Assessment Guidelines (NERAG) (Second Edition 2015)
- State Emergency Management Policy 2.5 - Emergency Management in Local Government Districts
- Emergency Risk Management Planning and Prevention Procedure 1, Policy 3.2 – Emergency Risk Management Planning
- State Hazard Plan for Fire (Westplan Fire)
- State Planning Policy 3.7: Planning in Bushfire Prone Areas
- State Planning Policy 3.4: Natural Hazards and Disasters
- Guidelines for Planning in Bushfire Prone Areas (2015)
- Western Australian Emergency Risk Management Guidelines (Emergency Management WA 2005)
- A Guide to the Use of Pesticides in Western Australia (Dept. of Health 2010)
- Guidelines for Plantation Fire Protection (DFES 2011)
- Firebreak Location, Construction and Maintenance Guidelines (DFES)
- Bushfire Risk Management Planning – Guidelines for preparing a Bushfire Risk Management Plan (2015)
- AS/NZS ISO 31000:2009 - Risk management – Principles and guidelines
- AS 3959-2009 Construction of buildings in bushfire-prone areas
- Building Protection Zone Standards (DFES)

1.3.3 Other Related Documents

- National Strategy for Disaster Resilience
- National Statement of Capability for Fire and Emergency Services (AFAC 2015)
- Public Service Circular No. 88 Use of Herbicides in Water Catchment Areas (Dept. of Health 2007)
- Code of Practice for Timber Plantations in Western Australia (Forest Products Commission 2006)
- Bushfire Risk Management Planning Handbook

- Bushfire Risk Management System (BRMS) User Guide
- A Shared Responsibility. The report of the Perth Hills Bushfire February 2011 Review
- Govt. of WA, Public Sector Commission Margaret River Bushfire Special Inquiry 2012
- Report on – “Investigation of the house losses in the Margaret River bushfire 23rd November 2011 (DFES, 2012)
- ACIL Tasman: Regional Economic Profile 2009
- Syme Marmion & Co – The redevelopment of Margaret River Town site: Creating a world class main street precinct 2011
- State Government of Victoria, Overall Fuel Hazard Assessment Guide, 4th Edition July 2010
- Tourism Western Australia – Local Statistical Data and Regional Profiles
- Shire of AMR Bushfire Risk Policy (reviewed three yearly)
- Shire of AMR Firebreak and Fuel Reduction Notice (Annual notices)
- Shire of AMR Risk Management Policy
- Shire of AMR Risk Management Framework (Version 1, 2014)
- Shire of AMR Management of Vegetation on Shire Reserves Policy (Infrastructure Policy 16)
- Shire of AMR Asset Management Policy (Infrastructure Policy 1)
- Shire of AMR Works on Public Land Policy (Infrastructure Policy 5)
- Shire of AMR Removal of Obstructions on Public Land (Infrastructure Policy 6)
- Shire of AMR Economic Development Policy
- Shire of AMR Bushfire Volunteer Services Policy
- Shire of AMR Local Emergency Management Arrangements 2010
- Shire of AMR Local Welfare Plan 2014
- Shire of AMR Recovery Plan 2012
- Shire of AMR Contacts and Resources Directory 2009
- Shire of AMR Bushfire Response Plan 2009
- Shire of AMR Emergency Evacuation Plan 2009
- Shire of AMR Corporate Plan 2015-2019
- Shire of AMR Community Strategic Plan 2033
- Shire of AMR Safer Communities Plan 2015-2019
- Shire of AMR Asset Management Plan 2013-2023
- Shire of AMR Workforce Plan 2013-2017
- Shire of AMR Local Planning Strategy 2011
- Shire of AMR Local Profile 2016
- Shire of AMR Subdivision and Development in Bush Fire Prone Areas
- Shire of AMR Application to Clear Vegetation (Local Permit)
- Shire of AMR Augusta to Busselton trails network concept plan 2010
- Shire of AMR Local Settlement and Town site strategies (Various, access on demand)
- Shire of AMR State of the Environment Report 2009

2. The Risk Management Process

The risk management processes used to identify and address risk in this BRM Plan are aligned with the international standard for risk management, AS/NZS ISO 31000:2009, as described in NERAG (2015). This process is outlined in Figure 1 below.

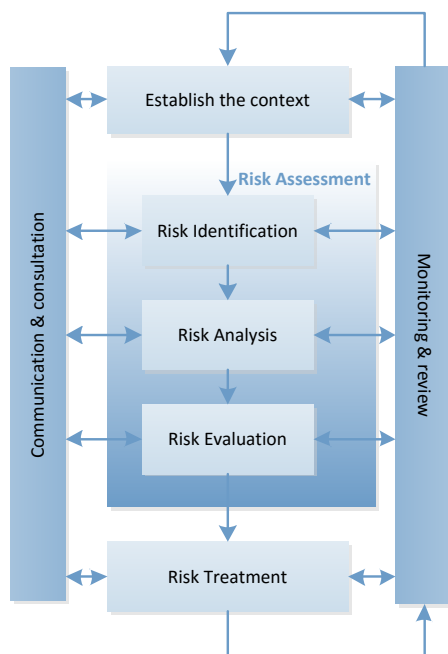


Figure 1 - An overview of the risk management process ¹

2.1 Roles and Responsibilities

Table 1 – Roles and Responsibilities

Stakeholder Name	Roles and Responsibilities
Local Government	<ul style="list-style-type: none"> ▪ As custodian of the BRM Plan, coordination of the development and ongoing review of the integrated BRM Plan. ▪ Negotiation of commitment from land owners to treat risks identified in the BRM Plan. ▪ As treatment manager, implementation of treatment strategies. ▪ As part of the approval process, submission of the draft BRM Plan to the Office of Bushfire Risk Management (OBRM) to review it for consistency with the Guidelines. ▪ As part of the approval process, submission of the final BRM Plan to council for their endorsement and adoption.
Department of Fire and Emergency Services (DFES)	<ul style="list-style-type: none"> ▪ Participation in and contribution to the development and implementation of BRM Plans, as per their agency responsibilities as the Westplan Fire Hazard Management Agency. ▪ Support to local government through expert knowledge and advice in relation to the identification, prevention and treatment of bushfire risk. ▪ Facilitation of local government engagement with state and federal government agencies in the local planning process. ▪ Undertake treatment strategies, including prescribed burning on behalf of Department of Lands for Unmanaged Reserves and Unallocated Crown Land within gazetted town site boundaries.

¹ Source: AS/NZS ISO 31000:2009, Figure 3, reproduced under SAI Global copyright Licence 1411-c083.

Stakeholder Name	Roles and Responsibilities
	<ul style="list-style-type: none"> ▪ In accordance with Memorandums of Understanding and other agreements, implementation of treatment strategies for other landholders.
Office of Bushfire Risk Management (OBRM)	<ul style="list-style-type: none"> ▪ Under the OBRM Charter, to ensure bushfire risk is managed in accordance with AS/NZS ISO 31000 and reporting on the state of bushfire risk across Western Australia. ▪ Review BRM Plans for consistency with the Guidelines prior to final endorsement by council.
Department of Parks and Wildlife (P&W)	<ul style="list-style-type: none"> ▪ Participation in and contribution to the development and implementation of BRM Plans. ▪ Providing advice for the identification of environmental assets that are vulnerable to fire and planning appropriate treatment strategies for their protection. ▪ As treatment manager, implementation of treatment strategies on department managed land and for Unmanaged Reserves and Unallocated Crown Land outside gazetted town site boundaries. ▪ In accordance with Memorandums of Understanding and other agreements, implementation of treatment strategies for other landholders.
Other State and Federal Government Agencies	<ul style="list-style-type: none"> ▪ Assist the local government by providing information about their assets and current risk treatment programs. ▪ Participation in and contribution to the development and implementation of BRM Plans. ▪ As treatment manager, implementation of treatment strategies.
Public Utilities	<ul style="list-style-type: none"> ▪ Assist the local government by providing information about their assets and current risk treatment programs. ▪ Participation in and contribution to the development and implementation of BRM Plans. ▪ As treatment manager, implementation of treatment strategies.
Corporations and Private Land Owners	<ul style="list-style-type: none"> ▪ As treatment manager, implementation of treatment strategies.

2.2 Communication & Consultation

As indicated in Figure 1 (Page 8) communication and consultation throughout the risk management process is fundamental to the preparation of an effective BRM Plan. To ensure appropriate and effective communication occurred with relevant stakeholders in the development of the BRM Plan, a *Communication Strategy* was prepared. The strategy is provided at **Appendix 1**.

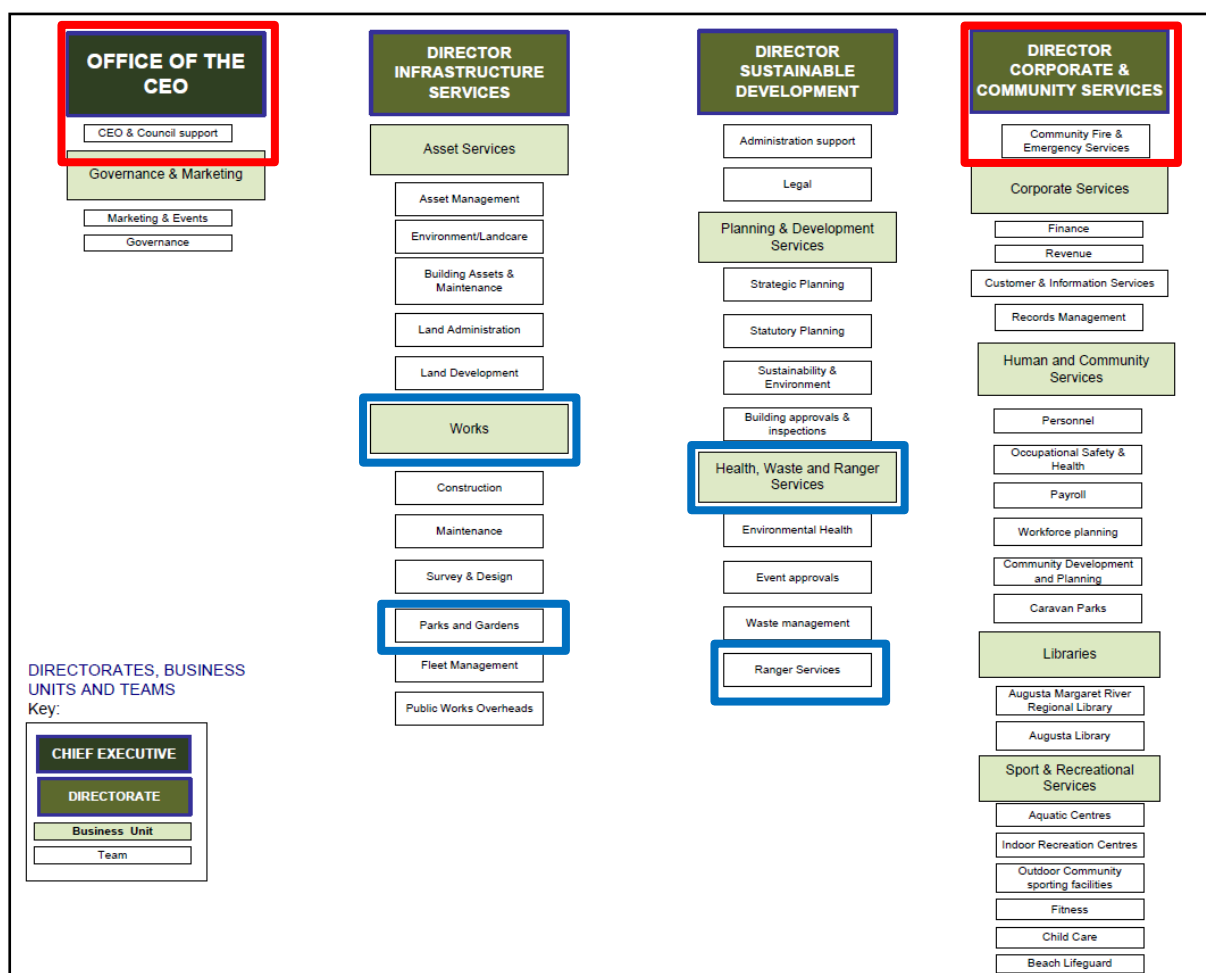
3. Establishing the Context

3.1 Description of the Local Government and Community Context

3.1.1 Strategic and Corporate Framework

The Shire’s organisational structure², figure 2, identifies that the Directorate of Corporate and Community Services is responsible for the BRMP processes, sustainability and continuity. Accepting that there are multiple stakeholders (outside of the LG) involved in the effective implementation of the BRMP process, it is important to note that the Shire’s responsibility is to facilitate the management of the risk of bushfires to the community as supported by the provision of this plan. In the event that the Bushfire Risk Planning Coordinator role concludes, the Local Government’s CEO shall delegate responsibility for the implementation of this plan.

Figure 2 - Shire of Augusta Margaret River’s organisational structure showing areas of responsibility for BRMP process; Accountable CEO and Responsible Directorate circled in red and direct process support units and teams circled in blue



The Shire’s *Community Strategic Plan 2033* was adopted in 2013 and represents the Shire’s new approach to planning for the Shire’s future. It builds on its past strategic planning work, addresses the

² Image retrieved from Shire of Augusta Margaret River IT Services (internal intranet, May 2016).

challenges ahead and sets out what actions it will take in the next 20 years to work towards achieving the community's vision.

This BRM Plan aims to strengthen the Shire's capacity to achieve its overall corporate vision and goals as detailed in the *Community Strategic Plan 2033*. In particular, Goal 2, 'welcoming and inclusive communities' lists the following community outcomes:

- Sense of identity and belonging
- Equity and opportunities for all
- **Strong community groups and networks**
- Lifelong learning in the community
- Active and healthy lifestyles
- **Safer communities**

This BRM Plan will contribute to the success of all of these outcomes but in particular, community outcome 6; *Safer Communities*³. The specific strategies which will result from the BRM Plan are:

- 2.6.2 Enhance the Shire's emergency and disaster management capabilities and,
- 2.3.2 Encourage Community organisations and local communities to work together to be self-sufficient

The BRM Plan encourages community organisations and local communities to work together to be self-sufficient and aims to provide guidance on negotiating and selecting suitable treatment strategies for mitigation of bushfire-related risks. This approach allows the responsible land holder to allocate its scarce resources most effectively in order to lower the inherent risk to an acceptable level.

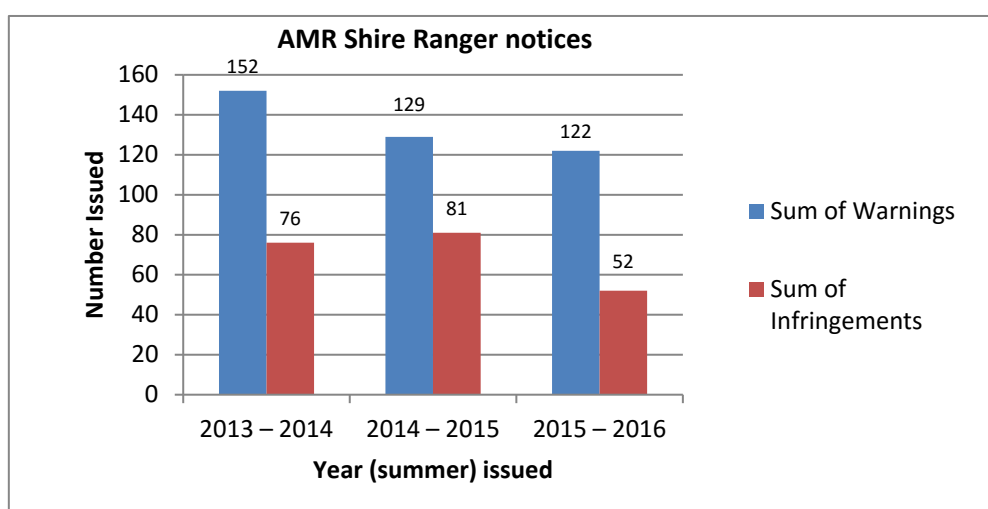
Emergency Management is identified in the Shire's *Community Strategic Plan 2033, Corporate Business Plan 2015-2019 and the Safer Communities Plan 2015-2019* as a key service provided by the Shire. The BRM Plan is a hazard specific plan that addresses significant bushfire risks within the LG and is linked to the AMR Local Emergency Management Arrangements and Risk Management processes. It aims to integrate bushfire risk management programs and activities into the business processes of the Shire, other agencies and land owners. The outcomes of the BRM Plan will be used to inform LG when preparing and then implementing bushfire mitigation strategies for Shire managed land.

Existing and future bushfire risk management programs such as the *Fire Break and Fuel Hazard Reduction Notice* will utilise the BRMP risk register to prioritise resources and influence the decision making process. Shire rangers will now report on non-compliances to the notice for all high risk assets requiring mitigation works as a priority. Similarly, the Works and Community Fire and Emergency Services business units will be conducting future bushfire treatment works determined by the outcome of risk assessments completed throughout the life of this plan. Other multi-agency and local government wide controls have been identified and listed in Appendix 3 to ensure consultation occurs and mitigation works are prioritised using this risk management approach.

The Shire's Rangers reported that from 2013-2016 on average 95% of properties inspected met the requirements of the *Fire Break and Fuel Hazard Reduction Notice*, indicating that majority of landholders' complete bushfire risk mitigation activities. Since 2013 the Rangers have issued fewer warnings each year and the number of infringements handed out has also decreased, graph 1.

³ Shire of Augusta Margaret River, Corporate Plan 2015-2019.

Graph 1 - AMR Shire Rangers record of compliance from 2013-2016 the



Fire remains the highest risk factor to the community from an emergency management perspective, followed by flood. The Shire is faced with increased fire risk to people and property due to a drying climate, development in high fuel load areas, significant tourist numbers for a large portion of the year, and increasing pressure on fire brigade volunteers to support fire response requirements⁴.

3.1.2 Location, Boundaries and Tenure

The Shire of Augusta Margaret River has an area of approximately 224,000 hectares and a coastline of 120 kilometres of beaches, bays and rocky points. The two Shires surrounding Augusta Margaret River are Nannup to the East and Busselton to the North. The western and southern boundaries are coastline.

Margaret River, Augusta and Cowaramup are the major towns in the Shire. Other settlements include Karridale, Witchcliffe, Rosa Brook, Prevelly/Gnarabup and Gracetown. The Shire extends for approximately 60 kilometres north to south, and 62 kilometres from the west coast to the Western boundary of Nannup Shire.

The Shire of Augusta Margaret River contains large areas of forested estate (50%) managed by Parks and Wildlife (PaW) and freehold land (42.5%). The Shire of Augusta Margaret River is responsible for the management of approximately 6.7% of tenure, predominantly in reserves and parks. The Department of Fire and Emergency Services (DFES) is responsible for the management of fire prevention on 0.4% of Unallocated Crown Land (UCL) and Unmanaged Reserves (UMR) within gazetted town site boundaries under a memorandum of understanding with the Department of Lands (DoL), see table 2 below.

Table 2 - Overview of Land Tenure and Management within the BRMP Area

Land Manager/Agency*	% of BRMP Area
Local Government	6.7%
Private	42.5%
Parks and Wildlife	50%
Department of Lands	0.4%
Other	0.4%
Total	100%

⁴ Shire of Augusta Margaret River, Safer Communities Plan 2015-2019.

Tenure Management

Through the BRMP process, identified management parcels were based on tenure boundaries and existing access networks, with a number of management cells extending across multiple tenures.

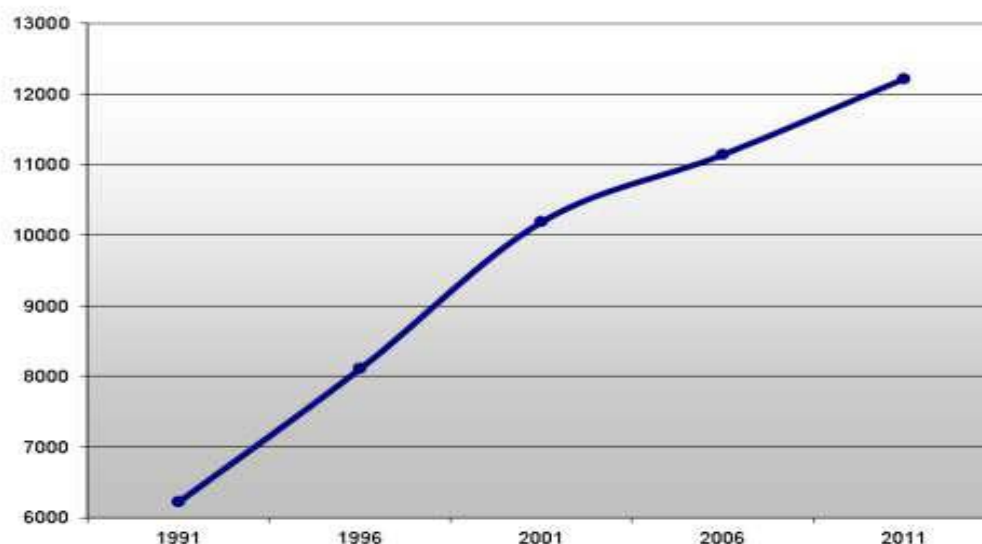
Land Managers are responsible for allocating resources to implement the appropriate treatment strategies. At a minimum the selected treatment must meet or exceed the requirements of relevant legislation, policies and standards (e.g. Complying with Shire of AMR Firebreak and fuel hazard reduction notices and AS3959).

3.1.3 Population and Demographics

Margaret River experienced devastating bushfires in November 2011 causing ongoing distress, anxiety and concern to residents and other community members who fear a repeat bushfire event may occur in the locality. The attitude held by the community in regard to bushfire risk appears to be one of sensitivity, resulting in a heightened level of awareness. Despite these attitudes, the perceptions held by local government and local bush fire brigades is that land owners are not doing enough to prepare and maintain their own properties and families in preparation for the impact of bushfires. Through BRMP the Shire will increase efforts to support and promote existing bushfire preparation programs while educating and providing valuable information to the community.

Although a population of 12,219⁵ resides within the Shire, over 450,000 tourists are expected to visit and stay overnight in this area of Western Australia every year⁶. Significant residential development has occurred within the Shire over the past ten years and with the introduction of the Western Australian State Government's 'SuperTown' initiative, this will continue to drive population growth for many years. It is estimated that by 2031, the population of the Shire will grow to 19,000 with the gazetted town's population increasing to around 12,000.

Graph 2 - Shire of Augusta-Margaret River Population Growth 1991-2011⁷



⁵ Australian Bureau of Statistics 2011, Shire of Augusta Margaret River (Statistical Local Area, Population Profile, Estimated Resident Population 2011, viewed March 2016).

⁶ Tourism Western Australia 2013 – Overnight visitor fact sheet, Shire of Augusta Margaret River YE Dec 2011/12/13.

⁷ Graph retrieved from Shire of Augusta Margaret River, Local Profile 2015. Statistics from Australian Bureau of Statistics 2011.

As shown in table 3, the preliminary estimated resident population (ERP) of the Shire was 13,168 in June 2013 with an average population growth rate of 3.8%⁸. The Shire population projections prepared for the Australian Government Department of Health and Ageing by the Australian Bureau of Statistics in 2008 and by the WA Planning Commission in 2012 indicate that the population of the Shire could increase to over 17,000 by 2026, an increase of 35%.

Table 3 - Estimated Resident Population 1991-2014 (Source: ABS Regional Population Growth (pr: preliminary rebased) (p: preliminary). For 2015 the projections are not official ABS Data⁹

	1991	1996	2001	2006	2011	2013	2014p	2015 ¹
Shire of AMR	6,218	8,106	10,187	11,143	12,219	13,168	13,600	14,200
Change	-	1,888	2,081	956	1,076	940	432	600
Inter-census average annual growth rate	-	5.4%	4.7%	1.8%	2%	3.8%	2.5%	-
Average annual growth rate 1991-2011	3.5%							3.8

Absentee landowners or non-permanent residents also own a large portion (about 40%)¹⁰ of the properties in the Shire. These people normally live elsewhere and use their properties in Augusta Margaret River for lifestyle and/or investment purposes. Research completed in 2013 found that 42% of absentee landowners believe it is unlikely a bushfire will occur at their secondary property, indicating that they are disengaged with the risk of bushfire at these properties¹¹. With such a high level disengaged in the risk it is therefore likely that absentee landowners do not place importance on undertaking bushfire risk actions. The research states that the single biggest barrier to undertaking more actions to preparing their secondary properties against bushfire risk for absentee landowners is lack of awareness of the need to prepare. In the report, a landowner interviewed stated they were not aware of what needs to be done because a real estate agent manages the property. Absentee landowners are identified in the communications strategy of this plan.

The Shire also has its challenges in meeting the needs of an ageing demographic while also dealing with an exodus of young adults seeking further education, training and employment opportunities¹². Other challenges for the Shire into the future include local government reform, meeting community and visitor expectations and the impact of climate change. Local facilitators of community preparedness groups and activities are reporting that majority of the attendance and interest is from the ageing demographic. Strategies are required to draw in younger participants to ensure longevity of the communities 'Get Ready' project and subsequent preparedness activities.

⁸ Australian Bureau of Statistics 2011, Shire of Augusta Margaret River (Statistical Local Area, Shire Statistics, Estimated Resident Population 2011, viewed March 2016).

⁹ Customised projections prepared for the Australian Government Department of health and Ageing by the ABS. The projections are not official ABS Data. The next ABS census is due in 2016.

¹⁰ Augusta Margaret River Sustainable Future: *The 'Missing' Segment of the Population: A survey of Non-Permanent Residents* (2005), CSIRO, Dr Gail Kelly & Karin Hosking.

¹¹ TNS Consultants; Prepared A Marketing Research Report for Department of Fire & Emergency Services; *Absentee Landowner Research* (2013)

¹² Shire of Augusta Margaret River, Community Strategic Plan 2033.

Table 4 - Median Age 1991 – 2011 (ABS 2011)

1991	1996	2001	2006	2011
32	33	35	37	39

Table 5 below, includes estimates of the population of selected localities in the Shire for 2006, 2011, 2012 and 2013¹³. The estimates are derived from ABS Census data for state suburbs or statistical areas, as ERP data is not available for all specific urban localities.

Table 5 - Estimated Resident Population of Localities (ABS 2011)

	2006	2011	2012	2013
Augusta	1,150	1,300	1,340	1,370
Margaret River	5,250	5,925	6,180	6,430
Cowaramup	620	820	870	925
Prevelly/Gnarabup	525	550	560	575
Other areas/rural	3,598	3,624	3,637	3,660
Shire Total	11,143	12,219	12,587	12,960

Urban development is expected to continue in accordance with the outcomes published in the Local Planning Strategy, town site strategies, endorsed urban structure plans and SuperTown Townsite growth plan.

In relation to bushfire risk consideration should be given to the potential impacts from the introduction of the ‘SuperTowns’ initiative developed by the Western Australian State Government. Margaret River is one of nine regional townships in the southern half of Western Australia to be designated for growth under the Government’s Regional Centres Development Plan. The SuperTowns vision is to have balanced communities with lifestyle options, access to adequate infrastructure and services, quality housing and a diverse range of job opportunities. Ultimately, creating a number of new assets, increasing costs, stretching resources and potentially introducing new risks to the community.

Significant strategic planning was undertaken during 2012 in relation to the ‘Super Towns’ initiative for Margaret River. The role of the Super Town Growth Plan is to ‘fill the gaps’ and ensure that adequate strategic planning is carried out to guide the future growth of the town. The plan has been developed to ensure the town benefits from this initiative with little impact to current lifestyle.

Between 2006 and 2011 subdivision and development of residential areas in Margaret River, Augusta, Cowaramup and Gnarabup resulted in the construction of 900 additional dwellings¹⁴ (average of 180 per year). It is considered that future residential development is likely to occur in the major

¹³ Australian Bureau of Statistics 2011, Shire of Augusta Margaret River (Statistical Local Area, Shire Statistics, Estimated Resident Population 2011, viewed March 2016). The Australian Bureau of Statistics Census data (2011) for localities has been adjusted to reflect the revised ERP data. The 2013 Shire ERP assumes 3% growth between 2012 and 2013.

¹⁴ Australian Bureau of Statistics 2011, Shire of Augusta Margaret River (Statistical Local Area, Shire Statistics, Estimated Resident Population 2011, viewed March 2016). Table 5, 6, 7 statistics sourced from ABS 2011 data also.

community centres at Margaret River and Augusta with Witchcliffe and Cowaramup being developed as local villages with adjoining enclaves¹⁵.

Through the Local Planning Scheme, Bushfire Prone areas were declared for the Shire in 2012, increasing the standards for construction, as per AS3959. Dwellings built prior to 2012, may not have been subject to the standards however, it is expected that many homes built since 2012, particularly those in the developing villages, are most likely to be better prepared for bushfires.

Table 6 - Dwellings 1996 – 2011 (Source: ABS 2011 Statistical Data) – Rate of residential building activity

	Number of dwellings			
	June 1996	June 2001	June 2006	June 2011
Shire of Augusta Margaret River	3,716	4,952	5,909	6,810
Increase	-	1,236	957	901

Table 7 - Dwelling Growth 2006-2011 (Source: ABS 2011 Statistical Data)

Town Site	All Dwellings		Increase 2006-2011	Unoccupied dwellings (excluding non-classifiable households)	
	June 2006	June 2011		June 2006	June 2011
Margaret River	2,086	2,677	591	16.25%	18.5%
Augusta	894	1,086	192	43.6%	47.6%
Cowaramup	244	358	114	22.5%	22.8%
Prevelly/Gnarabup	345	383	38	47.2%	50.4%
Shire of Augusta Margaret River	5,909	6,810	901	30.1%	33.2%

Levels of risk are determined based on the relative importance of the asset or value to the region and community based on economic, cultural or environmental value. Communities, assets and values adjacent to parcels of land with potential for damaging bushfire from flame attack, radiant heat or spotting are considered as a part of this BRM Plan. Population is also considered in relation to the number of people vulnerable in the event of a bushfire.

3.1.4 Economic Activities and Industry

Since the late 1800s the South West has been known for its forestry and agricultural activities. These sectors along with wine making, which now exists as a prominent industry in the region, form Margaret River’s economic base. In recent years however, the region has significantly grown in popularity as a tourist destination.

Employment of Shire residents is mostly in the construction, manufacturing, retail trade and accommodation/food industries. Education, training, health care, agriculture and administration also employ significant numbers of residents. The wine industry is prevalent throughout the region where vineyards and cellar doors are scattered across the entire LGA. Not only do the wineries employ a large amount of people, they also attract many tourists to the region. The wine/grape products are

¹⁵ Source: Shire of Augusta Margaret River, Local Planning Strategy, 2011.

supplied across Australia and world-wide. Production would be significantly impacted in the event of a fire and/or heavy smoke event in the region. During the Autumn months the vines carry grapes which have been known to be damaged by ‘smoke taint’ from nearby fires or prescribed burns. Careful consideration should be given to areas where vineyards are located, and if possible prescribed burns should be planned for Spring in these areas. Consultation with local producers/growers should be conducted before neighbouring prescribed burns are carried out.

Table 8 below summarises employment characteristics of employed persons in the Shire in 2011¹⁶.

Table 8 - Industry of Employment source: ABS Statistical Data 2011 (Count of employed persons 15 years and older)

Industry	Employment (No's)	Proportion
Agriculture, forestry & fishing	512	10.71%
Mining	13	0.27%
Manufacturing	643	13.45%
Electricity, gas, water & waste services	44	0.92%
Construction	393	8.22%
Wholesale trade	131	2.74%
Retail trade	601	12.57%
Accommodation & food services	622	13.01%
Transport, postal & warehousing	108	2.26%
Information media & telecommunications	61	1.28%
Financial & insurance services	52	1.09%
Rental, hiring & real estate services	106	2.22%
Professional, scientific & technical services	178	3.72%
Administrative & support services	159	3.33%
Public administration & safety	168	3.51%
Education & training	366	7.66%
Health care & social assistance	344	7.20%
Arts & recreation services	46	0.96%
Other services	155	3.24%
Inadequately described/Not stated	39	0.90%
Total	4,741	100%

Further to this, Margaret River draws large amounts of visitors annually due to it being a popular tourist destination with its natural beauty, ocean activities and proximity to Perth also being a large draw card. Tourism Western Australia published the *Augusta Margaret River Overnight Visitor fact sheet YE Dec 2011/12/13* which estimated that a total average of 457,200 people visited the region over each of these years. This equates to an additional 8,792 people residing in the region every week¹⁷. Peak seasons are generally from spring through to autumn (November – April) with school and public holiday's typically drawing the largest number of visitors.

¹⁶ Australian Bureau of Statistics 2011, Shire of Augusta Margaret River (Community Profile, Local Government Area, Working Population 2011, Retrieved September 2016).

¹⁷ Source: Tourism Western Australia – Augusta Margaret River Overnight Visitor fact sheet YE Dec 2011/12/13. This figure does not take into account seasonal periods; it is averaged over a 52-week year.

Table 9 - Estimated average annual visitors to AMR for YE Dec 2011/12/13 (Tourism WA)

	YE Dec 2011/12/13 Average Annual Visitors	YE Dec 2011/12/13 %
Estimated Visitors		
Intrastate	335,300	73%
Interstate	63,000	14%
International	58,900	13%
Total	457,200	100%

Plans for the development of the 'Perimeter Road' to bypass the town of Margaret River will allow the town to be significantly upgraded in order to satisfy the demands of population growth and tourism as well as reduce the risk of current heavy haulage and other traffic hazards on the main street of Bussell Highway. The AMR Shire in conjunction with Department of Planning (DoC), WA Planning Commission (WAPC), South West Development Commission (SWDC), Regional Development Australia (RDA), Main Roads, Tourism WA, and the WA Tourist Commission, have all been involved in the research, investigation and planning for the development of the heavy haulage diversion route which is scheduled to be completed in 2018.

From the perspective of the WAPC, the bypass route will provide a significant boundary around the Townsite by having urban land located within the road and agricultural land on the outside of the road (Syme Marmion & Co, 2011). In relation to Bushfire Risk Management all assets affected by the implementation of the Perimeter Road shall be risk assessed and appropriate treatment strategies negotiated accordingly. Risk assessment will identify any changes to the level of risk as a result of the completed development.

Margaret River and surrounding towns are supplied water by the Ten Mile Brook Dam with the Townsite Growth Plan (2012) identifying that future improvements to infrastructure and potentially additional sources of water will be required to keep up with population growth. Margaret River has a wastewater treatment plant that is located north of the Townsite near the airport and has a licensed treatment capacity of 1,500KL/day. The highly treated wastewater is pumped during summer to irrigate a 60-hectare pine plantation operated by Forest Products Commission (FPC) as well as various Shire reserves.

Power to Margaret River is supplied via a single 66kV transmission line which extends from the Busselton Zone Substation. The transmission line is overhead and terminates at the northern edge of the town boundary opposite Riverslea Drive and then extends underground into the Margaret River Zone Substation on Forrest Road. In the event of a major power outage reticulated water supplies might be lost, potentially hindering firefighting suppression activities. Western Power advises that a larger 132kV transmission line will be required by 2023 to keep up with population growth and demand for power in the region.

Critical infrastructure supplying residential areas, economic activities and industry that are at risk of impact from bushfire will be identified as part of this plan. LG should coordinate stakeholders to consult and negotiate the appropriate treatment strategies required to reduce risk to these assets.

3.2 Description of the Environment and Bushfire Context

3.2.1 Topography and Landscape Features

Topography contributes to risk by influencing fire rate of spread (ROS), and therefore intensity, and by affecting access for suppression forces. The risk associated with topography is assessed in relation to response access and as a variable in predicting fire behaviour leading to potential spotting and the calculation of the mitigation zone (risk treatment area) for each community/asset.

There is a diversity of topography throughout the Shire of Augusta Margaret River. The Shire is situated on four distinct physiographic regions as follows¹⁸.

- 1) **The Blackwood Plateau** is located towards the interior of the Shire and extends beyond the eastern boundary. The Plateau has a gently undulating surface and typically rises to between 80 and 180 metres above sea level, formed on laterised sedimentary rocks
- 2) **The Margaret River Plateau** is between 5 and 15km wide and extends from Dunsborough to Augusta. The plateau has formed on laterised granitic and gneissic basement rock
- 3) **The Leeuwin-Naturalist Coast** is a narrow strip of land up to 6km wide running along the coast from Cape Naturaliste to Cape Leeuwin. Dune sand and Tamala Limestone overlie Precambrian rocks along the coast with numerous caves developed in the limestone
- 4) **The southern Coastal Plain** is 15km wide and extends eastward from the Blackwood River. It is characterised by a line of high dunes running along the southern coast.

The southern communities of the Shire differ from the North in that there are large areas of wetlands and coastal plain, especially surrounding East Augusta. Mechanical and Prescribed burning mitigation activities have a particularly small opportunity for success in areas such as this

The principal soil type running from Cape Naturaliste to Cape Leeuwin is predominantly gravelly, sandy/laterite loam that has formed directly from the underlying granite and gneissic rock and is highly permeable when moist but moisture is quickly shed from sloping sites¹⁹.

The Margaret and Blackwood Rivers are the only major river and valley systems within the LG. The topography is undulating with steep slopes in the major Margaret River valley system.

Careful consideration is required when determining bushfire suppression strategies and bushfire mitigation works for both environmental factors and safety to emergency responders.

The effect of topography on fire behaviour and subsequent treatment buffers, required for the communities identified within this BRM Plan should be evaluated in accordance with AS3959-2009.

3.2.2 Climate and Bushfire Season

The climate of the South West region is typically Mediterranean, with warm to hot, dry summers and mild, wet winters. The majority of rainfall occurs between May and September, with heaviest falls during the winter months from June to August. Rainfall in the Augusta Margaret River area is generally

¹⁸ Shire of Augusta Margaret River Local Profile 2016, Retrieved from www.amrshire.wa.gov.au. (Tille & Lantzk, 1990)

¹⁹ Shire of Augusta Margaret River Local Profile 2016, Retrieved from www.amrshire.wa.gov.au.

higher and more reliable than other areas of the South West, with between 850mm and 1,200mm annually.

The Indian and Southern Oceans moderate the effect of temperature in the Shire providing smaller diurnal and seasonal variations and a milder climate than inland areas. Mean daily temperatures vary from around 10 degrees in August to 26 degrees in February.

Summers are very dry, with December to February receiving a monthly average of less than 25mm of rain. Summers are typically very warm and cloudless although cooling afternoon sea breezes are common. The hot, dry summers and seasonal strong winds create an environment where there is always a significant risk of bush fire, therefore a high degree of caution is required by residents and visitors at all times.

The Cape Leeuwin and Witchcliffe Bureau of Meteorology (BoM) weather stations provide climatic data for the Shire of Augusta Margaret River. Under the 95th percentile conditions, the average maximum Forest Fire Danger Index (FFDI) is 10, and the average maximum Grassland Fire Danger Index (GFDI) is 28, for the months December to March. This figure represents a 95% chance of extended first attack success possible for an Overall Fuel Hazard (OFH)²⁰ rating of Low and Moderate in forest fuels, or High in grassland fuels. This means that forests and grasslands with fuel hazard scores of high or above should be reduced to moderate or less to accommodate the 5% of the worst conditions likely to be experienced during the typical fire season. This provides the basis for a treatment schedule and risk acceptability criteria.

The nearest BoM weather station is Witchcliffe however, the Cape Leeuwin weather station can also be used for analysis²¹. Climatic summaries for the weather stations are provided below showing the climatic variables for the typical Southern fire season (December - March).

The Shire's prohibited burning period is from 22nd December to 13th March while restricted burning applies from 14th March to 12th May and from 9th November to 21st December²². No restrictions apply during the remaining months.

Table 10 - Summary of climatic variables (Witchcliffe)

Month	Av Temp ^o (3pm)	Av RH (3pm) (%)	Av Monthly Rainfall Total (mm)	Av Wind speed 3pm (km/hr)	Wind Direction 3pm (% of obs >15%)
Dec	22.4	52	6	22	S
Jan	24.2	50	5	23	S & SE
Feb	25.1	48	4	22	S & SE
Mar	24.1	49	9	20	S & SE
Average	23.9	50	6	22	S

²⁰ Overall Fuel Hazard Assessment Guide developed by State Government of Victoria 2010, Retrieved from: www.fireandbiodiversity.org.au This can be used as a guide by DFES when conducting assessments.

²¹ Bureau of Meteorology www.bom.gov.au (Witchcliffe and Cape Leeuwin Weather Station data).

²² Information found in Gazetted Shire Firebreak and Fuel Reduction Notice 2016-17. Dates subject to change following annual review.

Table 11 - Summary of climatic variables (Cape Leeuwin)

Month	Av Max Temp° (3pm)	Av RH (3pm) (%)	Av Monthly Rainfall Total (mm)	Av Wind speed 3pm (km/hr)	Wind Direction 3pm (% of obs)
Dec	20.6	65	18	30	SE
Jan	21.8	64	15	31	SE
Feb	22.4	64	16	32	SE
Mar	21.9	64	22	30	SE
Average	21.7	64	18	31	SE

Climatic data provides an indication of fuel availability for bushfires throughout the year, but in particular during the fire season and is used to calculate the GFDI, FFDI and associated likely fire behaviour. This BRM Plan considers the 95th percentile weather conditions for the Southern fire season²³ as the basis for FFDI, GFDI and fire behaviour calculated within the LG. Therefore, mitigation planning activities are based on all but the 5% of the most extreme climatic conditions which, for the purposes of this plan, could be considered a statistical anomaly. Given the infrequent occurrence of such extreme conditions, the cost and resources required to implement mitigation activities may not be warranted.

Table 12 - FFDI and GFDI (95th percentile conditions)²⁴

Weather Station	95 th % Temp (3pm)	95% Min RH (3pm)	95% Wind speed 3pm (km/hr)	GFDI	FFDI
Witchcliffe	31.8	29	31	16	19
Cape Leeuwin	24.9	48	52	28	10

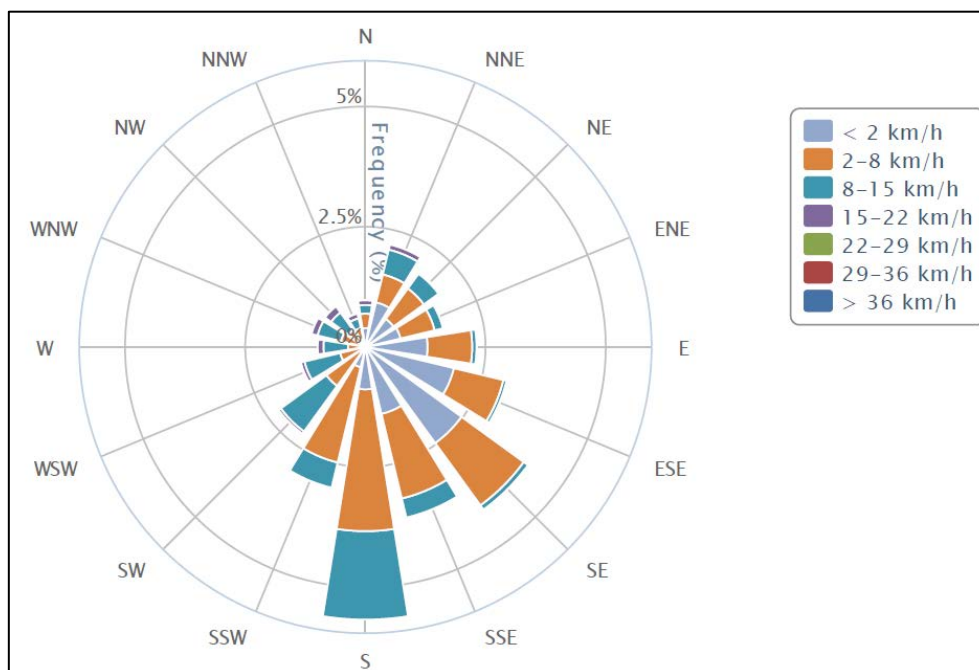
The calculation of FFDI and GFDI, based on these conditions, is used to determine the fuel reduction measures necessary to meet suppression success criteria²⁵ as defined in the Overall Fuel Hazard Assessment Guide (provided by State Government of Victoria, 2010) and provides the basis for fuel management objectives.

²³ These calculations are based on the last 30 years' climatic data (Dec-March) for each BOM site within the LG. Where a site has been operating for less than 30 years, all available data for that site is used.

²⁴ FFDI and GFDI are calculated for the fire season months (Dec-March) for Witchcliffe and Cape Leeuwin Weather Stations, using 8 tonnes/ha for forest areas and 4.5 tonnes/ha with 100% Curing and drought factor of 10 for Grasslands. The 95th percentile weather conditions are calculated from the actual daily FFDI and GFDI for the period.

²⁵ This is the chance of extended first attack being successful by response efforts.

Figure 4 - Margaret River wind rose shows frequency of wind direction and speeds recorded over the last 6 years (01/03/2010 – 01/03/2016)²⁶.



3.2.3 Vegetation

Broad vegetation types found within the Shire of Augusta Margaret River provide an overview of the major fuels that will influence fire behaviour in the region and assist in the evaluation of potential rates of spread and spotting. This assists in evaluating Mitigation Zones required for each community and asset. The major vegetation types within the Shire include Jarrah – Marri forests, pockets of Karri and Paperbark (*Melaleuca* sp.), sedge lands, reed swamps and heath on the coastal extents.

A large percentage of native vegetation has been cleared around the Margaret River Townsite as a result of urban development and historical agricultural activities²⁷. Along the coast, the Leeuwin Naturaliste National Park links to the Bramley National Park found to the east of town and comprises a combination of State forest reserves, public reserves, and foreshore reserves. These reserves are identified in the Shire’s Local Planning Strategy (2011) as areas to be protected and augmented if possible. This particular area provides a scenic landscape when entering Margaret River Townsite from the North but, may present significant bushfire risk to the town if uncontrolled.

The Shire contains high flora and fauna species and is part of Australia’s only listed global hotspot of biodiversity (34 localities were identified globally). The South West of Western Australia was identified internationally to acknowledge the region’s exceptional concentration of diversity and endemism (that occur nowhere else) of species in these areas, but just as importantly, also highlights the threat levels to this biodiversity as a result of significant loss of habitat.

²⁶ Wind Rose provided by www.agric.wa.gov.au/weather-stations

²⁷ Shire of Augusta Margaret River, State of the Environment Report 2009. Retrieved from: www.amrshire.wa.gov.au

Table 13 – Western Australia Major regional vegetation dataset²⁸

Vegetation Community	Area (ha)	% of Total Area	Bushfire Predictive Model ²⁹
Medium Open Woodland; Jarrah, Marri, Wandoo, Blackbutt	162,897	77.00	Vesta
Shrublands; Peppermint Scrub (<i>Agonis flexuosa</i>), Teatree Thickets	14,700	6.90	Mallee-Heath
Tall forest; Karri (<i>Eucalyptus diversicolor</i>)	12,560	6.00	Vesta
Low Woodland; Paperbark (<i>Melaleuca</i> sp.)	9,653	4.50	Mallee-Heath
Sedgeland; Reed Swamps, occasionally with heath	3,528	1.66	Mallee-Heath
Low Forest: Peppermint (<i>Agonis flexuosa</i>)	2,220	1.10	Vesta
Low Woodland; Jarrah, Jarrah-Banksia	2,012	0.95	Vesta
Low Woodland; Peppermint, Banksia	1,529	0.75	Vesta
Bare Areas; Drift Sand	1,087	0.50	N/A
Low forest; Jarrah	924	0.40	Vesta
Low forest; Jarrah & Marri	439	0.20	Vesta
Bare areas; Rock Outcrops	42	0.02	N/A
Bare Areas; Salt Lakes	56	0.02	N/A
TOTAL	211,647	100.00	

3.2.4 Bushfire Frequency and Causes of Ignition

A report provided by the Operational Information Systems Branch of the Department of Fire and Emergency Services³⁰ identified that within the Shire of Augusta Margaret River an average of 50 landscape fires occurred each year between FY10 and FY15. A total of 292 landscape fires³¹ have been recorded from 01/07/2010 – 29/02/2016.

The data was further analysed revealing the landscape fire ignition reasons, see Table 14 below. The most common fire ignition causes that were able to be determined following investigations were; burn off fires³² (27%), suspicious/deliberate fires (20%), power lines (7%), re-ignition of previous fires (7%), and lightning (5%). Some burn off fires recorded may include calls made by concerned residents or bystanders to fire authorities for investigation.

In November 2011 almost 40 homes were destroyed and a further 26 damaged by impact of a bushfire that resulted from an escaped burn off (prescribed burn) being conducted in Margaret River. The devastating result of the bushfire was reported as being one of the single biggest house losses in

²⁸ Vegetation of Western Australia Dataset provided by DEC, Pre-European Vegetation, which is based IBRA (Interim Biogeographic Regionalisation of Australia, Thackway and Cresswell eds. 1995) regions and sub-regions, at a scale of 1:250000

²⁹ Predictive model for fire behaviour in unplanned fires (and calculation of mitigation zones)

³⁰ Department of Fire and Emergency Services, Fire and Incident Reporting System

³¹ The report only identifies landscape fires that are out of control, requiring emergency assistance

³² The definition of "Burn off fires", in this report provided by DFES, means that a controlled burn of some kind has escaped. The burn off may or may not be registered, and can include private rubbish burns as well as local government or PAW fuel reduction burns.

Western Australia³³, until the Waroona/Yarloop fires in 2016. The planning area affected most by this fire was Gnarabup-Prevelly.

Table 14 - A total of 292 landscape fires were recorded by the Department of Fire and Emergency Services between 01/07/2010 and 29/02/2016 for locations within the Shire of Augusta-Margaret River

Bushfire ignition reason:	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Total
Burn Off Fires	15	19	14	10	12	8	78
Suspicious/Deliberate	4	4	12	12	16	11	59
Unreported	5	7	3	1	2	11	29
Undetermined	6	6	8	5	1	0	26
Re-ignition of previous fire	5	5	2	2	2	5	21
Power lines	2	3	2	7	1	6	21
Weather - Lightning	0	3	7	1	1	2	14
Campfires/Outdoor cooking	5	1	1	1	2	0	10
Other open flame or fire	3	3	2	0	0	0	8
Vehicles (Incl. farming equip/activities)	1	0	1	1	1	3	7
Electrical Distribution (Excl. power lines)	2	3	0	1	0	0	6
Cigarette	0	0	0	0	1	1	2
Equipment - Mechanical or electrical fault	0	1	0	0	1	0	2
Improper fuelling/cleaning/storage use of materials	0	0	2	0	0	0	2
Indoor appliances	1	0	1	0	0	0	2
Hot Works (Grinding/cutting)	0	0	0	0	0	1	1
Human Errors (Unattended/left on)	0	0	1	0	0	0	1
Service, Maintenance equipment	1	0	0	0	0	0	1
Sleeping/Alcohol/Drugs/Physical-Mental impairment	0	0	0	1	0	0	1
Other Weather Conditions (Excl. Lightning)	0	1	0	0	0	0	1
TOTAL	50	56	56	42	40	48	292

Trend analysis has identified that the planning area of Margaret River-Rosa Brook is the most frequent area for ignition having recorded almost 40% of landscape fires, as shown in figure 5. A large percentage of these ignitions were due to escaped burn off fires and suspicious/deliberate activities, table 15 below, shows the top 3 ignition reasons for each of the AMR planning areas. 54% of escaped burns off fires occur during the months of October, November and December. This fire history data should serve to influence the decision making process by identifying potential areas where fires are more likely to start and form the basis for implementing the appropriate treatment strategies. Targeted educational and preventative programs are just one example of allocating resources effectively to implement treatment strategies in the local planning areas where identified suspicious, deliberate and burn off activities are occurring most.

³³ Department of Fire and Emergency Services, Investigation of the house losses in Margaret River bushfire 23rd November 2011 (2012).

Figure 5 - Percentage breakdown of recorded landscape fires in each AMR Shire planning area 01/07/2010-29/02/2016

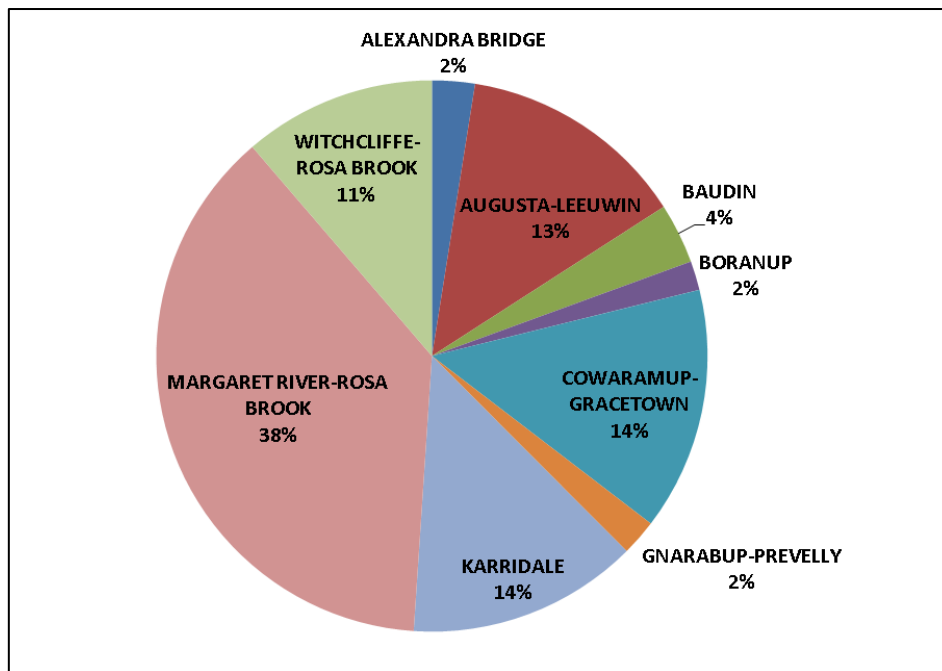


Table 15 - Shire of AMR BRMP areas with number of total fires recorded and top 3 reasons for ignition for each area

Shire of Augusta-Margaret River BRMP Planning Areas										
	Total reported fires 1/07/2010-29/02/2016	Augusta-Leeuwin (41)	Alexandra Bridge (8)	Baudin (11)	Boranup (5)	Cowaramup-Gracetown (42)	Gnarabup-Prevelly (8)	Karridale (37)	Margaret River-Rosa Brook (109)	Witchcliffe-Rosa Brook (31)
Top 3 Reasons for Ignition	1	Burn Off Fires	Burn Off Fires	Suspicious Deliberate	Suspicious Deliberate	Burn Off Fires	Campfires/Bonfires	Burn Off Fires	Suspicious Deliberate	Burn Off Fires
	2	Suspicious Deliberate	Power lines	Burn Off Fires	Lightning	Suspicious Deliberate	Suspicious Deliberate	Re-ignition of previous fires	Burn Off Fires	Powerlines
	3	Lightning	Suspicious Deliberate	Lightning	Unreported (No Data)	Lightning	Open Flame/Fire	Suspicious Deliberate	Re-ignition of previous fires	Lightning

4. Asset Identification and Risk Assessment

4.1 Planning Areas

The Shire of Augusta Margaret River has been divided into nine planning areas; Gnarabup-Prevelly, Augusta-Leeuwin, Margaret River-Rosa Brook, Cowaramup-Gracetown, Boranup, Alexandra Bridge, Karridale, Witchcliffe-Rosa Brook and Baudin.

Attached at **Appendix 2** is a map showing the boundaries of those planning areas identified within the Shire of Augusta Margaret River.

4.1.1 Priorities for Asset Identification and Assessment

The *Planning Area Assessment Tool* was applied to each planning area to determine the priorities for asset identification and assessment. Using the tool, each planning area was rated against six risk factors, with the highest scoring planning area being the first priority for asset identification and risk assessment.

Assets were identified and assessed in each planning area, based on the results of the planning area assessment outlined in the following table.

Table 16 – Planning Area Assessment Summary

Risk Factor	Margaret River – Rosa Brook	Augusta – Leeuwin	Gnarabup - Prevelly	Cowaramup - Gracetown	Witchcliffe – Rosa Brook
1. % of LG Population in Planning Area	80	40	20	20	20
2. Fuel Structures	60	60	80	40	40
3. Assets	80	60	60	40	20
4. Rural Urban Interface	80	60	60	60	60
5. Suppression response times	20	20	20	40	20
6. Suppression strategies	20	60	60	60	20
TOTAL	340	300	300	260	180
PRIORITY	1	2	3	4	5
Risk Factor	Alexandra Bridge	Karridale	Boranup	Baudin	
1. % of LG Population in Planning Area	20	20	20	20	
2. Fuel Structures	20	20	80	100	
3. Assets	20	20	20	20	
4. Rural Urban Interface	20	20	20	20	
5. Suppression response times	40	20	40	60	
6. Suppression strategies	20	20	80	40	
TOTAL	140	120	260	260	
PRIORITY	6	7	8	9	

N.B. The planning areas of Boranup and Baudin assume a lower priority due to low population and small amount of assets. The scores are higher than some of the other planning areas due to the fuel structures and suppression response times being higher. Factors such as expected population and dwelling growth have been taken into account when conducting this assessment

4.2 Asset Identification

Asset identification and risk assessment has been conducted at the local level using the methodology described in the Guidelines. Identified assets have been mapped, recorded and assessed in the Bushfire Risk Management System (BRMS). Identified assets are categorised into the following subcategories:

Table 17 – Asset Categories and Subcategories

Asset Category	Asset Subcategories
Human Settlement	<ul style="list-style-type: none"> • Residential areas Rural urban interface areas and rural properties. • Places of temporary occupation Commercial, mining and industrial areas located away from towns and population centres (that is, not adjoining residential areas). • Special risk and critical facilities Hospitals, nursing homes, schools and childcare facilities, tourist accommodation and facilities, prison and detention centres, government administration centres and depots, incident control centres, designated evacuation centres, police, fire and emergency services.
Economic	<ul style="list-style-type: none"> • Agricultural Pasture, grazing, livestock, crops, viticulture, horticulture and other farming infrastructure. • Commercial and industrial Major industry, waste treatment plants, mines, mills and processing and manufacturing facilities and cottage industry. • Critical infrastructure Power lines and substations, water and gas pipelines, telecommunications infrastructure, railways, bridges, port facilities and waste water treatments plants. • Tourist and recreational Tourist attractions and recreational sites that generate significant tourism and/or employment within the local area. • Commercial forests and plantations • Drinking water catchments
Environmental	<ul style="list-style-type: none"> • Protected Rare and threatened flora and fauna, ecological communities and wetlands. • Priority Fire sensitive species and ecological communities. • Locally important Nature conservation and research sites, habitats, species and communities, areas of visual amenity.
Cultural	<ul style="list-style-type: none"> • Aboriginal heritage

Asset Category	Asset Subcategories
	Places of indigenous significance. <ul style="list-style-type: none"> • Recognised heritage Assets afforded legislative protection through identification by the National Trust, State Heritage List or Local Planning Scheme Heritage List. • Local heritage Assets identified in a Municipal Heritage Inventory or by the community. • Other Other assets of cultural value, for example community centres and recreation facilities.

4.3 Assessment of Bushfire Risk

Risk assessments have been undertaken for each asset or group of assets identified using the methodology described in the Guidelines.

The percentage of assets within the local government in each asset category at the time of BRM Plan endorsement is shown in the following table.

Table 18 – Asset Category Proportions

Asset category	Proportion of identified assets
Human Settlement	
Economic	
Environmental	
Cultural	

4.3.1 Likelihood Assessment

Likelihood is described as the chance of a bushfire igniting, spreading and reaching an asset. The approach used to determine the likelihood rating is **the same for each asset category**: Human Settlement, Economic, Environmental and Cultural.

There are four possible likelihood ratings: almost certain, likely, possible, and unlikely.

Table 19 – Likelihood Ratings

Likelihood Rating	Description
Almost Certain (Sure to Happen)	<ul style="list-style-type: none"> • Is expected to occur in most circumstances; • High level of recorded incidents and/or strong anecdotal evidence; and/or • Strong likelihood the event will recur; and/or • Great opportunity, reason or means to occur; • May occur more than once in 5 years.
Likely (Probable)	<ul style="list-style-type: none"> • Regular recorded incidents and strong anecdotal evidence; and /or • Considerable opportunity, reason or means to occur; • May occur at least once in 5 years.
Possible (feasible but < probable)	<ul style="list-style-type: none"> • Should occur at some stage; and/or

Likelihood Rating	Description
	<ul style="list-style-type: none"> Few, infrequent, random recorded incidents or little anecdotal evidence; and/or Some opportunity, reason or means to occur.
Unlikely (Improbable, not likely)	<ul style="list-style-type: none"> Would only occur under exceptional circumstances.

4.3.2 Consequence Assessment

Consequence is described as the outcome or impact of a bushfire event. The approach used to determine the consequence rating is **different for each asset category**: Human Settlement, Economic, Environmental and Cultural.

There are four possible consequence ratings: minor, moderate, major and catastrophic.

Table 20 – Consequence Ratings

Consequence Rating	Descriptions
Minor	<ul style="list-style-type: none"> No fatalities. Near misses or minor injuries with first aid treatment possibly required. No persons are displaced. Little or no personal support (physical, mental, emotional) required. Inconsequential or no damage to an asset, with little or no specific recovery efforts required beyond the immediate clean-up. Inconsequential or no disruption to community. Inconsequential short-term failure of infrastructure or service delivery. (Repairs occur within 1 week; service outages last less than 24 hours.) Inconsequential or no financial loss. Government sector losses managed within standard financial provisions. Inconsequential business disruptions.
Moderate	<ul style="list-style-type: none"> Isolated cases of serious injuries, but no fatalities. Some hospitalisation required, managed within normal operating capacity of health services. Isolated cases of displaced persons who return within 24 hours. Personal support satisfied through local arrangements. Localised damage to assets that is rectified by routine arrangements. Community functioning as normal with some inconvenience. Isolated cases of short to mid-term failure of infrastructure and disruption to service delivery. (Repairs occur within 1 week to 2 months, service outages last less than 1 week.) Local economy impacted with additional financial support required to recover. Government sector losses require activation of reserves to cover loss. Disruptions to businesses lead to isolated cases of loss of employment or business failure. Isolated cases of damage to environmental or cultural assets, one-off recovery efforts required, but with no long term effects to asset.
Major	<ul style="list-style-type: none"> Isolated cases of fatalities.

Consequence Rating	Descriptions
	<ul style="list-style-type: none"> • Multiple cases of serious injuries. Significant hospitalisation required, leading to health services being overstretched. • Large number of persons displaced (more than 24 hours' duration). • Significant resources required for personal support. • Significant damage to assets, with ongoing recovery efforts and external resources required. • Community only partially functioning. Widespread inconvenience, with some services unavailable. • Mid to long-term failure of significant infrastructure and service delivery affecting large parts of the community. Initial external support required. (Repairs occur within 2 to 6 months; service outages last less than a month.) • Local or regional economy impacted for a significant period of time with significant financial assistance required. Significant disruptions across industry sectors leading to multiple business failures or loss of employment. • Significant damage to environmental or cultural assets that require major rehabilitation or recovery efforts. • Localised extinction of native species. This may range from loss of a single population to loss of all of the species within the BRM Plan area (for a species which occupies a greater range than just the BRM Plan area).
Catastrophic	<ul style="list-style-type: none"> • Multiple cases of fatalities. • Extensive number of severe injuries. • Extended and large number requiring hospitalisation, leading to health services being unable to cope. • Extensive displacement of persons for extended duration. • Extensive resources required for personal support. • Extensive damage to assets that will require significant ongoing recovery efforts and extensive external resources. • Community unable to function without significant support. • Long-term failure of significant infrastructure and service delivery affecting all parts of the community. Ongoing external support required. (Repairs will take longer than 6 months, service outages last more than 1 month.) • Regional or State economy impacted for an extended period of time with significant financial assistance required. Significant disruptions across industry sectors leading to widespread business failures or loss of employment. • Permanent damage to environmental or cultural assets. • Extinction of a native species in nature. This category is most relevant to species that are restricted to the BRM Plan area, or also occur in adjoining areas and are likely to be impacted upon by the same fire event. 'In nature' means wild specimens and does not include flora or fauna bred or kept in captivity.

The methodology used to determine the consequence rating for each asset category is based on the following:

- **Consequence Rating - Human Settlement Assets**

The outcome or impact of a bushfire event on the asset, or a group of assets, measured by the threat posed by the hazard vegetation and the vulnerability of the asset.

- **Consequence Rating - Economic Assets**

The outcome or impact of a bushfire event on the asset, or a group of assets, measured by the level of economic impact and the recovery costs.

- **Consequence Rating - Environmental Assets**

The outcome or impact of a bushfire event on the asset, or a group of assets, measured by the vulnerability of the asset and the potential impact of a bushfire or fire regime.

- **Consequence Rating - Cultural Assets**

The outcome or impact of a bushfire event on the asset, or a group of assets, measured by the threat posed by the hazard vegetation and the vulnerability of the asset.

4.3.3 Assessment of Environmental Assets

Using available biological information and fire history data, environmental assets with a known minimum fire threshold were assessed to determine if they were at risk from bushfire, within the five-year life of the BRM Plan. Environmental assets that would not be adversely impacted by bushfire within the five-year period have not been included and assessed in the BRM Plan. The negative impact of a fire on these assets (within the period of this BRM Plan) was determined to be minimal, and may even be of benefit to the asset and surrounding habitat.

4.3.4 Local Government Asset Risk Summary

A risk profile for the local government is provided in the summary table below. This table shows the proportion of assets at risk from bushfire in each risk category at the time the BRM Plan was endorsed.

Table 21 - Local Government Asset Risk Summary

Risk Rating \ Asset Category	Low	Medium	High	Very High	Extreme
Human Settlement					
Economic					
Environmental					
Cultural					

5. Risk Evaluation

5.1 Evaluating Bushfire risk

The risk rating for each asset has been assessed against the likelihood and consequence descriptions to ensure:

- The rating for each asset reflects the relative seriousness of the bushfire risk to the asset;
- Likelihood and consequence ratings assigned to each asset are appropriate; and
- Local issues have been considered.

5.2 Treatment Priorities

The treatment priority for each asset has been automatically assigned by BRMS, based on the asset's risk rating. Table 22 shows how likelihood and consequence combine to give the risk rating and subsequent treatment priority for an asset.

Table 22 – Treatment Priorities

Consequence Likelihood	Minor	Moderate	Major	Catastrophic
Almost certain	3D (High)	2C (Very High)	1C (Extreme)	1A (Extreme)
Likely	4C (Medium)	3A (High)	2A (Very High)	1B (Extreme)
Possible	5A (Low)	4A (Medium)	3B (High)	2B (Very High)
Unlikely	5C (Low)	5B (Low)	4B (Medium)	3C (High)

5.3 Risk Acceptability

Risks below a certain level were not considered to require specific treatment during the life of this BRM Plan. They will be managed by routine local government wide controls and monitored for any significant change in risk.

In most circumstances risk acceptability and treatment will be determined by the land owner, in collaboration with local government and fire agencies. However, as a general rule, the following courses of action have been adopted from the Shire's *Risk Management Framework* risk acceptance criteria, for each risk rating.

Table 23 – Criteria for Acceptance of Risk and Course of Action

Risk Rating	Criteria for Acceptance of Risk	Course of Action
Extreme (Priorities 1A, 1B, 1C)	Only acceptable with excellent controls. Urgent treatment action is required. Treatment plans to be explored and implemented. Highest level of authority notified.	Routine controls are not enough to adequately manage the risk. Immediate attention required as a priority. Specific action is required in first year of BRM Plan. Continuous monitoring required.
Very High (Priorities 2A, 2B, 2C)	Only acceptable with excellent controls. Treatment action is required. Senior Shire officer's and council notified.	Routine controls are not enough to adequately manage the risk. Specific action will be required during the period covered by the BRM Plan. Quarterly monitoring may be required.
High (Priorities 3A, 3B, 3C, 3D)	Only acceptable with adequate controls. Treatment action may be required.	Specific action may be required. Risk may be managed with routine controls and/or specific procedures and is subject to semi-annual monitoring.
Medium (Priorities 4A, 4B, 4C)	Acceptable with adequate controls. Treatment action is not required but risk must be monitored.	Specific action may not be required. Risk may be managed with routine controls and/or procedures and monitored as required throughout the life of the BRM Plan.
Low (Priorities 5A, 5B, 5C)	Risk acceptable with adequate controls, managed by routine procedures or controls and subject to monitoring. Treatment is not required.	The need for specific action is unlikely. Risk will be managed with routine controls or procedures and monitored as required.

6. Risk Treatment

The purpose of risk treatment is to reduce the likelihood of a bushfire occurring and/or the potential impact of a bushfire on the community, economy and environment. This is achieved by implementing treatments that modify the characteristics of the hazard, the community or the environment.

There are many strategies available to treat bushfire risk. The treatment strategy (or combination of treatment strategies) selected will depend on the level of risk and the type of asset being treated. Not all treatment strategies will be suitable in every circumstance.

6.1 Local Government-Wide Controls

Local Government-wide controls are activities that reduce the overall bushfire risk within the Shire of Augusta Margaret River. These types of treatments are not linked to specific assets, and are applied across all or part of the local government as part of normal business or due to legislative requirements. The following controls are currently in place across the Shire of Augusta Margaret River:

- *Bush Fires Act 1954* Section 33 notices, including applicable fuel management requirements, firebreak standards and annual enforcement programs;
- Declaration and management of Prohibited Burn Times, Restricted Burn Times and Total Fire Bans for the local government (annual Shire Firebreak and Fuel Reduction Notice);
- Public education campaigns and the use of P&W and DFES state-wide programs, tailored to suit local needs;
- State-wide arson prevention programs developed in conjunction with WA Police and DFES;
- State planning framework and local planning schemes, implementation of appropriate land subdivision and building standards in line with DFES, Department of Planning and Building Commission policies and standards;
- Monitoring performance against the BRM Plan and reporting annually to the local government council and OBRM;
- The Department of Fire and Emergency Services (DFES) is responsible for the management of fire prevention on 0.4% of Unallocated Crown Land (UCL) and Unmanaged Reserves (UMR) within gazetted town site boundaries under a memorandum of understanding with the Department of Lands;
- Parks and Wildlife Annual mitigation works programs (includes mechanical works and prescribed burns that may not directly influence level of risk to a specific asset or group of assets)
- Western Power Annual Vegetation Management and asset inspection activities in Extreme and High Bushfire Risk areas completed by November 30th. (WP deems Margaret River Extreme Risk);
- Nation Trust Western Australia (NTWA), Parkwater Fire Management Plan (Cowaramup, Parkwater Estate). Fuel Load Reduction works completed annually and the plan is reviewed annually by October 31st;
- All Fire Management Plans including but not limited to, land developments and estates. Plans are available through the Planning department at the Shire;
- The Shire of Augusta Margaret River, Parks and Gardens annual hazard reduction works program (includes, spraying, slashing and pruning in and around established Townsites). Priority given to populated Townsites first (known works will be captured in the Bushfire Risk Management treatment schedule),

- Water Corporation Bushfire Risk Mitigation Program (Water corporation sites due to be assessed within the Shire by Water Corp. staff. Only High to Extreme risk sites will be communicated to the BRMO/BRPC once completed), and;
- Get Ready Program, including Bushfire Ready months. Community Bushfire Ready Groups facilitated by two local residents (one North and one South of region). Includes promotional messages, street parties, resources, flyers and community communication and consultation activities. Joint initiative: LG, DFES, Red Cross and other community groups and associations.

A multi-agency work plan has been developed and is attached at **Appendix 3**. The plan details work to be undertaken as a part of normal business, to improve current controls or to implement new controls to better manage bushfire risk across the local government.

6.2 Asset-Specific Treatment Strategies

Asset-specific treatments are implemented to protect an individual asset or group of assets, identified and assessed in the BRM Plan as being at risk from bushfire. There are six asset specific treatment strategies:

- **Fuel management** - Treatment reduces or modifies the bushfire fuel through manual, chemical and prescribed burning methods;
- **Ignition management** - Treatment aims to reduce potential human and infrastructure sources of ignition in the landscape;
- **Preparedness** - Treatments aim to improve access and water supply arrangements to assist firefighting operations;
- **Planning** - Treatments focus on developing plans to improve the ability of firefighters and the community to respond to bushfire; and
- **Community Engagement** - Treatments seek to build relationships, raise awareness and change the behaviour of people exposed to bushfire risk.
- **Other** - Local government-wide controls, such as community education campaigns and planning policies, will be used to manage the risk. Asset-specific treatment is not required or not possible in these circumstances.

6.3 Determining the Treatment Schedule

Efforts will be made to finalise the Treatment Schedule within six months of this BRM Plan being endorsed by council. The Treatment Schedule will be developed in broad consultation with land owners and other stakeholders.

Land owners are ultimately responsible for treatments implemented on their own land. This includes any costs associated with the treatment and obtaining the relevant approvals, permits or licences to undertake an activity. Where agreed, another agency may manage a treatment on behalf of a land owner. However, the onus is still on the land owner to ensure treatments detailed in this BRM Plan are completed.

7. Monitoring and Review

Monitoring and review processes are in place to ensure that the BRM Plan remains current and valid. These processes are detailed below to ensure outcomes are achieved in accordance with the *Communication Strategy* and *Treatment Schedule*.

7.1 Review

A comprehensive review of this BRM Plan will be undertaken at least once every five years, from the date of council endorsement. This shall be undertaken by the BRPC and BRMO in the first instance. Significant circumstances that may warrant an earlier review of the BRM Plan include:

- Changes to the BRM Plan area, organisational responsibilities or legislation;
- Changes to the bushfire risk profile of the area; or
- Following a major fire event.

7.2 Monitoring

The BRPC and BRMO are responsible for monitoring. BRMS will be used to monitor the risk ratings for each asset identified in the BRM Plan and record the treatments implemented. Risk ratings are reviewed on a regular basis. New assets will be added to the *Asset Risk Register* when they are identified.

7.3 Reporting

The Shire of Augusta Margaret River will submit an annual report to OBRM each year summarising progress made towards implementation of the BRM Plan.

Quarterly reports of progress against BRMP shall be provided to the Local Government council by the Bushfire Risk Planning Coordinator or the Community Emergency Services Manager. Reporting may also be made at the request of council and/or Senior Management or Staff of the Shire of Augusta Margaret River.

Ongoing consultation with OBRM shall be made at least yearly by reporting progress made on BRMP within the shire. Yearly monitoring, review and reporting shall be completed by the BRPC/BRMO. Five-yearly reviews of the BRM Plan and other BRMP reports are also to be completed by the BRPC in consultation with the BRMO.

Consideration shall be given to publicly reporting the mitigation activities completed by the Shire via the Shire's website or other appropriate means of communication. For example, this could be reporting on compliance to the Shire's annual indicative burn program.

8. Glossary

Asset	A term used to describe anything of value that may be adversely impacted by bushfire. This may include residential houses, infrastructure, commercial, agriculture, industry, environmental, cultural and heritage sites.
Asset Category	There are four categories that classify the type of asset – Human Settlement, Economic, Environmental and Cultural.
Asset Owner	The owner, occupier or custodian of the asset itself. Note: this may differ from the owner of the land the asset is located on, for example a communication tower located on leased land or private property.
Asset Register	A component within the Bushfire Risk Management System used to record the details of assets identified in the Bushfire Risk Management Plan.
Asset Risk Register	A report produced within the Bushfire Risk Management System that details the consequence, likelihood, risk rating and treatment priority for each asset identified in the Bushfire Risk Management Plan.
Bushfire	Unplanned vegetation fire. A generic term which includes grass fires, forest fires and scrub fires both with and without a suppression objective. ³⁴
Bushfire Management Plan	A document that sets out short, medium and long term bushfire risk management strategies for the life of a development. ³⁵
Bushfire risk management	A systematic process to coordinate, direct and control activities relating to bushfire risk with the aim of limiting the adverse effects of bushfire on the community.
Bushfire Threat	The threat posed by the hazard vegetation, based on the vegetation category, slope and separation distance.
Consequence	The outcome or impact of a bushfire event.
Draft Bushfire Risk Management Plan	The finalised draft Bushfire Risk Management Plan (BRM Plan) is submitted to the OBRM for review. Once the OBRM review is complete, the BRM Plan is called the 'Final BRM Plan' and can be progressed to local government council for endorsement.
Emergency Risk Management Plan	A document (developed under Policy 3.2, <i>Emergency Risk Management Planning and Prevention Procedure 1</i>) that describes how an organisation(s) intends to undertake the activities of emergency risk management based on

³⁴ Australasian Fire and Emergency Service Authorities Council 2012, *AFAC Bushfire Glossary*, AFAC Limited, East Melbourne.

³⁵ Western Australian Planning Commission 2015, *State Planning Policy 3.7: Planning in Bushfire Prone Areas*, WAPC, Perth.

	minimising risk. These plans help inform the ongoing development of Local Emergency Management Arrangements (LEMA) and Westplans.
Geographic Information System (GIS)	A data base technology, linking any aspect of land-related information to its precise geographic location. ³⁶
Geographic Information System (GIS) Map	The mapping component of the Bushfire Risk Management System. Assets, treatments and other associated information is spatially identified, displayed and recorded within the GIS Map.
Land Owner	The owner of the land, as listed on the Certificate of Title; or leaser under a registered lease agreement; or other entity that has a vested responsibility to manage the land.
Likelihood	The chance of something occurring. In this instance, the chance of a bushfire igniting, spreading and reaching the asset.
Locality	The officially recognised boundaries of suburbs (in cities and larger towns) and localities (outside cities and larger towns).
Planning Area	A geographic area determine by the local government which is used to provide a suitable scale for risk assessment and stakeholder engagement.
Priority	See Treatment Priority.
Recovery Cost	The capacity of an asset to recover from the impacts of a bushfire.
Responsible Person	The person responsible for planning, coordinating, implementing, evaluating and reporting on a risk treatment.
Risk acceptance	The informed decision to accept a risk, based on the knowledge gained during the risk assessment process.
Risk analysis	The application of consequence and likelihood to an event in order to determine the level of risk.
Risk assessment	The systematic process of identifying, analysing and evaluating risk.
Risk evaluation	The process of comparing the outcomes of risk analysis to the risk criteria in order to determine whether a risk is acceptable or tolerable.
Risk identification	The process of recognising, identifying and describing risks.

³⁶ Landgate 2015, *Glossary of terms*, Landgate, Perth

Risk Manager	The organisation or individual responsible for managing a risk identified in the Bushfire Risk Management Plan; including review, monitoring and reporting.
Risk Register	A component within the Bushfire Risk Management System used to record, review and monitor risk assessments and treatments associated with assets recorded in the Bushfire Risk Management Plan.
Risk treatment	A process to select and implement appropriate measures undertaken to modify risk.
Rural	Any area where in residences and other developments are scattered and intermingled with forest, range, or farm land and native vegetation or cultivated crops. ³⁷
Rural Urban Interface (RUI)	The line or area where structures and other human development adjoin or overlap with undeveloped bushland. ³⁸
Slope	The angle of the ground's surface measured from the horizontal.
Tenure Blind	An approach where multiple land parcels are consider as a whole, regardless of individual ownership or management arrangements.
Treatment	An activity undertaken to modify risk, for example a prescribed burn.
Treatment Objective	The specific aim to be achieved or action to be undertaken, in order to complete the treatment. Treatment objectives should be specific and measurable.
Treatment Manager	The organisation, or individual, responsible for all aspects of a treatment listed in the Treatment Schedule of the Bushfire Risk Management Plan, including coordinating or undertaking work, monitoring, reviewing and reporting.
Treatment Priority	The order, importance or urgency for allocation of funding, resources and opportunity to treatments associated with a particular asset. The treatment priority is based on an asset's risk rating.
Treatment Schedule	A report produced within the Bushfire Risk Management System that details the treatment priority of each asset identified in the Bushfire Risk Management Plan and the treatments scheduled.

³⁷ Australasian Fire and Emergency Service Authorities Council 2012, *AFAC Bushfire Glossary*, AFAC Limited, East Melbourne

³⁸ Australasian Fire and Emergency Service Authorities Council 2012, *AFAC Bushfire Glossary*, AFAC Limited, East Melbourne

- Treatment Strategy** The broad approach that will be used to modify risk, for example fuel management.
- Treatment Type** The specific treatment activity that will be implemented to modify risk, for example a prescribed burn.
- Vulnerability** The susceptibility of an asset to the impacts of bushfire.

9. Common Abbreviations

APZ	Asset Protection Zone
BRMP	Bushfire Risk Management Planning
BRMS	Bushfire Risk Management System
CALD	Culturally and Linguistically Diverse
DEMC	District Emergency Management Committee
DFES	Department of Fire and Emergency Services
ERMP	Emergency Risk Management Plan
FFDI	Forest Fire Danger Index
FMP	Fire Management Plan
GFDI	Grassland Fire Danger Index
GIS	Geographic Information System
HSZ	Hazard Separation Zone
JAFFA	Juvenile and Family Fire Awareness
LEMA	Local Emergency Management Arrangements
LEMC	Local Emergency Management Committee
LG	Local Government
LMZ	Land Management Zone
OBRM	Office of Bushfire Risk Management
P&W	Parks and Wildlife (Department of)
SEMC	State Emergency Management Committee
SLIP	Shared Land Information Platform
WAPC	Western Australian Planning Commission

Appendices

1 Communication Strategy

2 Planning Area Map

3 Local Government-Wide Controls, Multi-Agency Treatment Work Plan



Shire of Augusta Margaret River

Bushfire Risk Management Planning
Communication Strategy

Document Control

Document Name	Bushfire Risk Management Plan Communications Strategy	Current Version	1.0
Document Owner	Shire of Augusta Margaret River CEO	Issue Date	
Document Location	Synergy Central Records EMS/50	Next Review Date	

Related Documents

Title	Version	Date
Shire of Augusta Margaret River Bushfire Risk Management Plan	1.0	

Amendment List

Amendment List	

1 INTRODUCTION

A Bushfire Risk Management Plan (BRM Plan) is a strategic document that outlines the approach to the identification, assessment and treatment of assets exposed to bushfire risk within the Shire of Augusta Margaret River. This Communication Strategy accompanies the BRM Plan for the Shire of Augusta Margaret River. It documents the communication objectives for the BRM Plan, roles and responsibilities for communication, key stakeholders, target audiences and key messages at each project stage, communication risks and strategies for their management, and communication monitoring and evaluation procedures.

2 COMMUNICATIONS OVERVIEW

Communication Objectives

The communication objectives for the development, implementation and review of the BRM Plan for the Shire of Augusta Margaret River are as follows:

1. Key stakeholders understand the purpose of the BRM Plan and their role in the bushfire risk management planning process.
2. Stakeholders who are essential to the bushfire risk management planning process, or can supply required information, are identified and engaged in a timely and effective manner.
3. Relevant stakeholders are involved in decisions regarding risk acceptability and treatment.
4. Key stakeholders engage in the review of the BRM Plan as per the schedule in place for the local government area.
5. The community and other stakeholders engage with the bushfire risk management planning process and as a result are better informed about bushfire risk and understand their responsibilities to address bushfire risk on their own land.
6. Strengthen Shire of Augusta Margaret River corporate objectives as listed in Corporate Plan 2015-2019:
 - 2.3 *Strong community groups and networks and,*
 - 2.6 *Safer Communities*

Communication Roles and Responsibilities

Shire of Augusta Margaret River is responsible for the development, implementation and review of the Communication Strategy. Key stakeholders support local government by participating in the development and implementation of the Communications Strategy as appropriate. An overview of communication roles and responsibilities follows:

- CEO, Shire of Augusta Margaret River responsible for endorsement of the BRM Plan Communications Strategy.
- Director, Corporate and Community Services Shire of Augusta Margaret River, responsible for monitoring and reporting on the BRM Plan and Communications Strategy.
- Marketing and Events Officer, Shire of Augusta Margaret River responsible for external communication with the local government area.

- Community Emergency Services Manager, Shire of Augusta Margaret River responsible for internal and external communication with LGA, monitoring and reporting on the BRM Plan and Communication Strategy.
- Bushfire Risk Management Planning Coordinator, Shire of Augusta Margaret River responsible for operational-level communication between the Shire and the Department of Fire and Emergency Services.
- Bushfire Risk Management Officer, Department of Fire and Emergency Services responsible for operational-level communication between Shire, Department of Fire and Emergency Services and the Office of Bushfire Risk Management.
- Chief and Deputy Bushfire Control Officer's, Shire of Augusta Margaret River responsible for communicating BRM Plan to Shire Volunteer Bushfire Brigades.

Key Stakeholders for Communication

The following table identifies key stakeholders in bushfire risk management planning. These are stakeholders that are identified as having a significant role or interest in the planning process or are likely to be significantly impacted by the outcomes.

Stakeholder	Role or interest	Level of impact of outcomes	Level of engagement
Government Agencies	Land Managers / Coordinators of BRMP Identify Valued Assets	High	Inform, involve and Consult
Interest Groups	Awareness of BRMP, Consultation and expert advice Identify valued assets	Medium	Inform, consult, empower
Service Providers	Critical Infrastructure / Treatment strategies Identify valued assets	Medium	Collaborate, inform, consult
Landowners / Residents	Concerned / Bushfire ready / treatments & education Identify Valued assets	Medium	Inform, consult and empower
Business Owners	Concerned Land Managers / Impact of bushfire on business Identify valued assets	Low	Inform, consult and empower

Communications Plan

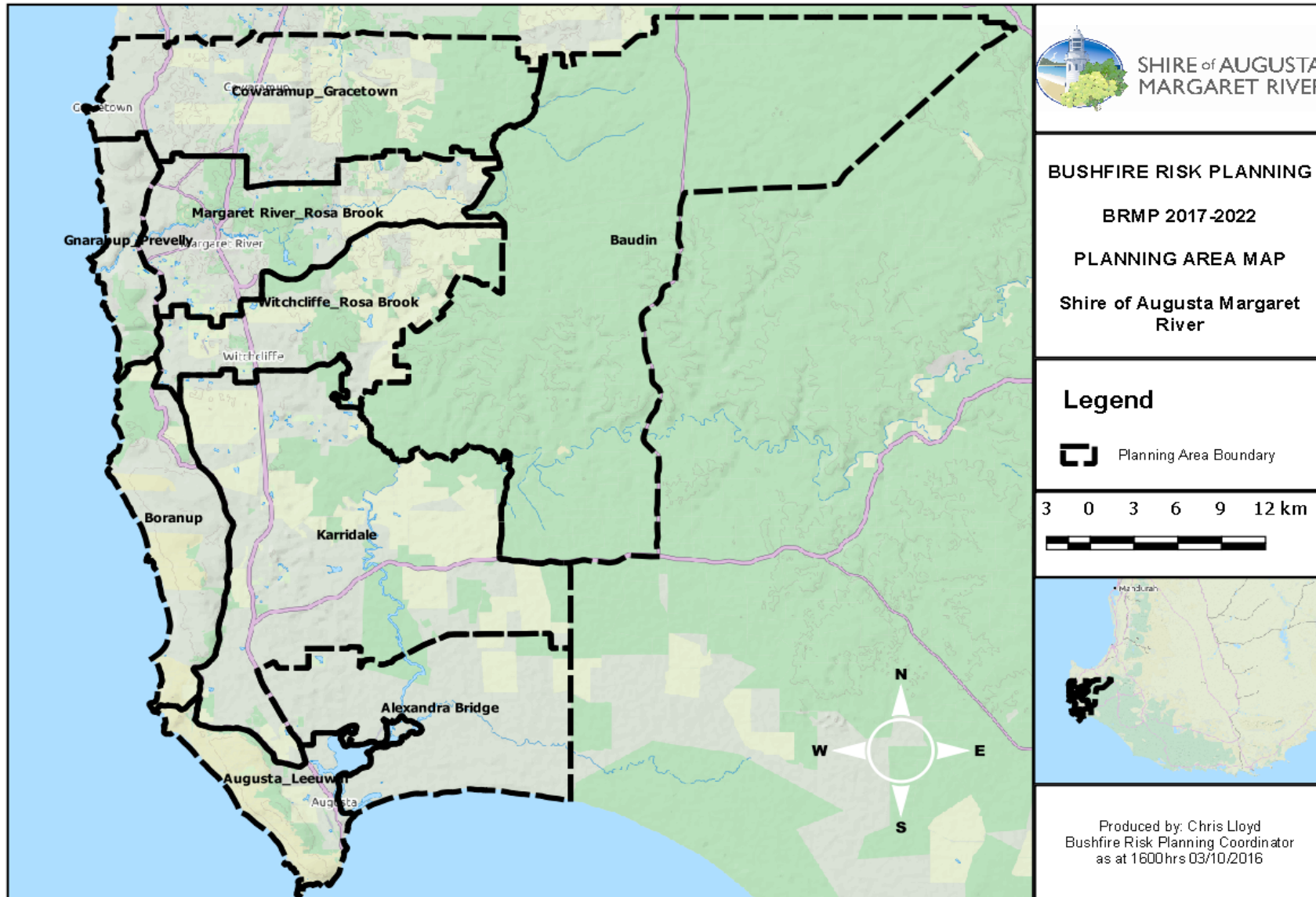
Timing of Communication	Stakeholder (s)	Communication Objective(s)	Communication Method	Key Message or Purpose	Responsibility	Identified Risks to Communication	Strategy to Manage Risks	Monitoring and Evaluation Method
Development of the BRM Plan								
Life of plan	Shire of AMR CEO, Senior Leadership Team and Staff	All (1-6)	Emails Meetings (Quarterly) Shire Website and Intranet	Informed, consulted, accountable or responsible. Review and input into Plan.	BRPC or Director of Corporate & Community Services	Time constraints No clear message Incorrect audience	Careful planning and time management	Feedback, questions and level of support received
Life of plan	Bushfire Advisory Committee (BFAC)	All (1-6)	Meetings (Quarterly) Face to Face (presentations in council chambers)	Engaged in process of BRMP Treatment Schedule and Risk Analysis	BRPC and CESM	Plan not complete Treatments not negotiated Time constraints	Prepare presentation for each BFAC Give updates as required	Feedback, treatments negotiated and supported by committee.
Life of plan	FCO's, BFB Captains, VFRS Captains	All (1-6)	Meetings organised with Each brigade or as required	Engaged in process of BRMP Identify Risk, and share information	BRPC CESM	Time constraints No plan, unorganised Availability of volunteers	Careful planning and time management Express value of meeting	Feedback, support for BRMP process Engaged

01/02/2016 - 01/07/2017	Home Owners Land Managers & Interest groups or businesses. Absentee Landowners	1, 2 & 6	Media (Newspaper) Shire Website Face to face meetings Community workshops and forums. Mail outs to landowners who live elsewhere.	Inform of the BRMP process Identify valued assets Identify existing controls. Inform of process.	BRPC/BRMO	Media not reaching majority Workshops and forums could get abstracted by other agendas. Absentee landowners missed.	Newspaper and website details Chair meetings with strict agenda and purpose	Engaged throughout process Feedback received Success of outcomes. Surveys for absentees.
01/02/2016 – 01/07/2017	State Agencies, Service providers and other Stakeholders (WP, WC, National Trust etc.)	All (1-6)	Emails Face to Face Meetings Telephone	Inform of BRMP process Identify assets at risk Identify existing controls/programs	BRPC/BRMO	Time constraints and travel Level of interest and engagements in process	Select appropriate channel of communication Prepare materials and good planning	High engagement and participation levels Good feedback and interest in program
Life of Plan	Parks and Wildlife (Biodiversity and Fire Management)	All (1-6)	Emails / Website Face to face Meetings Telephone	Inform BRMP Identify & risk assess Environmental assets List existing controls where possible	BRPC/BRMO	Sensitive information Reliable Data Limited research in region	Identify existing controls/plans PaW responsible for Enviro. Assets and control of risks	Regular contact and sharing of information Ongoing stakeholder consultation required

Implementation of the BRM Plan								
Life of plan	Shire of AMR CEO, Senior Leadership Team and Staff	All (1-6)	Emails Meetings (Quarterly) Shire Website and Intranet	Informed, consulted, accountable or responsible. Review and input into Plan. Progress to plan	BRPC, CESM or Director of Corporate & Community Services	Time constraints Availability Lack of understanding Budget (for LG mitigation)	Careful planning and time management Clear purpose Clear communication and regular updates	Feedback, questions and level of support received
Life of Plan	Stakeholder group	All (1-6)	Emails Website Telephone	Informed, consulted, accountable or responsible. Review and input into Plan. Progress to plan	BRPC/BRMO	Availability Located out of local/district area Commitment lost	Well planned and executed sharing of information Negotiations conducted	Feedback and commitment received to implement agreed controls Highly engaged
Life of Plan	BFAC Meetings	All (1-6)	Meetings (Quarterly) Face to Face (presentations in council chambers)	Report on progress to plan Report issues/constraints	BRPC/BRMO	Poor communication from stakeholders and LG on completion of works	Collate data and report on success to plan Compliance to plan	Good feedback received on works FCO's pleased with work to date
Review of the BRM Plan								
Yearly (Shire)	Shire of AMR CEO, Councillors and Staff	All (1-6)	Email Meetings	Review, Monitor and Reporting Endorse plan	BRPC/BRMO	Poor reporting and recording of information	BRPC & BRMO to record data and information appropriately	Feedback from Council received

5 Yearly (Shire, DFES and OBRM)	OBRM, BRMO, BRMB, BRPC & LG Council			Compliance to plan and acceptance of risk		Review not completed by BRMB and OBRM	Approved by BRMB and OBRM for LG	Work completed as a result of plan Good reporting
Quarterly	Shire of AMR	All (1-6)	Email Shire Intranet (Interplan reporting system)	Report on actions and key performance indicators for BRMP process	BRPC	Objectives not clearly set out Key actions not identified	Discuss with Shire CEO and Director Clear objectives set	Good reporting and feedback from CEO and Director on work completed

Planning Area Map



Bushfire Risk Management Planning – Local Government-wide controls, Multi-agency treatment work plan

Control	Action or Activity Description	Lead Agency	Other Stakeholder(s)	Notes and Comments	
01	Shire of AMR, Local firebreak and hazard reduction laws (<i>Bush Fires Act 1954</i>)	Annual Firebreak and Fuel Reduction Notice	Local Government	FCO's, brigades and land owners	Local law established to ensure land owners understand and comply to firebreak specifications as well as appropriately reducing fuel load and risk on their properties. Notice reviewed annually. Rangers inspect compliance to the notice and fines apply if non-compliant.
02	Shire of AMR Prohibited, Restricted burn times (<i>Bush Fires Act 1954</i> Sect. 17 & 18)	The Restricted and Prohibited Burn times set the requirement that 'a permit to set fire to the bush' must be obtained.	Local Government	Chief FCO, FCO's, CESM, Rangers and the public.	Issuing of permits by authorised Fire Control Officer's is completed during the restricted and prohibited burn times.
03	Shire of AMR mitigation works	The Shire's Parks and Gardens team has annual works programs to reduce fuel load and remove hazards.	Local Government	Public (reporting hazards and concern of risk) The Shire's Fire and Emergency Services Team and Rangers	Tracked through the Shire's <i>Intramaps</i> mapping system, the Parks & Gardens team targets work on Townsites with highest population and/or as identified by the BRMP process. Work includes, slashing, spraying, mulching, pruning and other mechanical treatments.
04	DFES UCL/UMR land management	Preparedness, mitigation work conducted on lands owned by DoL and managed by DFES under a MOU	DFES (Lower South West office)	P&W, LG, Local brigades	Annual budgeting has been completed to include mitigating risk on UCL/UMR. Lower South West BRMO's have these plans included in their scope of work.
05	Shire of AMR, Burn Program (annual indicative plans)	Local Government has annual burn plans for Shire owned or vested reserves.	Local Government	DFES, P&W, Local brigades, Public	The CESM of the Shire is tasked with Bushfire Mitigation on Shire reserves. Annual burn plans are available. The BRM Plan will now prioritise the reserves for hazard reduction burns. Shire <i>Intramaps</i> mapping system is currently recording information.
06	Parks and Wildlife (P&W) Master Burn Plans	P&W have a 6 season burn program that is published on their website. Yearly plans are available.	P&W	Local brigades, DFES, LG	The plans can be accessed via their website, by sharing shape files (GIS) and are communicated at Local BFAC, ROAC and other various meetings.
07	Parks and Wildlife mitigation works	P&W conduct mulching and other mechanical treatments to reduce fuel load or provide fire access.	P&W	DFES, LG	No formal plan exists however, works are completed as required, upon request or when identified.

Control	Action or Activity Description	Lead Agency	Other Stakeholder(s)	Notes and Comments	
08	Parks and Wildlife - Forest Management Plan 2014-2023. Environmental Value Plans (Nature conservation parks/reserves)	National Park, State Forest and conservation area biodiversity and fire management strategies/plans. Data held for flora and fauna species (including rare and/or threatened species). Timber Harvest Plans.	P&W	DFES, LG, Community Environmental Groups	Provides strategic objectives for the management of fire and biodiversity in the park. Sits behind the annual works developed by the Fire Working Group. P&W manage all environmental values throughout the Shire. The Forest management Plan sets out management activities to protect forest values and balance the many ways the forests are used including rolling three-year indicative timber harvest plans.
09	The <i>Regional Forest Agreement for the South-West Forest Region of Western Australia</i> (WA RFA)	The WA RFA is a 20-year agreement between the State and Commonwealth governments on the use and management of the forests of Western Australia's south-west. The WA RFA was signed on 4 May 1999 and expires in 2019.	Department of Agriculture and Water Resources, P&W	P&W, DFES, LG, Forestry Industry, Community Environmental Groups/Stakeholders	It meets the three main objectives of the RFA process: <ul style="list-style-type: none"> to protect environmental values in a world class system of national parks and other reserves, based on nationally agreed criteria; to encourage job creation and growth in forest-based industries, including wood products, tourism and minerals; and to manage all native forests in a sustainable way. For the environment, it established a world class reserve system which is Comprehensive, Adequate and Representative of the forests' biodiversity, old-growth forest, and other natural and cultural values.
10	Water Corporation Bushfire Risk Management Program	Bushfire Risk Management Plan. A Bushfire Risk Management Project is under way for the Water Corp.	Water Corporation	DFES, LG	A plan is currently being developed. High risk areas are identified and treatments planned then completed. Treatments and risk assessments are available through Water Corp Bushfire Risk Management department. Some high risk areas have been identified in the Shire to date.
11	Western Power annual asset inspection and vegetation management program	Western Power Bushfire Plan	Western Power	DFES, LG, P&W	The Shire of Augusta Margaret River is identified as an extreme fire risk area resulting in a prioritised mitigation program compared to other LGA's. Annual vegetation management and asset inspections are completed to ensure risk is managed. Full asset inspections are completed every 4 years.

Control	Action or Activity Description	Lead Agency	Other Stakeholder(s)	Notes and Comments	
12	National Trust WA	Parkwater Fire Management Plan	National Trust WA	LG. Cowaramup Fire Brigade	Annual plans for mitigation works exist. These range from mechanical works to hazard reduction burns. Burns are completed on an 8-10-year cycle. NT only manages land in the Cowaramup locality.
13	Land sub-division & building (WAPC)	Requirement for estate, sub-division, and other Fire Management Plans	Local Government	Local Brigades, contractors and FCO's	Land developers are required to implement a Fire Management Plan to ensure risk is managed and other controls implemented and monitored.
14	Planning in Bushfire Prone Areas	Planning in bushfire prone areas. E.g. State Planning Policy 3.7 and standards.	WAPC	LG, DFES, P&W, land owners	Foundation for land use planning. Directs how land use should address bushfire risk management in WA. It aims to preserve life and reduce impact on property and infrastructure. The Shire aligns its policy and standards with SPP 3.7. BAL assessments are required.
15	Pine Plantation Fire Management Plans	The Forest Product Commission (FPC) has implemented fire management plans for the Bramley plantation.	FPC	P&W, LG, DFES	Minimum requirements and controls have been committed to within the Plan.
16	State-wide arson prevention programs	Education and awareness campaigns exist across the state for arson.	WA Police	DFES, LG	Participation as required. The Shire participates in campaigns for arson prevention.
17	Bushfire Ready Groups and street meets	Public preparedness and education campaign	DFES	LG, local brigades	2 bushfire ready facilitators are in the Shire. 1 North and 1 South. Working together with DFES and LG community engagement teams to better prepare the community for bushfire events. Street meets and phone trees have been implemented as a result as well as safe winter burn demonstrations and workshops.