

CITY OF BUSSELTON

Bushfire Risk Management Plan

2019 – 2024

Office of Bushfire Risk Management (OBRM) Bushfire Risk Management (BRM) Plan reviewed 25th July 2019

Local Government Council BRM Plan endorsement 11 December 2019

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Document Endorsements

The City of Busselton 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 City of Busselton 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 City of Busselton Council satisfies their endorsement obligations under section 2.2.7 of the *State Hazard Plan for Fire (Westplan Fire)*.

Local Government	Representative	Signature	Date
The City of Busselton	Chief Executive Officer MICHAEL STEPHEN	 LEE ARCHER	16/12/2019

Amendment List

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1.C	12/12/2019	Andrew Hunt	Endorsement

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 City of Busselton 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 *State Emergency Management 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 City of Busselton.

The objective of the BRM Plan is to effectively manage bushfire risk within the City of Busselton 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

- *Aboriginal Heritage Act 1972*
- *Biodiversity Conservation Act 2016*
- *Building Act 2011*
- *Bush Fires Act 1954*
- *Bush Fires Regulations 1954*
- *Conservation and Land Management Act 1984*
- *Country Areas Water Supply Act 1947*
- *Emergency Management Act 2005*
- *Emergency Management Regulations 2006 Land Administration Act 1997*
- *Environmental Protection Act 1986*
- *Environmental Protection and Biodiversity Conservation Act 1999 (cth)*
- *Fire and Emergency Service Act 1998*
- *Fire Brigades Act 1942*
- *Local Government Act 1995*
- *Metropolitan Water Supply, Sewerage and Drainage Act 1909*
- *Planning and Development (Local Planning Scheme) Regulations 2015*

1.3.2 Policies, Guidelines and Standards

- AS 3959-2009 Construction of buildings in bushfire-prone areas
- AS/NZS ISO 31000:2009 - Risk management – Principles and guidelines
- Building Protection Zone Standards (DFES)
- Bushfire Risk Management Planning – Guidelines for preparing a Bushfire Risk Management Plan (2015)
- Firebreak Location, Construction and Maintenance Guidelines (DFES)
- Guidelines for Planning in Bushfire Prone Areas (2015)
- Guidelines for Plantation Fire Protection (DFES 2011)
- National Emergency Risk Assessment Guidelines (NERAG) (Second Edition 2015)
- State Emergency Management Policy 2.5 - Local Arrangements
- State Emergency Management Policy 3.2 – Emergency Risk Management Planning
- State Emergency Management Preparedness Procedure 7 – Local Emergency Management Committee
- State Emergency Management Preparedness Procedure 8 – Local Emergency Management Arrangements
- State Emergency Management Prevention and Mitigation Procedure 1 – Emergency Risk Management Planning
- State Hazard Plan Fire (Interim)
- State Planning Policy 3.4: Natural Hazards and Disasters
- State Planning Policy 3.7: Planning in Bushfire Prone Areas
- Western Australian Emergency Risk Management Guide (2015)

1.3.3 Other Related Documents

- Bushfire Risk Management Planning Handbook
- Bushfire Risk Management System (BRMS) User Guide
- City of Busselton Biodiversity Incentive Strategy
- City of Busselton Building Control - Standard of Site Classification
- City of Busselton Bushfire Strategic Plan
- City of Busselton Busselton Urban Growth Strategy Plan
- City of Busselton Code of Conduct Bush Fire Brigade Objectives and Values
- City of Busselton Corporate Business Plan 2017
- City of Busselton Financial Plan 2017/18 – 2026/27
- City of Busselton Firebreak and Fuel Hazard Reduction Notice (Annual Notice)
- City of Busselton Holiday Homes Local Law 2012
- City of Busselton Local Cultural Planning Strategy
- City of Busselton Local Environmental Planning Strategy
- City of Busselton Local Rural Planning Strategy
- City of Busselton Local Tourism Planning Strategy
- City of Busselton Nature Verges for Urban Areas
- City of Busselton Overall Asset Management Plan
- City of Busselton Ranger & Emergency Services Approach to Regulatory Functions
- City of Busselton Reinstatement of Works in Road Reserves
- City of Busselton Reserve Fire Management Plan
- City of Busselton Reserve Maintenance Standards
- City of Busselton Risk Management Plan
- City of Busselton Strategic Community Plan
- City of Busselton Works and Development on Foreshore and Landscape Protection
- Code of Practice for Timber Plantations in Western Australia (Forest Products Commission 2006)
- National Statement of Capability for Fire and Emergency Services (AFAC 2015)
- National Strategy for Disaster Resilience
- Public Service Circular No. 88 Use of Herbicides in Water Catchment Areas (Dept. of Health 2007)

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.

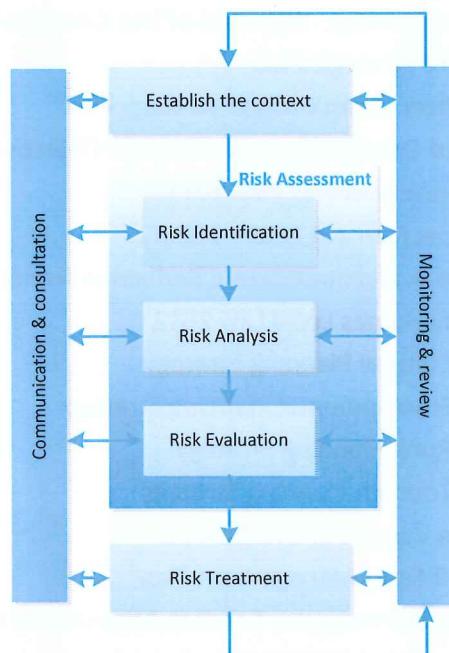


Figure 1 - An overview of the risk management process ¹

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 State Hazard Plan Fire (Interim). 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.

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"> Undertake treatment strategies, including prescribed burning on behalf of Department of Planning, Lands and Heritage for Unmanaged Reserves and Unallocated Crown Land within gazetted town site boundaries. 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"> 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 Biodiversity, Conservation and Attractions	<ul style="list-style-type: none"> Participation in and contribution to the development and implementation of BRM Plans, as per State Hazard Plan Fire (Interim). 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 City of Busselton has implemented an Integrated Planning Framework that responds to the visions, aspirations and goals of our community and helps us to plan for the future so we can work with the community to meet those goals. The components of the Framework are shown in Figure 2.

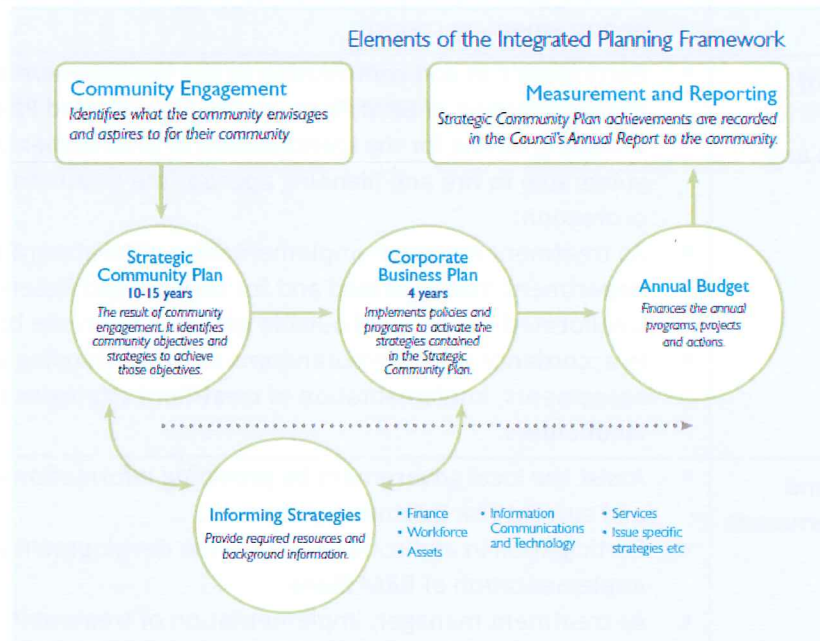


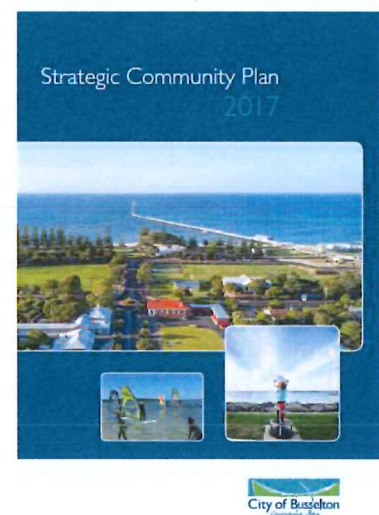
Figure 2- City of Busselton Integrated Planning Framework²

Strategic Community Plan

The Strategic Community Plan 2017 is the overarching plan of our integrated planning framework. It is a broad plan with a long-term focus of ten to fifteen (10-15) years, directly linking into the State and Regional Planning and Development Strategies.

It guides Council's decision making on matters that affect the community and has a strong emphasis on the community's priorities and vision for the future. The plan has six (6) key Goal Area's - Community; Places and Spaces; Economy; Transport; Environment and Leadership, with the community objectives of each area clearly defined.

The Plan was reviewed in 2017 through extensive community engagement under the banner of VISION 2030. Throughout 2016, The City sought the community's views through multiple channels including face to face workshops and round table discussions, surveys and the interactive social engagement platform yoursay.busselton.wa.gov.au.



² City of Busselton Strategic Community Plan 2017

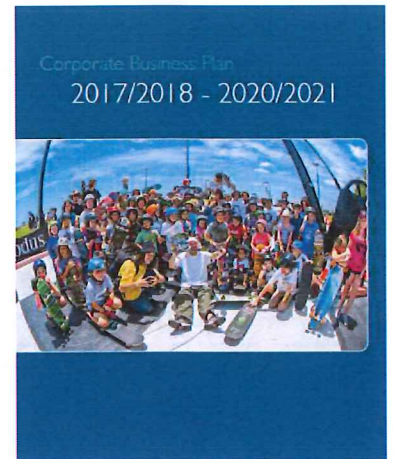
Corporate Business Plan

Complementing the Strategic Community Plan is our Corporate Business Plan 2017/18 – 2020/21. This is a four (4) year schedule of organisational projects, priority actions and services, designed to deliver aspects of the Strategic Community Plan.

The Plan is based on the same six (6) Key Goal Area's identified in the Strategic Community Plan 2017. The BRM Plan will contribute to the success of all of these Goal Area's as well as satisfying Community Objective 1.1(c) which directly relates to the development of a "Risk Management Plan for the District".

The Bushfire Advisory Committee (BFAC) and the Local Emergency Management Committee (LEMC) will be encouraged to be actively involved during the life cycle of the BRM Plan. BFAC and LEMC are stakeholder groups that will be able to provide important advice and feedback to assist in guiding the BRM Plan process and treatment selection.

The outcomes of the BRM Plan will also benefit the aims and objectives of the BFAC and LEMC through collective interests and informing other processes related to bushfire and emergency management.. The activities outlined in the BRM Plan will benefit and reinforce the aims and objectives of the Emergency Risk Management Plan and Local Emergency Management Arrangements (LEMA). For example, treatments implemented to reduce fuel loads adjacent to major highways and roads throughout the City, contributes to reducing the bushfire risk in other tenures. This also provides safe access routes for the community and emergency services in the case of a bushfire



3.1.2 Location, Boundaries and Tenure

The City of Busselton is situated on the coast in the South West region of Western Australia, within the federal electorate of Forrest. The City covers an area of 145,405 hectares (1,454 square kilometres)³ approximately 223 kilometres south of Perth as shown in figure 3.



Figure 3 – City of Busselton location⁴

³ Source - City of Busselton Strategic Community Plan 2017

⁴ DFES Fesmaps

The City is bounded by the Shire of Augusta-Margaret River to the South, the Shire of Capel to the North East, the Shire of Donnybrook-Balingup to the East and the Shire of Nannup to the South East. The Northern and Western boundaries are formed by the Indian Ocean including Geographe Bay.

The majority of the population reside in the two main centres of Busselton and Dunsborough, which have both held the title of “WA’s top tourism towns”. There are also several smaller centres of Vasse, Yallingup and Carburnup River.

The City of Busselton tenure comprises of a majority of freehold land (62%), the breakdown of land tenures is shown in Table 2. The City is directly responsible for the management of close to 2,200 ha of Shire reserves and parks, plus approximately 3,000 ha of road reserves.

Table 2 – Overview of Land Tenure and Management within the BRM Plan Area

Management	Area (ha)	% of Area
Freehold	90,683	62%
DBCA	47,800	33%
DFES	233	0.2%
LGA	2,169	1.5%
Public Road Reserves⁵	3,171	2%
Other	1,323	1%
Total	145,379	100%

3.1.3 Population and Demographics

The most recent Australian Bureau of Statistics (ABS) data from 2016 shows the population within the City of Busselton being 36,686 of which 49% are males and 52% being females.⁶ Conservative figures for growth within the region indicate the population will reach 44,000 for the next Census in 2021.

This static population is greatly affected by a strong tourist and short stay population. In addition to traditional resorts, hotels and boutique accommodation facilities, there were 736⁷ short stay private properties registered with the City of Busselton as at 1st July, 2018. Tourism WA figures show the City of Busselton averages almost nine hundred thousand visitors each year⁸, spending over three million two hundred bed nights. The majority of these visitors are from within Western Australia (88%), followed by Intrastate (7%) and International (5%) tourists.

Visitors to the area can be more at risk than permanent communities who have adequate awareness of bushfire threats and have planned accordingly. A limited knowledge of the area and possible escape routes, combined with possible language barriers for International tourists increase the risk. The large influx of people into the City, particularly at weekends and holiday periods, also congests main roads and roads in towns. This can severely compromise evacuation and firefighting response efforts. As such tourism and short stay accommodation is identified as “Special Risk” Human Settlements and accommodation managers are identified in the communications strategy of this plan.

⁵ The category Public Road Reserves does not differentiate between those managed by the City of Busselton and those managed by Main Roads Western Australia (MRWA);

⁶ Australian Bureau of Statistics 2016 Census QuickStats for City of Busselton;

⁷ City of Busselton records as of 1 July, 2018;

⁸ Tourism Western Australia City of Busselton Overnight Visitor Fact Sheet 2015/2016/2017;

Absentee landowners or non-permanent residents also own a large portion of the properties in the City. These people normally live elsewhere and use their properties in Busselton for lifestyle and/or investment purposes. The City of Busselton comprised 26.6% unoccupied private dwellings, being double the 13.3% state average based on the 2016 Census. The areas of the city with higher fire risk also have significant number of these properties, for example Naturaliste/Eagle Bay (80.3%), Yallingup (57.2%) and Quedjinup (46.1%). Table 3 shows the percentage unoccupied dwellings for each area in the city and the Western Australia and South-West Region percentages for comparison.

Table 3 – Overview of Unoccupied Dwellings by ABS district

Area	2016 Population	2016 Private Dwellings	2016 Unoccupied Dwellings
Western Australia	2,474,000	1,071,000	13.3%
South West Region	176,330	83,104	19.0%
City of Busselton	36,686	18,677	26.6%
Dunsborough	5320	3072	39.2%
Naturaliste/ Eagle Bay	146	262	80.3%
Quedjinup	408	223	46.1%
Quindalup/ Anniebrook	1336	941	45.3%
Yallingup	1029	844	57.2%
Yallingup Siding	306	166	34.2%
Abbey	1275	613	24.4%
Bovell	472	163	12.4%
Broadwater	4258	1910	18.2%
Busselton	1878	1128	20.9%
Geographe	3415	1786	26.5%
Marybrook/ Kealy	701	374	31.4%
Reinscourt	242	95	16.1%
Vasse	2479	899	11.7%
Wonnerup	145	80	36.0%
West Busselton	8517	4188	17.6%
Yalyalup	2486	920	8.4%
Wilyabrup	409	221	38.7%
Carbunup	268	129	23.7%
Jindong	313	140	14.7%
Ambergate	467	163	5.4%
Acton Park	260	102	9.1%
Yoongarillup	443	182	13.8%
Ludlow	107	121	18.3%

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 properties⁹. 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.

3.1.4 Economic Activities and Industry

The City of Busselton has historically been known for its forestry and agriculture industries, with a large portion of the region being cleared. According to the 2016 Census, employment with the City is mostly within the Construction, Healthcare, Retail and Accommodation sectors. These figures are in line with the strong tourism base for the City with the region seeing significant growth in popularity as a tourism destination. The breakdown of the Shires employment across the major industries is show in table 4.

While tourism is a major driver of the Cities economy other industries include wineries and other agriculture. The City is also part of the Margaret River and Geographe Wine regions, with substantial vineyards and wine making infrastructure. During Summer and Autumn months the vines carry grapes which have the potential to be damaged by smoke taint from prescribed burns or wildfires. It is important to minimise or cease treatment works in sensitive areas to avoid the possibility of a controlled fire escaping and putting lives at risk or excess smoke production adversely impacting on the local tourist industry and economy.

Table 4 – Australian Bureau of Statistics – 2016 Census of Population and Housing

Industry	Percentage
Agriculture, Forestry and Fishing	5%
Mining	5%
Manufacturing	5%
Electricity, Gas, Water and Waste Services	1%
Construction	13%
Wholesale Trade	1%
Retail Trade	11%
Accommodation and Food Services	11%
Transport, Postal and Warehousing	3%
Information Media and Telecommunications	1%
Financial and Insurance Services	1%
Rental, Hiring and Real Estate Services	2%
Professional, Scientific and Technical Services	4%
Administrative and Support Services	5%
Public Administration and Safety	4%
Education and Training	8%
Health Care and Social Assistance	11%
Arts and Recreation Services	1%
Other Services	4%

⁹ TNS Consultants; Prepared A Marketing Research Report for Department of Fire & Emergency Services; Absentee Landowner Research (2013)

Industry	Percentage
Inadequately described/Not stated	4%
Total	100%

Tourism

The south-west of Western Australia is regarded as a worldwide tourist destination, being internationally recognised as one of 35 global biodiversity hotspots. Its highly valued visual landscape qualities and iconic tourist destinations provide commercial and nature based tourism. A number of highly valued Non-Indigenous heritage sites reflect the rich history of the area since European settlement, including timber and maritime industries. These factors contribute to tourism being a major economic driver for the Shire.

The majority of tourism is undertaken in the summer months, where the regions temperature is milder than that of Perth. The moderate temperatures and minimal rainfall promotes nature based tourism activities both on land and in the water. Common activities include whale watching, surfing, fishing, diving, boating and swimming at countless iconic beaches such as Meelup Beach, Smiths Beach, Yallingup Lagoon and canal rocks. Land based activities include Ngilgi Cave, which has been operating since 1899. The cave played a key role in developing tourism in the area resulting in the construction of facilities at Yallingup such as Caves house in 1903 which was built to cater for visitor to the cave.

Manmade tourism destinations include the historic Busselton Jetty. Originally constructed in 1865, it is the longest timber piled jetty in the southern hemisphere¹⁰. In 2003 the jetty was enhanced with an underwater observatory 1.7km into Geographe Bay. In 1997 the former destroyer HMAS Swan was deliberately scuttled off Meelup Beach. The 113 metre vessel is now “one of the largest accessible dive wrecks in the Southern Hemisphere”¹¹. These attractions complement the many commercially operated resorts, cellar doors, restaurants and tourism destinations developed across the City.

Dunsborough is also a traditional location for school leavers from around the state. A special Leavers Entertainment Zone is established along with transport and special activities such as the Meelup Beach day organised by the Royal Life Saving Society of WA. The region also hosts countless events, concerts and sporting events throughout the year. Annual events include Forest Rally, Iron Man Triathlon, Cape to Cape Mountain Bike Race, X-Adventure and Busselton Jetty swim. These events, in addition to events undertaken in the adjoining local governments dramatically increase the number of tourists in the region.

The school holidays during warmer periods require prudent consideration to bushfire risk management. In these periods it is vital to protect people and assets from the potential impacts of bushfires As well as directly affecting tourists and tourism, a wildfire within the City could significantly affect the reputation and amenity of the regions natural landscape for years to come. Information provided to the special enquiry following the Margaret River fires in 2011 reported “up to a 50 per cent drop in bookings and income”¹² following the fires. Care is also required whilst undertaking mitigation works to ensure the continued amenity of the region. Too aggressive or invasive burning or landscape modification could reduce the appeal of the vegetation.

¹⁰ www.busseltonjetty.com.au viewed 24 July, 2018

¹¹ www.westernaustralia.com/en/Attractions/Swan_Dive_Wreck viewed 24 July, 2018

¹² Report “Appreciating the Risk” The Margaret River Bushfire Special Inquiry

3.2 Description of the Environment and Bushfire Context

3.2.1 Topography and Landscape Features

Topography contributes to bush fire risk by influencing the rate of spread (ROS) and fire intensity. The risk associated with topography is assessed 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.

The City of Busselton consists of a broad low lying coastal plain backed by the Whicher Range scarp in the south east, the Leeuwin-Naturaliste Ridge in the west and the Margaret River Plateau to the south (Shire of Busselton, 2006). The coastal plains are gently undulating, with a mixture infertile calcareous sands, poorly drained clay soils and well drained deep sands that are ideal for market gardens and viticulture. The Whicher Range primarily consists of undulating rises and rolling hills, with elevations up to 120m above sea level. There are however some areas of moderately inclined slopes which may hinder suppression activities.

The Leeuwin-Naturaliste Ridge and Margaret River Plateau along the western extent of the LG is generally a gently undulating, north-south elongated ridge. Some short steep valley scan lead to localised influences effecting fire behaviour which make it difficult to predict how the fire will move through the landscape. This area contains a mixture of limestone outcrops, karst subterranean cave systems, and sandy beaches with dune systems reaching 200m in elevation, all which can potentially hinder suppression activities. Careful consideration is required when determining bushfire suppression strategies and mitigation activities

The karst systems along the Leeuwin Naturaliste ridge has been identified as a severe risk to heavy earthmoving equipment frequently utilised to create breaks in the event of a bushfire. There is limited information on the systems particularly around Yallingup, with uncharted openings and shallow karst posing a substantial risk. The karst systems may also be affected by bushfire and mitigation regimes, with Eberhard (2004) suggesting that reduced prescribed burning in the National Park may have contributed to a decline in water levels within the caves¹³, with a build up of leaf matter and dense root systems obstructing previous water penetration.

3.2.2 Climate and Bushfire Season

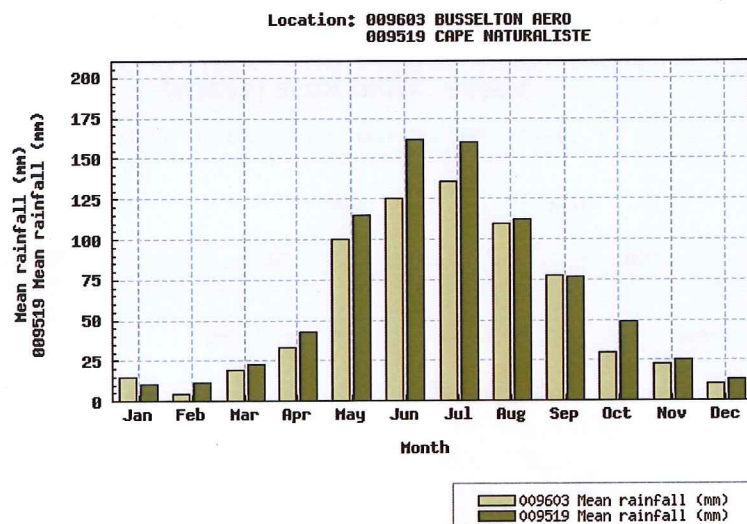
The City of Busselton's climate is typically described as a Mediterranean style with warm to hot dry summers and cool wet winters. The majority of rainfall occurs between May and September, with the heaviest falls during the winter months of June to August. Occasional summer rainfall is predominately associated with remnant tropical depressions or cyclones. The long term annual average rainfall for the City of Busselton is around 800mm¹⁴. The average rainfall across the year for Cape Naturaliste and Busselton Aerodrome is shown in Figure 4.

Figure 4 – Comparison of rainfall (mm) at Busselton Shire BOM Weather Station (1877 – 2018) and Cape Naturaliste BOM Weather Station (1903-2018)¹⁵

¹³ Department of Environment and Conservation Interim Recovery Plan 2009-2013 – Aquatic root mat communities numbers 1-4 of caves of the Leeuwin Naturaliste Ridge Downloaded from https://www.dpaw.wa.gov.au/images/documents/plants-animals/threatened-species/recovery_plans/Approved_interim_recovery_plans_/communities/Leeuwin_caves_irp281_update.pdf on 5 July, 2019

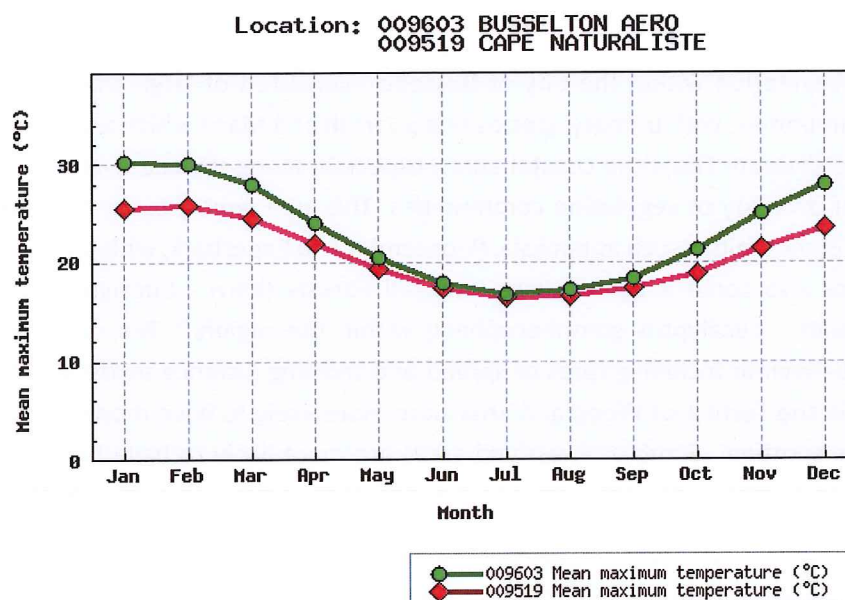
¹⁴ Mean rainfall for years 1877 to 2018 at the BOM weather station "Busselton Shire" (009515) based in Barlee Street Busselton. Information obtained from www.bom.gov.au on 8 August, 2018.

¹⁵ Chart obtained from www.bom.gov.au on 8 August, 2018



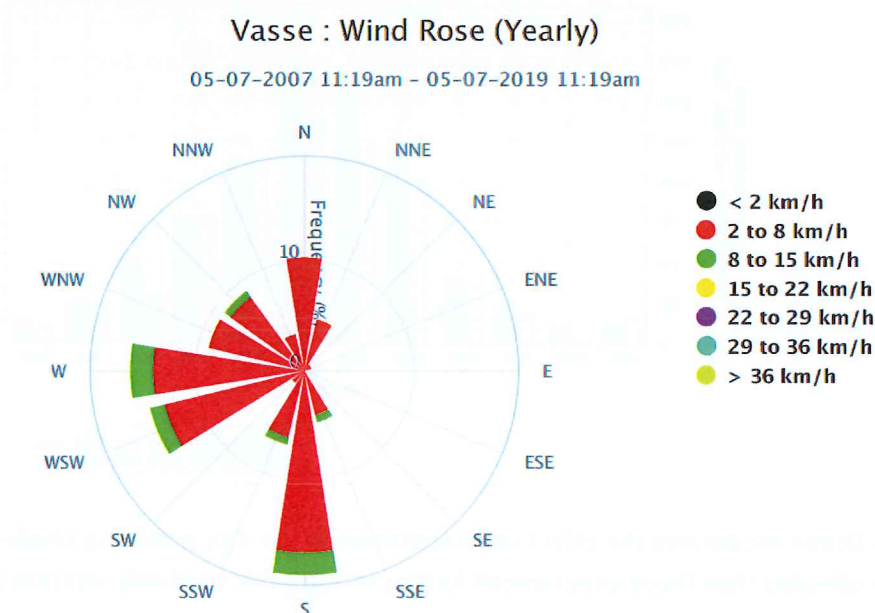
The Indian Ocean moderates the effect of temperature in the City providing smaller seasonal variations and milder climates than those experienced further inland. The southerly location provides consistently lower temperatures than the Perth metropolitan area throughout the year. Summer temperatures vary from 19 to 40 degrees, with the average being a moderate 27 degrees. Winter temperatures vary from 11 to 25 degrees, with the average being 16 degrees. The monthly average temperatures are shown in Figure 5.

Figure 5 – Comparison of mean Maximum temperature (C) at Busselton Aero BOM Weather Station (1997 – 2018) and Cape Naturaliste BOM Weather Station (1903-2018)¹⁶



¹⁶ Chart obtained from www.bom.gov.au on 8 August, 2018

Figure 6 – Vasse wind rose shows frequency of wind direction and speed 5/7/2007 – 5/7/2019)¹⁷



Wind conditions are variable throughout the City, as shown in Figure 6, which compares the three weather stations at Busselton Airport, Cape Naturaliste and Jarraewood. Generally speaking, the City experiences calmer mornings with wind from the South East to North East, followed by an afternoon sea breeze from the South West. A heightened risk of bushfire can also be associated with the formation of low pressure troughs along the west coast during summer. These systems can create hot, dry northerly and north easterly winds across the city, with low humidity and strong winds.

3.2.3 Vegetation

Pre-European vegetation within the City of Busselton consisted of large tracts of medium forest and woodland communities, with primary species being Jarrah and Marri which are common throughout the Southwest land division. The more coastal areas, especially along the Leeuwin-Naturalist Ridge, provide a much greater diversity of vegetation communities. This area largely consists of low forest, woodland and shrubland communities such as Banksia, Peppermint and Paperbark, with many species unique to the area. There are also some isolated pockets of Tall Forests (Karri - *Eucalyptus diversicolor*) and Tall Woodlands (Tuart - *Eucalyptus gomphocephala*) within the region.¹⁸ The variation of fuel types will influence fire behaviour including rates of spread and spotting distance across the region. For example, bushfires within the Forrest or Woodland area's are more likely to have moderate rates of spread, with longer distance spotting. Scrub or Grassland areas are more likely to have higher wind driven rates of spread, with less intensity and shorter distance spotting. The size and nature of mitigation and low fuel zones will therefore vary for each community or asset.

Approximately 44.5%¹⁹ of the original native vegetation remains within the City of Busselton, located across tenures from nature reserves to privately owned land. Due to the early agriculture history in the region a significant portion of the swan coastal plain has been cleared. In these areas remnant vegetation contained within reserves, including road reserves is of significant ecological importance. These ecological values can conflict with bushfire protection, particularly in poorly managed road reserves. Roadside surveys conducted in 2009 by the Roadside Conservation Committee showed 47% of road

¹⁷ Charts obtained from <https://weather.agric.wa.gov.au/station/VA> on 5 July, 2019

¹⁸ Local Government Biodiversity Planning Guidelines Addendum to the South West Biodiversity Project Area, WALGA, December, 2007

¹⁹ Roadside Vegetation and Conservation Values in the Shire of Busselton, prepared by Roadside Conservation Committee, May 2009

reserves within the City containing medium to high conservation values. Conversely 44% of roadsides contained low conservation values with heavy weed infestation of greater than 80% weeds.²⁰ These areas of high weeds are of particular concern for bushfire protection as they represent high contiguous fuel loads which could carry a bush fire between nature reserves. Well maintained road side vegetation can assist in bush fire suppression activities and allow for safe evacuation. Focusing on low conservation value roadsides can help to reduce the bushfire risk and avoid conflicts with environmental values.

Fire management including appropriate fire regimes need to take into account the particular conservation significance of reserves and roadside vegetation areas. The City of Busselton contains several threatened flora, vegetation communities and fauna that are protected by State and Commonwealth legislation. A coordinated approach with agencies is required for fire management in these natural areas which should aim to maintain and enhance biodiversity as well as reducing the threat of bushfires to life and community assets. Due to the sensitive nature of information around rare flora (and fauna), some discretion has been applied to the amount of information recorded. All treatments need to be assessed to confirm the location of environmental assets and the potential impact of both mitigation and response strategies.

Broad vegetation types found within the City of Busselton are identified in Table 5.

Table 5 – Major regional vegetation²¹

Forest Type	Primary Vegetation	Area (ha)	% of Total Area
Tall Forest	Karri (<i>Eucalyptus diversicolor</i>)	74	0.05%
Tall Woodland	Tuart (<i>Eucalyptus gomphocephala</i>)	1,187	0.8%
Medium Forest	Jarrah / Marri	52,963	36.1%
Medium Woodland	Marri	39,032	26.6%
Medium Woodland	Jarrah / <i>Corymbia haematoxylon</i> (Whicher Range)	14,913	10.2%
Medium Woodland	Jarrah / Marri / Blackbutt	4,621	3.1%
Medium Woodland	<i>Eucalyptus rudis</i> / <i>Melaleuca raphiophylla</i>	709	0.5%
Medium Woodland	South Coast Jarrah	58	0.04%
Mosaic	Medium forest (Jarrah, Marri) / Low woodland (Banksia) / Low forest (Teatree)	12,035	8.2%
Low Forest	Jarrah / Marri	272	0.2%
Low Forest and Woodland	Paperbark	5,720	3.6%
Low Forest and Woodland	Peppermint	4,344	3.0%
Low Woodland	Banksia ²²	3,346	2.3%
Shrubland	<i>Calothamnus quadrifidus</i> / <i>Hakea trifurcata</i> (Cape Naturaliste)	2,921	2.0%
Shrubland	Teatree	1,637	1.1%

²⁰ Roadside Vegetation and Conservation Values in the Shire of Busselton, prepared by Roadside Conservation Committee, May 2009

²¹ Local Government Biodiversity Planning Guidelines Addendum to the South West Biodiversity Project Area, WALGA, December, 2007

²² Banksia is classified as the primary species for this forest type however it includes the secondary species of Jarrah in some areas.

Shrubland	Peppermint	1,623	1.1%
Shrubland	<i>Acacia decipiens</i>	37	0.03%
Succulent	Samphire	790	0.5%
Bare Areas	Salt Lakes / Sand Drifts / Rock Outcrops	884	0.6%

3.2.4 Bushfire Frequency and Causes of Ignition

A report obtained from Department of Fire and Emergency Services identified an average of 69 fires occurred per year within the City of Busselton²³ over the last five years. Analysis of the report, included at Table 6, identifies that 18% of fire ignition sources had been undetermined or unreported. For those fire ignitions that were able to be determined, the most common the most common fire ignition causes where Burn Off fires (32%), Suspicious or Deliberate (30%) and from Power lines (9%).

Table 6 – Bushfires recorded by ignition types (Department of Fire and Emergency Services)²⁴

	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	Total
Total Number of Bushfires:	72	64	70	87	51	344
Animal	1	0	0	0	0	1
Burn off fires	17	14	20	24	15	90
Campfires/bonfires/outdoor cooking	1	1	0	6	3	11
Children misadventure	1	1	0	1	0	3
Cigarette	1	5	2	1	1	10
Construction, installation, design deficiency	0	1	0	0	0	1
Electrical distribution (excl. power lines)	1	0	1	0	0	2
Equipment - Mechanical or electrical fault	2	1	0	0	0	3
Equipment - Operational deficiency	0	1	0	1	0	2
Hot works (grinding, cutting, drilling etc.)	1	0	2	1	0	4
Human Error (Left on, knock over, unattended etc.)	1	1	0	0	0	2
Improper Fuelling/Cleaning/Storage/Use of material ignited	0	0	0	2	0	2
Other open flames or fire	2	0	2	0	1	5
Power lines	4	8	4	6	4	26
Reignition of previous fire	4	6	3	1	0	14
Sleeping/Alcohol/Drugs/Physical-Mental impairment	0	1	0	0	0	1
Suspicious/Deliberate	19	16	14	23	13	85
Undetermined	5	2	8	5	6	26
Unreported	6	3	12	8	7	36
Vehicles (incl. Farming Equipment/Activities)	1	1	0	2	1	5
Weather Conditions - Lightning	4	1	0	1	0	6
Weather Conditions (High winds, natural combustion etc. Excludes Lightning)	1	1	2	5	0	9

²³ All Bushfires Report for LGA of Busselton from 1/7/2014 to 30/6/2019 received from DFES on 4 July, 2019

²⁴ All Bushfires Report for LGA of Busselton from 1/7/2014 to 30/6/2019 received from DFES on 4 July, 2019

3.2.5 Current Bushfire Management Activities

The City of Busselton enforces Restricted Burning Times (RBT), Prohibited Burning Times (PBT) and Harvest and Vehicle Movement Bans. Total Fire Bans (TFB) are declared by DFES. These measures are used to prevent the outbreak of bushfires in accordance with the *Bush Fires Act 1954*. The RBT are in place from the 2nd November to the 14th December and also between the 1st of March and the 12th of May. The PBT is between the 15th of December and the 28th of February. These seasons can be altered to reflect the seasonal conditions.

The Firebreak and Fuel Hazard Reduction Notice is issued by the City to all landholders annually, usually with the rates notice. The Notice, pursuant to Section 33 of the *Bush Fires Act 1954*, sets out the requirements placed upon landowners for maintenance of low fuel zones and firebreaks.

The City of Busselton and the adjoining Shire of Augusta Margaret River also operate a “Capes Zone Response” protocol²⁵. The protocol is an agreement between DFES, DBCA and the respective local governments detailing operating protocols to all bushfires during the active time. The indicative operation period is between 0800 and 1800 during the prescribed time 1st December through to 31st March, or as varied due to local weather conditions. During this period the Capes District is divided into an I Zone along the higher risk coastal areas and an O Zone further inland where there is a lower risk due to less remnant vegetation and population.

4. Asset Identification and Risk Assessment

4.1 Planning Areas

The City of Busselton has been divided into six planning areas: Busselton (North) Coast, Busselton (West) Coast, Busselton Central, Busselton East and Cape Naturaliste. Attached at Appendix 2 is a map showing the boundaries of the planning areas identified within the City.

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 7 – 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

²⁵ Capes Zone Response Operational Protocols 2016/17 – 2019/20 dated 15/9/2016

Asset Category	Asset Subcategories
	<p>Pasture, grazing, livestock, crops, viticulture, horticulture and other farming infrastructure.</p> <ul style="list-style-type: none"> • 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 Places of indigenous significance. • 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 8 – Asset Category Proportions

Asset category	Proportion of identified assets
Human Settlement	86 %
Economic	12 %
Environmental	1 %
Cultural	1 %

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 9 – 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• 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 10 – 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.

Consequence Rating	Descriptions
	<ul style="list-style-type: none"> • 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. • 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.

Consequence Rating	Descriptions
	<ul style="list-style-type: none"> • 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 hazard posed by the classified 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 hazard posed by the classified vegetation and the vulnerability of the asset.

• **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 hazard posed by the classified 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 11 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 11 – Local Government Asset Risk Summary

Risk Rating Asset Category	Low	Medium	High	Very High	Extreme
Human Settlement	5	11	15	14	40
Economic	1	3	4	3	2
Environmental			1		
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 10 shows how likelihood and consequence combine to give the risk rating and subsequent treatment priority for an asset.

Table 12 – 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)

The treatment strategy for each assets identified with a high or above risk rating is in the process of being developed. Once completed The *Treatment Schedule* will be located at **Appendix 3**.

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 for each risk rating.

Table 13 – 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.	Routine controls are not enough to adequately manage the risk. Treatment and monitoring of these risks will be a priority during the life of the BRM Plan. Specific action is required, to be prioritised based on number of assets benefitted, vulnerable or critical assets
Very High (Priorities 2A, 2B, 2C)	Only acceptable with excellent controls. Treatment action is required.	Routine controls are not enough to adequately manage the risk. Specific action will be required during the life of the BRM Plan, to be prioritised based on number of assets benefitted, vulnerable or critical assets.
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 regularly.	Specific action may not be required. Risk may be managed with routine controls and monitored periodically throughout the life of the BRM Plan.
Low (Priorities 5A, 5B, 5C)	Acceptable with adequate controls. Treatment action is not required, but risk must be monitored.	Need for specific action is unlikely. Risk will be managed with routine controls 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 *City of Busselton*. 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 *City*:

- *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;
- Public education campaigns and the use of PWS 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; and
- Monitoring performance against the BRM Plan and reporting annually to the local government council and OBRM.
- Other practices and programs undertaken by local government or state agencies that contribute to bushfire risk management within the local government, including controls in place under state government policies, agreements or memorandums of understanding.

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. 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 Bushfire Risk Planning Coordinator (BRPC) and/or the local Community Emergency Service Manager (CESM) will coordinate the 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 BRPC or other LG officer as delegated by the CEO, will document the progress of the BRM plan quarterly to the Council or Senior Management as appropriate. The performance and progress of the BRM Plan over the financial year will be presented to BFAC, LEMC and Local Council on an annual basis. The presentations are to be concurrently used as a platform to generate feedback and potential advice on ways to improve the outcomes generated by the BRM Plan. The feedback will be used to inform decision making when selecting the bushfire risk treatments for the next financial year and to ensure the BRM Plan is in line with the Shires values and future goals. Finally, an annual report will be submitted to the Office of Bushfire Risk Management (OBRM) each year. This report will summarise the progress made towards implementation and the subsequent operational status of the BRM Plan.

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. ²⁶
Bushfire Management Plan	A document that sets out short, medium and long term bushfire risk management strategies for the life of a development. ²⁷
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 Hazard	The hazard posed by the classified 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 <i>State Emergency Management Policy 2.9</i>) that describes how an organisation(s) intends to undertake the activities of emergency risk management based on minimising risk. These plans help

²⁶ Australasian Fire and Emergency Service Authorities Council 2012, *AFAC Bushfire Glossary*, AFAC Limited, East Melbourne.

²⁷ Western Australian Planning Commission 2015, *State Planning Policy 3.7: Planning in Bushfire Prone Areas*, WAPC, Perth.

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. ²⁸
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.

²⁸ 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. ²⁹
Rural Urban Interface (RUI)	The line or area where structures and other human development adjoin or overlap with undeveloped bushland. ³⁰
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.

²⁹ Australasian Fire and Emergency Service Authorities Council 2012, *AFAC Bushfire Glossary*, AFAC Limited, East Melbourne

³⁰ 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.

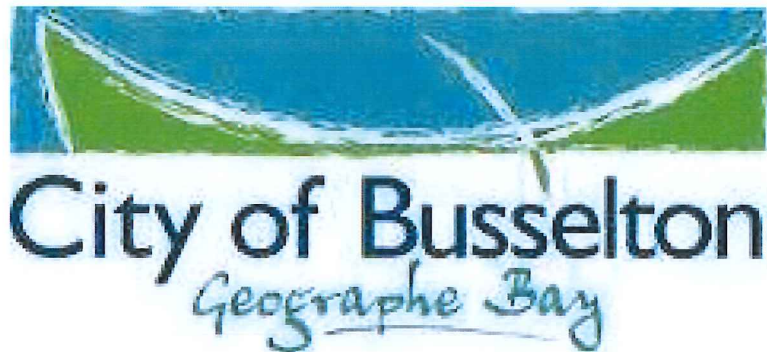
9. Common Abbreviations

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
DBCA	Department of Biodiversity, Conservation and Attractions - Parks and Wildlife Service
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**

1 Communication Strategy



CITY OF BUSSELTON

Bushfire Risk Management Planning Communication Strategy

	1.0
	<i>DD/MM/YYYY</i>
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	Version	Date
nt		

Add as required.

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 City of Busselton. This Communication Strategy accompanies the BRM Plan for the City of Busselton. 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 City of Busselton 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 the objectives outlined within the Strategic Community Plan and enhancing the ability of the City to be bushfire prepared and ready.

Communication Roles and Responsibilities

The City of Busselton 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, City of Busselton, responsible for endorsement of the BRM Plan Communications Strategy.
- Director, Communications and Media Team City of Busselton, responsible for external communication with the local government area.
- Community Emergency Services Manager, City of Busselton is responsible for internal and external communication with LGA, monitoring and reporting on the BRM Plan and Communication Strategy.

- Bushfire Risk Management Planning Coordinator, City of Busselton, responsible for operational-level communication between the Shire and the Department of Fire and Emergency Services and the Office of Bushfire Risk Management.
- Bushfire Risk Management Officer, Department of Fire and Emergency Services responsible for supporting operational-level communication between the City and The Department of Fire and Emergency Services.
- Chief and Deputy Bushfire Control Officer's, City of Busselton 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
Local Government	Significant Role in plan development, implementation and review. Significant interest as a land manager.	High	Inform, consult, involve, collaborate, empower.
Department of Fire and Emergency Services	Role in plan development, implementation and review. Support role in treatment implementation.	High	Inform, consult, involve, collaborate, empower.
Office of Bushfire Risk Management	Significant role in plan governance.	Medium	Inform, consult and collaborate
Department of Biodiversity, Conservation and Attractions – Parks and Wildlife Service	Role in plan development, implementation and review. Significant interest as a land manager.	High	Inform, consult, involve, collaborate, empower
Volunteer Groups, Wildlife, Friends of and Care Groups	Role in plan development, implementation and review	High	Inform, consult, involve, collaborate, empower.
Bushfire Brigades,	Role in plan development, implementation and review. Actively assist in risk identification and treatment works. Empower to actively engage with community and identify/treat risks	High	Inform, consult, involve, collaborate, empower.
Local Community and Private Land Owners	Role in plan development, implementation and review. Interest as a land manager.	Medium	Inform, consult, involve, collaborate, empower.

Main Roads WA	Role in plan development, implementation and review. Interest as a land manager. Critical infrastructure interest.	Medium	Inform, consult, involve and collaborate
Telstra	Role in plan development, implementation and review. Interest as a land manager. Critical infrastructure interest.	Medium	Inform, consult, involve and collaborate
Water Corporation	Role in plan development, implementation and review. Interest as a land manager. Critical infrastructure interest.	Medium	Inform, consult, involve and collaborate
Western Power	Role in plan development, implementation and review. Interest as a land manager. Critical infrastructure interest.	Medium	Inform, consult, involve and collaborate
Department of Education	Role in plan development, implementation and review. Interest as a land manager. Critical infrastructure interest.	Medium	Inform, consult, involve and collaborate
Department of Health	Role in plan development, implementation and review. Interest as a land manager. Critical infrastructure interest.	Medium	Inform, consult, involve and collaborate
Accommodation, Tourism, and Industry groups	Role in plan development, implementation and review. Interest as a land manager. Critical infrastructure interest.	Medium	Inform, consult, involve and collaborate

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 and Treatment Schedule								
Throughout the development stage	City of Busselton CEO, Senior Leadership Team CESM and Staff	All (1-6)	Emails Meetings (Monthly) Representation at bushfire stakeholder workshops and events	Informed, consulted, accountable or responsible. Review and input into Plan and treatments	BRPC BRMO	Time constraints No clear message Incorrect audience	Careful planning and time management Setting objectives for each meeting Clear communication	Feedback, questions and level of support received
Throughout the development stage	Bushfire Advisory Committee (BFAC) Local Emergency Management Committee (LEMC)	All (1-6)	Meetings (Half yearly)	Progress of BRMP process Treatment Schedule and Risk Analysis	BRPC BRMO	Plan not complete Time constraints	Prepare presentation for each meeting Give updates as required	Feedback, questions and level of support received
Throughout the development stage	FCO's BFB Captains, VFRS Captains CBFCO	All (1-6)	Meetings organised as required	Progress of BRMP Identify Risk, and share information	BRPC BRMO CESM	Time constraints No plan, unorganised Availability of volunteers	Careful planning and time management Express value of meeting	Feedback, questions and level of support received
Throughout the development stage	State Agencies (DBCA, DFES, Education, Health) Service Providers	All (1-6)	Emails Telephone Face to face meetings as required	Inform about the BRMP process Identify assets at risk Identify existing controls/programs	BRPC BRMO	Time constraints Level of interest and engagements in process	Select appropriate channel of communication Prepare materials and good planning	Feedback, questions and level of support received

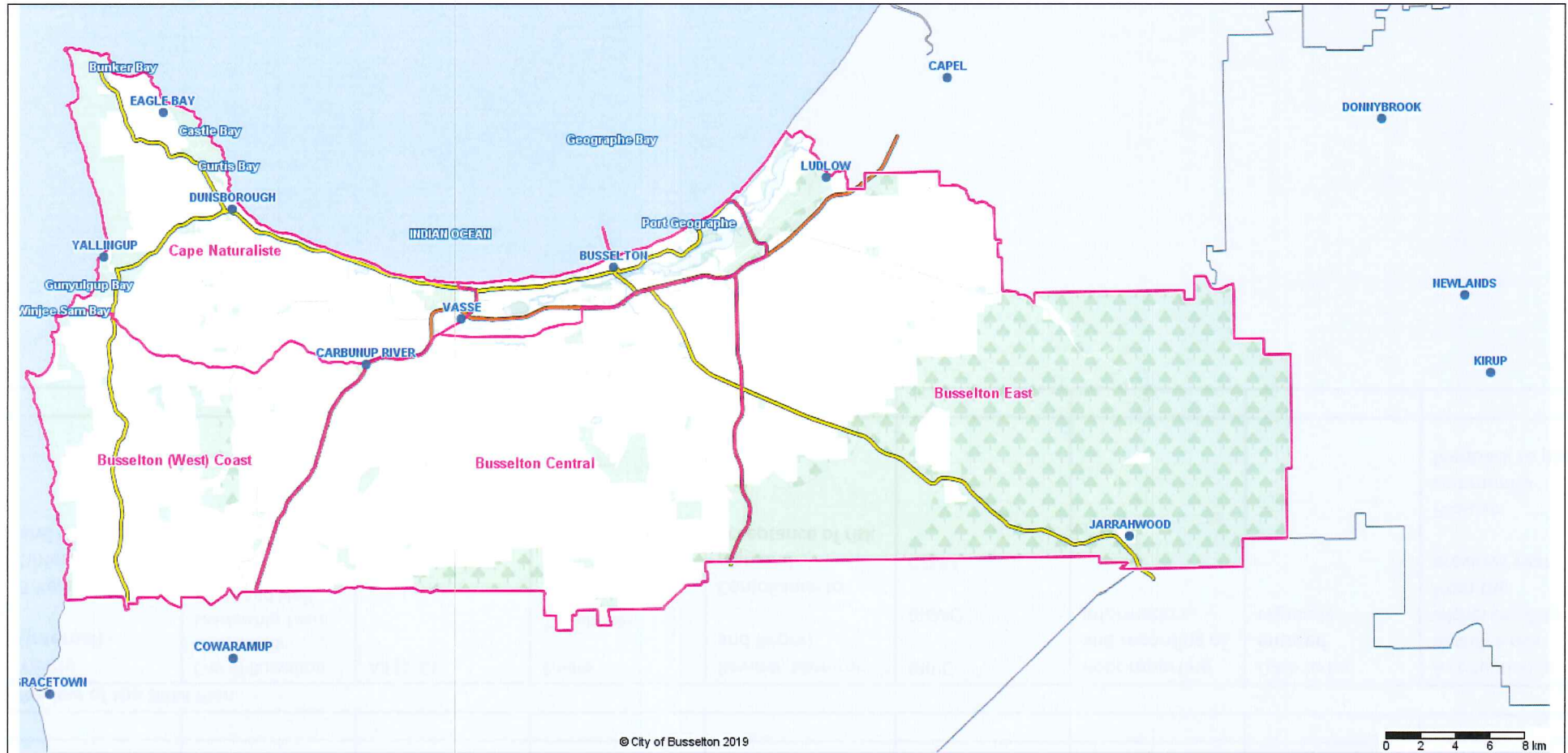
	(Western Power, Main roads WA, Telstra etc)							
As required	Home Owners Absentee Landowners Land Managers	5 & 6	Emails Telephone Face to face meetings as required	Inform about the BRMP process Identify valued assets Identify existing controls	BRPC BRMO	Time constraints Level of interest and engagements in process	Select appropriate channel of communication Prepare materials and good planning	Feedback, questions and level of support received
As required	Interest Groups or businesses (Reserve friends groups, Tourism, Accommodation and Wine Growers Associations, local indigenous representatives)	All (1-6)	Emails Telephones Face to face meetings as required	Inform about the BRMP process Identify valued assets Identify existing controls	BRPC BRMO	Time constraints Level of interest and engagements in process	Select appropriate channel of communication Prepare materials and good planning	Feedback, questions and level of support received
Throughout the development stage	Department of Fire & Emergency Services	2 & 5	Emails Telephones Face to face meetings as required	UCL/UMR identified or planned works Identification of treatment strategies	BRPC BRMO	Time constraints Conflicting priorities Response obligations	Careful planning and time management Share information	UCL/UMR works identified in BRMS
Throughout the development stage	Rural Fire Division (BFRM Branch) All BRPC's All BRMO's	2 & 5	Emails Telephones Face to face meetings as required	Roles and responsibilities Ideas, solutions or programs available Information sharing Funding sources and availability	BRPC BRMO	Time constraints Conflicting priorities	Careful planning and time management	Plan endorsed

Annually and as Required	Office of Bushfire Risk Management	1 & 2	Email Face to face meetings	Compliance and governance Plan endorsement	BRPC BRMO	Identified non compliance	Stay up to date with process improvements	Plan endorsed
Implementation of the BRM Plan								
Life of plan	City of Busselton CEO, Senior Leadership Team CESM and Staff	All (1-6)	Emails Meetings (Quarterly) Website and Intranet	Informed, consulted, accountable or responsible. Review and input into Plan Progress and consultation on treatments	BRPC BRMO CESM	Time constraints Availability Lack of understanding Budget (for mitigation)	Planning and time management Clear Purpose Regular Updates	Feedback Questions raised Level of support received
Life of plan	City of Busselton works team... Contractors Bush fire Brigades	1, 3 & 6	Emails Telephones Face to face meetings as required	Reduction of fuel loads Increase in community awareness and safety	BRPC BRMO CESM	Time and financial constraints Lack of understanding Availability of volunteers	Planning and time management Clear Purpose Regular Updates	Treatments applied Positive feedback received on treatments Risk ratings reduced
Life of plan	Bushfire Advisory Committee (BFAC) Local Emergency Management Committee (LEMC)	All (1-6)	Meetings (Half yearly)	Progress of BRMP process Treatment Schedule	BRPC BRMO CESM	Time constraints Availability Lack of understanding	Planning and time management Clear Purpose	Feedback Questions raised Treatments negotiated and

						Treatments not supported	Regular Updates	supported by committee Level of support received
Life of plan	FCO's BFB Captains, VFRS Captains	All (1-6)	Meetings organised with Each brigade or as required	Identify Risk, and share information Undertake Treatments	BRPC BRMO CESM	Time constraints No plan, unorganised Availability of volunteers	Careful planning and time management Express value of meeting	Feedback, Engaged Treatment objectives met
Life of plan	State Agencies (DBCA, DFES, Education, Health) Service Providers (Western Power, Main roads WA, Telstra etc)	All (1-6)	Consultation as required	Identify Risk, and share information Negotiate and undertake Treatments	BRPC BRMO CESM	Time constraints No plan, unorganised Availability of volunteers	Careful planning and time management Express value of meeting	Feedback, Engaged Treatment objectives met
Life of plan	DBCA	2 & 3	Consultation as required	Expert advice on location of DRF, TEC and Priority Fauna Expert advice on undertaking mitigation including prescribed burning	BRPC BRMO CESM City of Busselton Environmental Officers	Time Constraints Lack of accurate information	Careful planning and time management Regular updates and consultation	Accurate and timely information received
Life of plan	Stakeholder Groups, Interest Groups or businesses (Reserve friends groups, Tourism,	All (1-6)	Consultation as required	Identifying risks Negotiation and identification of treatments	BRPC BRMO CESM	Time Constraints Lack of accurate information	Careful planning and time management Regular updates and consultation	Treatments applied Positive feedback

	Accommodation and Wine Growers Associations, local indigenous representatives)			Consultation in undertaking treatments	City of Busselton Environmental Officers	High number and variety of stakeholders	Express value of meeting	received on treatments Risk ratings reduced
Annually and as Required	Office of Bushfire Risk Management	1 & 2	Emails Telephones Face to face meetings as required	Review, Monitor and Report Compliance to plan and acceptance of risk	BRPC BRMO CESM	Poor reporting and recording of information	Data to be entered regularly	Accurate and timely reporting available
Review of the BRM Plan								
Yearly (Internal) 5 Yearly (Internal, DFES and OBRM)	City of Busselton CEO, Senior Leadership Team CESM and Staff	All (1-6)	Emails Telephones Face to face meetings as required	Review, Monitor and Report Compliance to plan and acceptance of risk	BRPC BRMO CESM	Poor reporting and recording of information	Data to be entered regularly	A reduction in bushfire risk within the City from the previous year Positive community feedback to plan

2 Planning Area Map



Bushfire Risk Planning
BRM Plan 2019 – 2024

Planning Area Map



3 Local Government Wide Controls

Control		Action or Activity Description	Lead Agency	Other Stakeholder(s)	Notes and Comments
1	<i>BRMP Risk Analysis</i>	<ul style="list-style-type: none"> Maintain and refine BRM Plan. Identify treatments to target high risk assets 	City of Busselton	All	Treatment identification and planning for all extreme risks, prioritised to provide the highest benefit
2	City of Busselton, Local Firebreak and Bush Fire Control (<i>Bush Fires Act 1954</i>)	<ul style="list-style-type: none"> Publish Annual City of Busselton Firebreak and Fuel Reduction Notice Inspections conducted to ensure compliance 	City of Busselton	Land owners	Delivered annually with the rates notice and available on the website. Non-compliance may result in the issuing of Fines and/or Invoices for works undertaken to ensure compliance in accordance with the <i>Bush Fires Act 1954</i> (Section 33)
3	City of Busselton, Prohibited, Restricted Burning Times and Total Fire Bans. Bush Fire Control (<i>Bush Fires Act 1954</i>)	<ul style="list-style-type: none"> Restricted and Prohibited Burning Times set the requirements for when a permit must be obtained, or when no burning is allowed 	City of Busselton, DFES	Land owners, Community	Prohibited and restricted burn periods are designed to reduce the risk during the Bush Fire Season. Notice reviewed annually and dates can be subject to change as required by the City. Total Fire Bans are issued by DFES subject to weather conditions
4	City of Busselton mitigation works	<ul style="list-style-type: none"> The City carries out works programs to reduce fuel load and remove hazards across City managed reserves and roadsides 	City of Busselton	Community	Work includes, slashing, spraying and other mechanical treatments as well as prescribed burning.
5	DFES UCL/UMR land management	<ul style="list-style-type: none"> Preparedness, mitigation work conducted on lands managed by Dept of Planning, Lands and Heritage, managed by DFES 	DFES	PWS, City of Busselton, Bushfire brigades, VFRS	The Budgeting being developed to include mitigating risk on UCL/UMR.
6	Parks and Wildlife Service (PWS) Annual Burn Plans	<ul style="list-style-type: none"> PWS have a seasonal burn program. The annual plan for the region is being provided. 	PWS	Local brigades, DFES, City of Busselton	The plan will be provided and will; be accessible by sharing shape files (GIS) and are communicated at Local BFAC and other various meetings.
7	Public preparedness education campaigns	<ul style="list-style-type: none"> Community preparedness, education and information, Council Website, Community events and Bushfire Ready Groups 	City of Busselton	DFES, Community Groups, Bushfire Brigades	Street meets and property assessments in high risk areas around town sites. Pre fire season expo held Bi-Annually to promote preparedness including local contractors, bushfire brigades and Bushfire Ready Groups

Control		Action or Activity Description	Lead Agency	Other Stakeholder(s)	Notes and Comments
8	Harvest and Vehicle Movement Bans	<ul style="list-style-type: none"> Restricting the movement of vehicles during harvesting in the Bushfire Season 	City of Busselton	Land owners, Community	Enforced during the Bushfire Season in accordance with the <i>Bush Fires Act 1954</i> (Section 27)
9	Water Corporation Bushfire Risk Management Program	<ul style="list-style-type: none"> Bushfire Risk Management Plan to identify and reduce risk to Water Corporation assets, and from fuel loads on Water Corporation tenure 	Water Corporation	DFES, City of Busselton, Bushfire Brigades	Water Corporation is undertaking a review of all their sites starting with High risk regions of the State. Tenure which is assessed as Extreme, Very High or High are being prioritised for treatment which is being coordinated through the Program in conjunction with local Brigades and contractors where possible
10	Main Roads of Western Australia vegetation management	<ul style="list-style-type: none"> Inspection of Bridges under state wide bridge prioritisation to identify key bridge assets at risk. Annual field inspection undertaken to maintain bridge clearance envelopes. 	MRWA		Main Roads have commenced mapping assets within the BRMS system. Clearance envelope for bridges was identified in the Keelty 1 report into the Perth Hills Bushfire.
11	State-wide arson prevention programs	<ul style="list-style-type: none"> Education and awareness campaigns across the state including community education, gathering of intelligence and school programs 	WA Police	DFES, City of Busselton	State wide program, normally targeted at areas where suspicious fires have occurred.
12	Western Power vegetation management	<ul style="list-style-type: none"> Annual field assessment for vegetation management and pole base clearance 	Western Power	DFES< City of Busselton, PWS, Land owners	Vegetation management is completed on an annual basis, clearing around poles and under power lines within the agency tenure. Inspections of power lines on other tenure conducted annually, with land owners required to maintain separation zones.