City of Melville

BUSHFIRE RISK MANAGEMENT PLAN

2022-2027

Office of Bushfire Risk Management (OBRM) reviewed

November 2022

Contents

Document Control

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Document Endorsements

The Bushfire Risk Management Plan (BRM Plan) has been reviewed and assessed by the Office of Bushfire Risk Management as consistent with the standard for bushfire risk management planning in Western Australia, the Guidelines for Preparing a Bushfire Risk Management Plan. The City of Melville 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 approval of the BRM Plan by City of Melville Council satisfies their endorsement obligations under State Hazard Plan Fire.

Local Government	Representative	Signature	Date
City of Melville	Mick McCarthy Director Environment and Infrastructure Services		

Version	Date	Author	Section
1	22/12/2021	Kellie Fowler	Initial draft for review
1.2	08/06/2022	Kellie Fowler	Addressing feedback
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1.4	14/11/2022	Kellie Fowler	Added Local Government Controls Table

Publication Information

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1. Introduction

1.1. Background

Under the State Hazard Plan Fire an integrated Bushfire Risk Management (BRM) Plan is to be developed for local government areas with significant bushfire risk. This BRM Plan has been prepared for the City of Melville in accordance with the requirements of the Guidelines for Preparing a Bushfire Risk Management Plan (the Guidelines) from the Office of Bushfire Risk Management (OBRM) within the Department of Fire and Emergency Services (DFES). The risk management processes used to develop this BRM Plan are aligned to the key principles of AS/NZ ISO 31000:2009 Risk management – Principles and Guidelines and those described in the National Emergency Risk Assessment Guidelines. This approach is consistent with State Emergency Management (SEM) Policy and SEM Prevention and Mitigation Procedure 1.

This BRM Plan is a strategic document that facilitates a coordinated approach towards the identification, assessment and treatment of assets exposed to bushfire risk. 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 and Treatment Schedule to ensure treatment strategies are collaborative and efficient, regardless of land tenure.

1.2. Aim and Objectives

The aim of a BRM Plan is to effectively manage bushfire risk in order to protect people, assets and other things of local value in City of Melville. The objectives of this BRM Plan are to:

- guide and coordinate a tenure blind, multi-agency BRM 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 BRM activities;
- integrate BRM into the business processes of local government, land owners and other agencies;
- ensure there is integration between land owners, BRM programs and activities; and

• document processes used to monitor and review the implementation of treatment plans to ensure they are adaptable and that 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 and Policy

- Aboriginal Heritage Act 2021
- Biodiversity Conservation Act 2016
- Building Act 2011
- Bush Fires Act 1954
- Bush Fires Regulations 1954
- City of Melville Health Local Law 1997
- Conservation and Land Management Act 1984
- Country Areas Water Supply Act 1947
- Emergency Management Act 2005
- Emergency Management Regulations 2006
- Environmental Protection Act 1986
- Environmental Protection and Biodiversity Conservation Act 1999 (Cth)
- Fire and Emergency Service Act 1998
- Fire Brigades Act 1942
- Metropolitan Water Supply, Sewerage and Drainage Act 1909
- Planning and Development (Local Planning Scheme) Regulations 2015
- SEM Plan (State Emergency Management Committee (SEMC) 2019)
- SEM Policy (SEMC 2019)
- SEM Prevention and Mitigation Procedure 1 (SEMC 2019)
- State Hazard Plan Fire (SEMC 2019)
- State Planning Policy 3.4: Natural Hazards and Disasters (Western Australian Planning Commission (WAPC) 2006)
- State Planning Policy 3.7: Planning in Bushfire Prone Areas (WAPC 2015, as amended)

1.3.2 Other Related Documents

- A Guide to Constructing and Maintaining Fire-Breaks (DFES 2018)
- AS 3959:2009 Construction of Buildings in Bushfire–Prone Areas (Standards Australia 2009)
- Guidelines for Preparing a Bushfire Risk Management Plan 2020 (DFES 2020)
- Bushfire Risk Management Planning Handbook (DFES 2018)
- Guidelines for Planning in Bushfire Prone Areas (WAPC 2017)
- City of Melville Bushfire Management Guidelines (COM 2019)
- Natural Areas Asset Management Plan (2019)
- Strategic Reserve Management Plans
- Work Instruction- Fire Break Inspections (RA-WI-06) (2021)

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/NZ ISO 31000:2009 Risk Management – Principles and Guidelines*. This process is outlined in Figure 1.

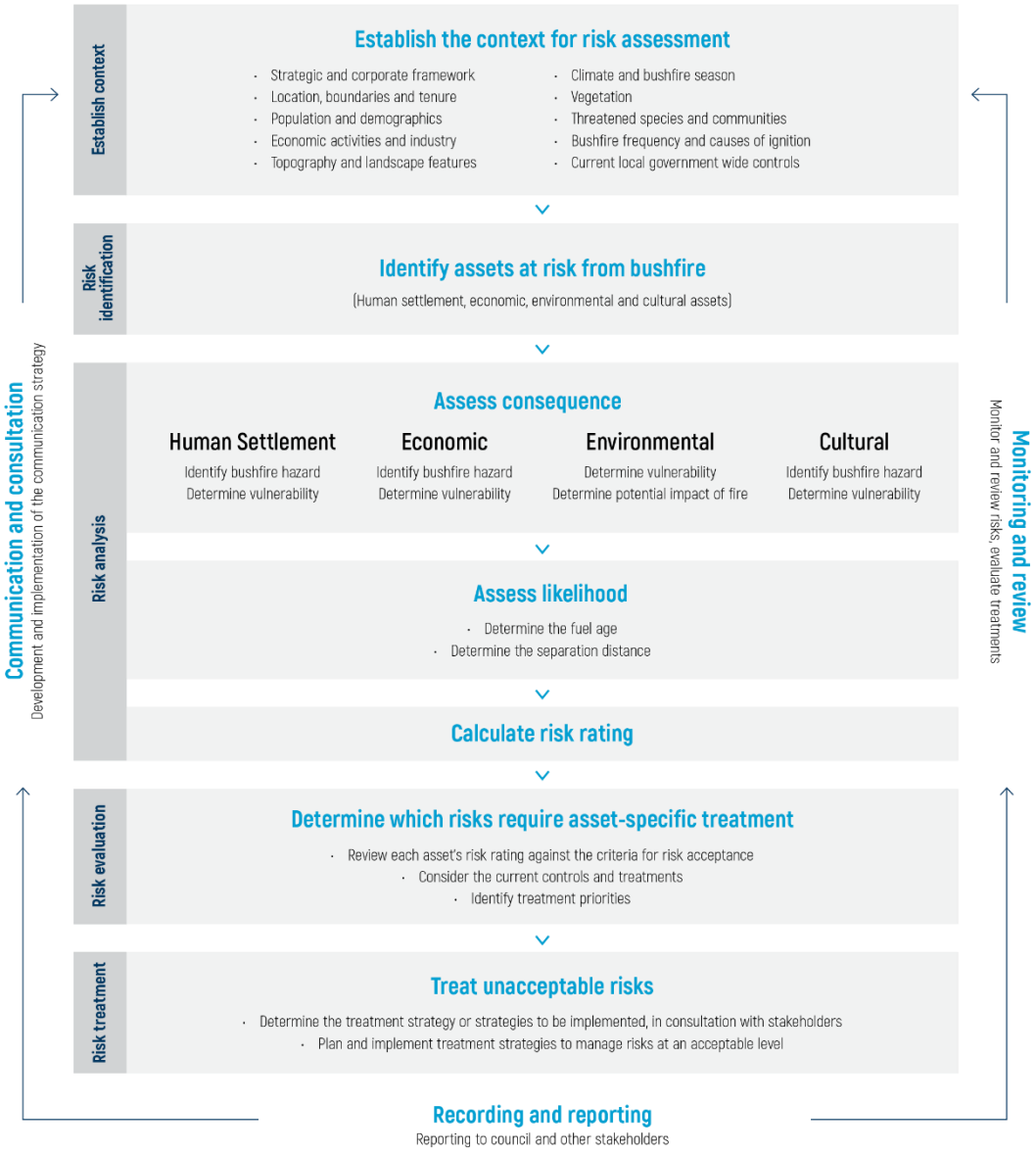

Figure 1 – An overview of the risk management process[1]

[1] Adapted from: AS 3959:2009, with permission from SAI Global under licence number 1510-c081.

2.1. Roles and Responsibilities

The roles and responsibilities of the key stakeholders involved in the development of the BRM Plan are outlined in Table 1.

Table 1 – Roles and Responsibilities

Stakeholder Name	Roles and Responsibilities
Local Government	• Custodian of the Bushfire Risk Management Plan (BRM Plan) • Coordinate the development and ongoing review of the integrated BRM Plan. • Negotiate a commitment from land owners to treat risks identified in the BRM Plan. • Undertake treatments on lands owned or managed by them. • Submit the draft BRM Plan to DFES's Office of Bushfire Risk Management (OBRM) for review and endorsement. • Submission of the OBRM endorsed BRM Plan to council for their approval and adoption.
Department of Fire and Emergency Services	• Participate in and contribute to the development and implementation of BRM Plans. • Support to local government through expert knowledge and advice in relation to the identification, prevention and treatment of bushfire risk. • Facilitate local government engagement with state and federal government agencies in the local planning process. • Undertake treatments on Unmanaged Reserves and Unallocated Crown Land within gazetted town site boundaries. • In accordance with Memorandums of Understanding and other agreements, implement treatment strategies for other land owners. • Review BRM Plans for consistency with the Guidelines prior to final approval by council. • Administer and coordinate the Mitigation Activity Fund Grants Program.
Department of Biodiversity, Conservation and Attractions	• Participate in and contribute to the development and implementation of BRM Plans. • Provide advice for the identification of environmental assets that are vulnerable to fire and planning appropriate treatment strategies for their protection. • Undertake treatments on department managed land, and Unmanaged Reserves and Unallocated Crown Land outside gazetted town site boundaries and land in which they have an agreement for.

Stakeholder Name	Roles and Responsibilities
Forest Products Commission	• Participate in and contribute to the development and implementation of BRM Plans. • Provide information about their assets and current risk treatment programs. • Undertake treatments on lands owned or managed by them.
Department of Planning, Lands and Heritage	• Provide advice for the identification of their assets and infrastructure, specifically Aboriginal and European heritage.
Other State and Federal Government Agencies and Public Utilities	• Provide information about their assets and current risk treatment programs. • Participate in and contribute to the development and implementation of BRM Plans. • Undertake treatments on lands they manage.
Corporations and Private Land Owners	• Provide information about their assets and current risk treatment programs.

2.2. Communication and Consultation

Communication and consultation throughout the risk management process is fundamental to the development, implementation and review of the BRM Plan. To ensure appropriate and effective communication occurred with relevant stakeholders at each stage of the BRM planning process, a *Communication Strategy* was prepared (Appendix A).

3. Establishing the Context

3.1. Description of the Local Government and Community Context

3.1.1 Strategic and Corporate Framework

This Bushfire Risk Management Plan aligns with the Strategic Community Plan 2020-2030 and Corporate Business Plan 2020-2024. Table 2 shows the relevant community aspirations and goals that relate to bushfire risk and mitigation, where the key aspirations of Clean and Green and Healthy Lifestyles highlight the desire to use, maintain and enhance green spaces. Any bushfire treatment options proposed in the BRMP will have to consider sensitive environmental areas and values, the importance of retaining amenity values and ensuring safety of reserve users. Bushfire risk management across the tenures directly meets the goal of enhancing community safety, through engagement with the community, landholders and land managers to manage risk.

Table 2 Relevant community aspirations from the Strategic Community Plan 2020-2030 (City of Melville 2020)

Key Aspirations	Key Strategies	Goal	Objectives
Clean and Green	Holistic and integrated strategies for protection of the City's natural resources	Maintain and enhance ecosystem; species and genetic diversity	No net loss of biodiversity in the City's natural areas Adaptive management of 10 identified threats to biodiversity
Healthy Lifestyles	Opportunities for healthy activities both indoors and out and about in local parks and suburbs walking, running, cycling and exercising individually or in groups.	Greater focus on using the outdoors – our parks, reserves and natural areas - as places for a range of healthy activities	Invest strategically in local infrastructure and built environments that support physical activity and healthy lifestyles.
Safe and Secure	Enhance community safety	Maintain natural areas to a standard that ensures community safety	Ensure hazards are managed to reduce public risk

Bushfire mitigation is currently managed through several sections of the local government, including the Natural Areas and Parks Team (responsible for

maintenance of reserve firebreaks, fuel load reduction, fire emergency plans) and the Rangers team (enforcement of Bushfire legislation, issuing of burning approval and section 33 notices). Key staff include: Natural Areas Coordinator, Natural Areas Officer, Natural Areas Supervisor, Coordinator Ranger Services (appointed as Bush Fire Control Officer) and Manager Natural Areas and Parks (chair of Local Emergency Management Committee for the City).

Other key documents that are relevant to the Bushfire Risk Management Plan include the Natural Area Asset Management Plan, strategic reserve management plans and operational guidelines including the Bushfire Guidelines and Firebreak Inspection work instructions, which aim to reduce risks associated with bushfire.

The Bushfire Risk Management Plan seeks to manage bushfire risk holistically, taking a tenure blind approach, and will enable our local government to better engage with adjacent landholders to understand their risk, manage land appropriately and to the benefit of the whole community.

3.1.2 Location, Boundaries and Tenure

The City of Melville is the fourth-largest metropolitan local government located 8km from the Perth CBD, consisting of 18 suburbs and covering an area of 52.73 km2. The boundaries of the local government are Petra Street, Palmyra in the west, Karel Avenue and Roe Highway in the east, Farrington Road in the south and bordered by 18km of Swan River foreshore to the north. We are boarded by the Cities of East Fremantle, Fremantle, Cockburn and Canning.

As an inner-city local government, we have relatively small proportion of vegetated public land compared with outer local governments, with the majority of land developed and in private ownership. Of the public land, there are a variety of owners and land managers, as detailed in Table 3.

Table 3 – Overview of Land Tenure and Management within the City of Melville

Land Manager/Agency	Percent of Local Government Area
City of Melville	15%
Private	52%
Main Roads	22%

State Government	10%
Federal Government	>1%
Total	100%

Source: City of Melville Intramaps 2022

City of Melville is home to some significant regional assets including hospitals, schools and tertiary institutions, community centres, shopping centres and retail and industrial precincts that are at risk of impacts from bushfire due to proximity to vegetation. The risk register in Appendix B details the individual risks to these assets.

One of the major impacts of bushfire in the City of Melville is interruptions to schooling where bushfires occur near schools or where assets were damaged by bushfire. The Department of Education have a process for identifying and managing bushfire risk to public schools which helps to address these risks. The City will ensure that it communicates the bushfire risk to private schools and encourage them to develop appropriate management plans.

Fiona Stanley Hospital and St John of God hospital are at risk from bushfire due to their close proximity to native vegetation and building having been designed prior to bushfire regulations. Bushfire management at these sites needs to have multiple elements and work with adjoining landowners. Adequate evacuation plans would need to be in place from risk of smoke as well. Multiple site visits have taken place between DFES officers and Department of Health staff, and treatment options have been provided to the facilities management contractor to be undertaken. Department of Health will be a key stakeholder in the implementation of the City of Melville's BRM Plan.

The City consults with DFES each season with Urban Response Plans which allow emergency response personnel to quickly access information about the reserves, environmental assets and adjacent landholders, which helps to reduce the bushfire risk through good planning and preparation.

3.1.3 Population and Demographics

The population estimate for the City of Melville is 102,307 residents, which is set to grow by 24% and reach 126,754 by 2036 (City of Melville 2020). The City is

focusing this growth into activity nodes including Canning Bridge and Riseley Street Precincts. Higher urban densities present some challenges for mitigating bushfire risk where more people are accommodated in closer proximity to natural areas and green spaces.

The age structure and predicted age structure in the next 5 years is shown in Figure 2 below. The median age of residents is 41, which is 5 years older than the Perth and WA averages, and 13% are older couples without children, 4% higher than the Perth and WA averages (City of Melville 2020). The trend shows Melville having an ageing population, with people aged over 80 to be the largest group in Melville by 2036 (Corporate Business Plan 2020-2024). Generally, elderly community members are more vulnerable, more likely to have limited mobility, suffer from health conditions and/or require the care of others. The elderly population often has specific needs or requirements during evacuation to address these limitations. Elderly residents living independently may also have limited scope to undertake property preparations and responded to bushfires appropriately. Further consultation would be required where aged care facilities are deemed at risk from bushfire, and will be a consideration during the implementation of the City's BRM Plan.

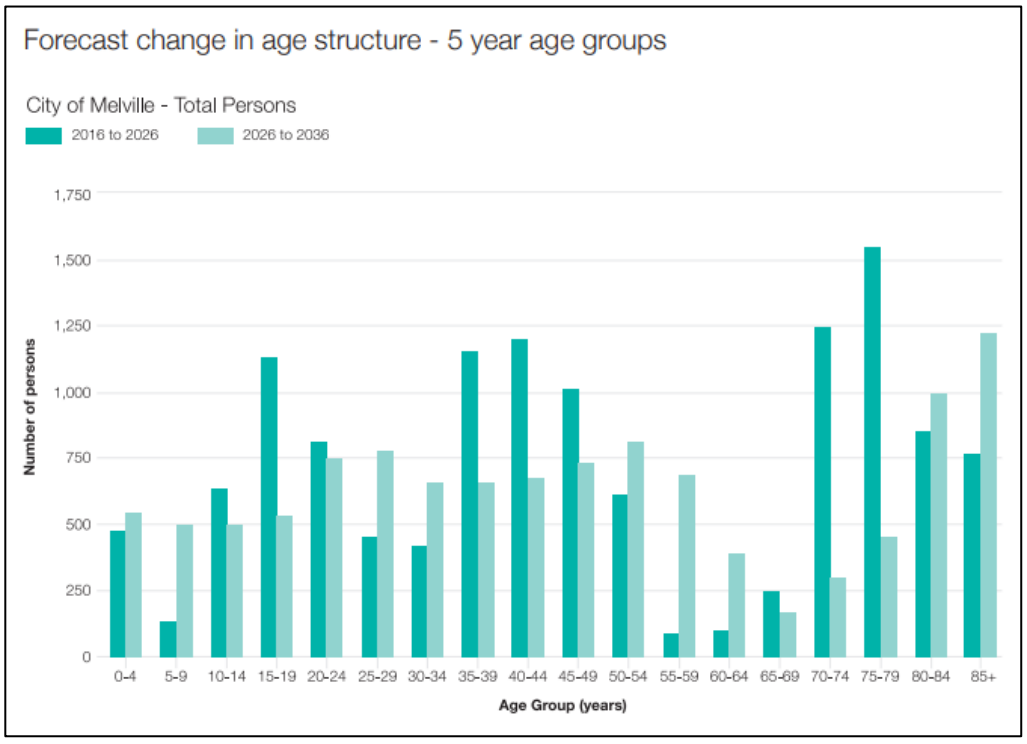

Figure 2 Age structure of the City of Melville, and forecast age change to 2036 (City of Melville 2020)

Our community is culturally diverse but matches the Perth average of 20% for languages other than English spoken at home (City of Melville 2020). Our communication strategy for this plan must take this into consideration. There are a number of actions the City takes to ensure residents are bushfire prepared prior to each summer fire season. This includes:

- Social media awareness raising of actions that can be taken prior to fire season
- Firebreak assessment and issuing of notices
- Communication of TFB through community centres and social media
- Employment of a community engagement and marketing team to help disseminate information to the community

3.1.4 Economic Activities and Industry

The largest industry, by employment and value added, within the City is Health Care and Social Assistance, and the largest industries in terms of outputs are rental, hiring and real estate services. The City of Melville has its major retail and commercial hub in Booragoon, with six supporting district commercial centres and 31 neighbourhood and local shopping centres. The Booragoon hub is located directly adjoining the Wireless Hill Reserve and includes the City of Melville offices, City Library and City of Melville main hall which are all close to bushfire prone vegetation. The City undertake fire break and fuel load reduction in the bushfire prone areas to help reduce any possible impacts on assets and ensure that they don't disrupt the City's services. A focus for the City will be on mitigation measures in the bushfire prone vegetation adjacent to its Operations Centre.

The Myaree Mixed Business precinct is the largest industrial area in the City and provides a diversity of business, retail and industrial functions, with a second industrial area in O'Connor accommodating larger scale manufacturing and traditional industrial uses. There is a risk of fires creating hazardous material incidents, however these are at limited risk by direct impact from bushfire as they are not in close proximity. The City does not currently liaise with business owners in these areas, however this will form part of the BRMP communication plan.

Major transport routes run through the City of Melville, including the Kwinana Freeway, Roe Highway and the Mandurah train line. Leach Highway is also a major transport route connecting through to the Fremantle Port. These routes have the potential to cause traffic and economic disruptions if closed due to bushfire, for people getting to places of employment (e.g. Central Business District) and access to the Fremantle Port. Canning Bridge was the only transport asset deemed at risk from bushfire. Disruptions may occur to supply chains for industry if transport routes were closed, and the Kwinana Freeway and railway line does have bushland adjacent which may force closures in the event of a bushfire. The City does not directly liaise with Main Roads, however this will form part of the BRM Plan implementation and be an ongoing activity in the communication plan.

3.2. Description of the Environment and Bushfire Context

3.2.1 Topography and Landscape Features

The City of Melville is located on the Swan Coastal Plain adjacent to the Swan River, and is relatively flat and low lying. Ground elevation across the City varies between 0 m and 65 m above sea level. The Beeliar wetlands chain, running North/South through southern Perth also pass through the centre of the City, creating a series of wetlands and seasonal damplands.

Some of the highest features within bushfire prone areas include Wireless Hill bushland and Point Walter reserve (see Figure 3 below). Steep slopes and exposure to prevailing winds have increased fire intensity, in particular on North East and North West slopes. Blackwall Reach limestone cliffs may be problematic for emergency access, however the reserve is only 200m wide at the widest point to the road adjacent. It slopes upwards from the foreshore and can be exposed to North Westerly winds which could increase fire speed and intensity. The foreshore areas are low lying with little slope but exposed to winds coming along the river this has the potential to quickly spread fires. However, these areas have good access in the form of firebreaks, footpaths or roads which allow for quick response and suppression.

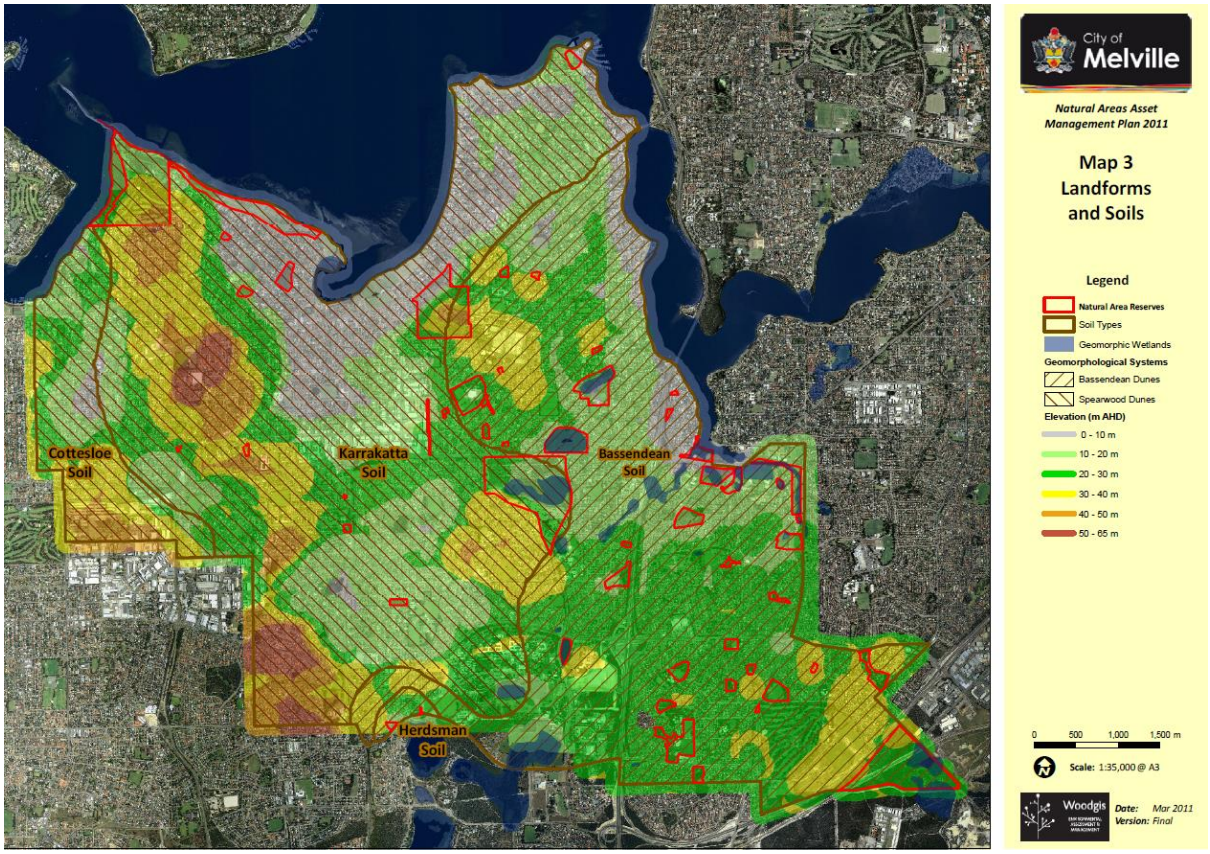

Figure 3 Topography and elevation in the City of Melville

3.2.2 Climate and Bushfire Season

The City of Melville experiences a Mediterranean climate with cool, wet winters and hot, dry summers. As such, bushfire season generally peaks in summer, but can be any time between late spring and early autumn when fuel has dried after winter rains. Climate predictions indicate long-term declines in rainfall and higher average temperatures, which is likely to exacerbate dangerous fire conditions. Increases in extreme weather are also likely to occur, with increasing thunderstorms adding to the potential ignition conditions (DFES 2021).

Perth's prevailing winds blow from west, north-west and north in winter and spring, and south-west, south and east in summer, with higher winds tending to occur in later winter through to summer (City of Melville 2019). The highest bushfire risk conditions are on days with high temperatures and strong easterly or south easterly winds (DFES 2021). Sea breezes when strong can also increase bushfire risk conditions. On days that meet these conditions, the City actively monitors for evidence of fires and may stop the use of equipment from its staff

in bushfire prone areas. These days generally align with days of Total Fire Bans, which the City then issues information to the community about.

The Fire Danger Rating is an indicator of how dangerous a bushfire could be if it did occur under the weather conditions for that day. It does not predict the likelihood of a bushfire occurring. Fire danger rating is used to help plan an adequate response, such as calling a total fire ban or harvest vehicle movement ban to reduce the risk of a bushfire starting where conditions are Very High or above. As shown in Table 4 the City of Melville experiences 20 days per year on average at a fire danger rating of Very High or Severe, which are days where a bushfire that starts could quickly become out of control.

Table 4 Historical Fire Danger rating forecasts in Lower West Coast region 2015-2020 (Bureau of Meterology 2022)

Fire Danger Rating	Low	High	Very	Severe	Extreme	Catastrophic
2015	213	135	16	1	0	0
2016	259	90	16	1	0	0
2017	241	118	6	0	0	0
2018	188	162	15	0	0	0
2019	165	161	30	9	0	0
2020	194	145	24	3	0	0
Total	1260	811	107	14	0	0
Average	210.0	135.2	17.8	2.3	0	0

2019 saw a significant increase in days of Severe and Very High fire danger ratings that coincided with a number of heatwaves experienced in Perth.

3.2.3 Vegetation

The City of Melville straddles the Spearwood dune system to the west (Karrakatta and Cottesloe vegetation complexes) and the Bassendean dune system to the east (Bassendean vegetation complex), with the predominant vegetation type being Banksia woodlands. Other vegetation types include Eucalyptus woodland, Melaleuca woodland, shrublands, grassland, patches of historical pine forest and sedgelands and fringing vegetation. Figure 4 shows the areas of vegetation contained within parks and reserves.

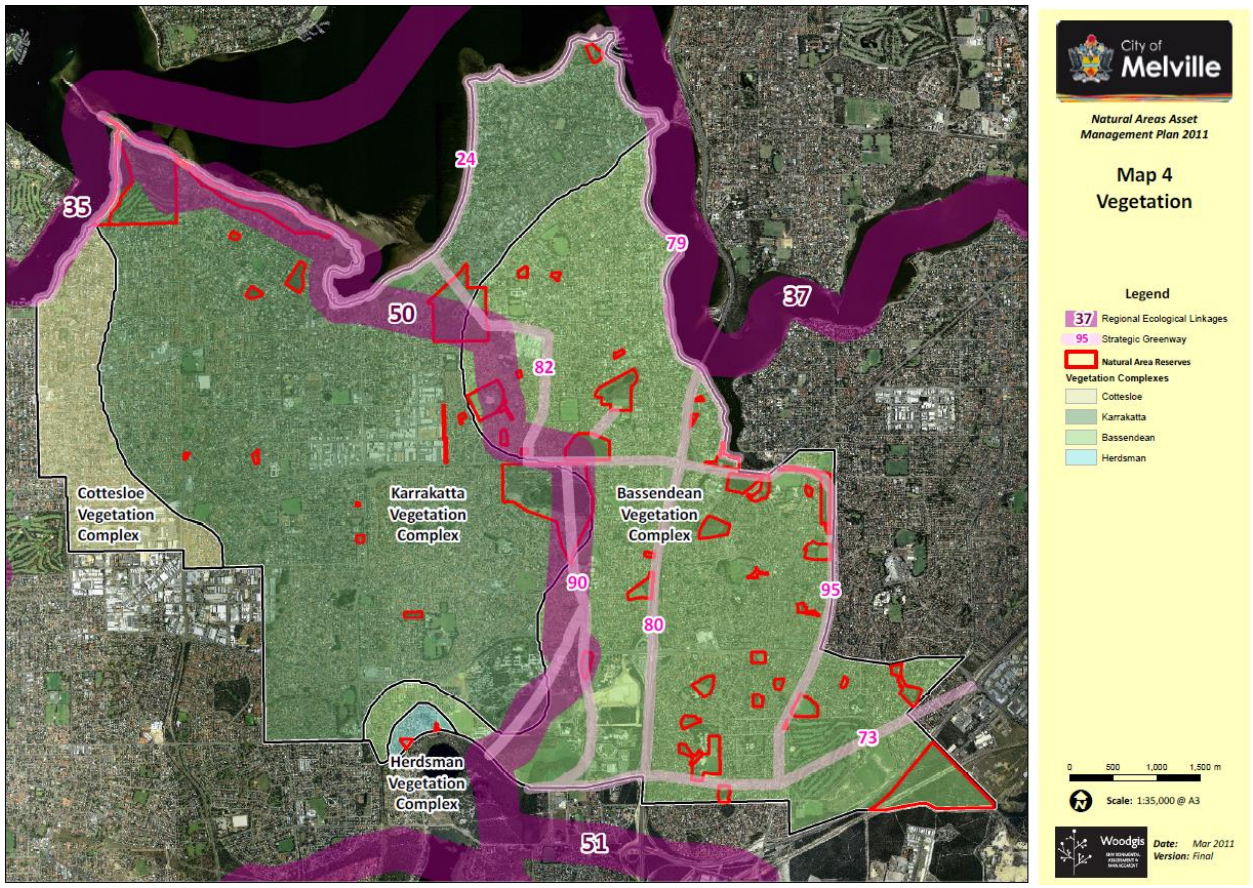

Figure 4 Map of natural areas within the City of Melville, showing the vegetation complexes.

Banksia woodlands are adapted to periodic fire, with many species being resprouters or having seeds that are opened or stimulated by heat and smoke. Fire in some Mediterranean ecosystems promotes germination of the soil seed bank through heat, smoke stimulus, increasing nutrients and reducing competition (Fisher, et al. 2009). However some Banksia woodland species also take a minimum of between 8-16 years for sufficient seed bank accumulation to enable a population to persist after fire (Ritchie, et al. 2021). Fine fuel loads have been shown to peak in Banksia Woodland between 13-20 years following fire (Tangney, et al. 2022), making a fire interval of at least 13 years seem most effective to manage high fuel loads.

Eucalyptus woodland is also adapted to periodic fire, and are able to respond quickly through epicormic re-sprouting or seeding. Eucalyptus woodlands often have a high level of fine fuels (including leaf litter, twigs and bark). Bark of Eucalyptus trees can facilitates the vertical extension of flames into the forest canopy and provides a source of embers that can propagate spot fires ahead of the flame front (Burrows and McCaw 2013).

Melaleuca woodland often occur in damp low laying areas prone to holding water part of the year. The Melaleuca trees develop a large amount of loss paper bark for which they are commonly known, Paperbarks. These areas commonly have small shrubby understory in dyer areas and annual grasses in wetter areas. These areas often have a build-up of litter, bark and other debris which creates a high surface fuel load. While they don't frequently burn fires in Melaleuca woodlands are fast-moving fires which can spot some distance do to the high bark loads. This can be a significant risk to adjoining houses which may not be built to with stand ember density.

Annual and perennial grasses make up a large proportion of fuel loads and increase the risk of bushfires. Grass control is one fire mitigation strategy already utilised within the City of Melville. Species such as Perennial Veldt Grass (*Ehrharta calycina*) respond well after fire and can begin to dominate the landscape if not controlled post-fire (van Klinken and Friedel 2018, Fisher, et al. 2009). Areas where grasses are prominent would require post-fire weed control to ensure biodiversity values are not impacted from prescribed burning mitigation activities (Fisher, et al. 2009).

3.2.4 Threatened Species and Communities

The City of Melville has a comprehensive database of biodiversity assets, which includes 2 threatened ecological communities, 1 threatened flora species, and 29 threatened or protected fauna species listed under the *EPBC Act 1999*. There are a number of Environmentally Sensitive Areas (*EP Act* 1986) that might have implications for fire mitigation, including listed wetlands and 50m buffers of vegetation around them. A full list is available in Appendix B.

The City of Melville contains critically endangered flora species, *Caladenia huegelii,* which is killed by fire during the above-ground phase of their lifecycle (Department of Environment and Conservation 2009). The National recovery plan for this species states that fire should be prevented from occurring during the months of April-November, ruling out most of the prescribed burning season. *Caladenia huegelii* has a population in Ken Hurst Park so other fire mitigation strategies should be looked at for this reserve. Fire mitigation measures should also consider impacts to the habitat of its critical pollinator, the Thynnid Wasp, as well as conditions required for the persistence of mycorrhizal fungi (Department of Environment and Conservation 2009). There is also a

historical record of this species in Robert Weir Park, Leeming, which is presumed extinct.

Dieback (*Phytophthora cinnamomi*) has been listed as a Key Threatened process and is one of the major threats to our Banksia Woodland threatened ecological community. Whilst Banksia Woodland itself is fire dependent (over long time intervals), it is highly susceptible to dieback. Dieback is prevalent in many City of Melville reserves and can be easily spread within and between bushland areas through the movement of infected soil on car tyres, boots and equipment (City of Melville 2018). Wash down of vehicles, including those involved in fire suppression and prescribed burns, is recommended where operating in dieback-infested reserves to help limit the spread (Department of the Environment and Energy 2018).

Many of our threatened bird species are migratory and occur on our foreshores and wetland areas, while fire can impact these species they tend to utilise a large geographical range so single fire events are less likely to have a critical impact on them. Carnaby's and Forest Red-tailed Black Cockatoos are an exception, and are heavily reliant on food sources including Banksia, Marri and Jarrah. Carnaby's Cockatoo return to Perth during the summer months after breeding, whilst Forest Red-tailed Cockatoos occur in forest areas all year around. It is important that food and roost sites are considered when undertaking fire mitigation both to ensure the mitigation doesn't damage them but also to attempt to reduce the risk of damage from a bushfire even. Rainbow bee-eater's are a migratory bird that builds a ground burrow in open, sandy areas during the summer months and would be susceptible to grass fire between Nov-Feb. These species highlight the importance of site based planning for mitigation and the selection of a management program that considers a wide range of values.

The Southern Brown Bandicoot (*Isoodon fusciventer*) is a Priority 4 species under WA Biodiversity Conservation Act 2016 as they are under threat. As one of the few digging mammals, they are considered a crucial part of the ecosystem, creating soil turnover, and have the potential to reduce fuel loads in urban environments (Ryan, Hobbs and Valentine 2019). Bandicoots rely on the dense, dried skirts of *Xanthorrhoea* species for nesting, making them important habitat (Valentine, et al. 2021). *Xanthorrhoea* skirts have also been shown to be refuges to macroinvertebrates and small reptiles both during and after bushfires (Robinson, et al. 2013). Given that *Xanthorrhoea* skirts present a significant fuel source, consideration needs to be given to the habitat value they provide in an

urban bushland setting and only removed where Bandicoots are not known to be present.

3.2.5 Bushfire Frequency and Causes of Ignition

The City of Melville has experienced relatively few bushfires, being a highly developed, inner-city local government. The majority of fires occurring are accidental or deliberate, human-induced fires that are able to be brought under control quickly. Table 5 shows the total number of fires (including fires on private property and other non-bushland areas) occurring within the City of Melville and the cause of ignition (DFES 2021)

Wireless Hill Park has been a hotspot of frequent deliberate ignition, having 5 occurrences of fire over the past 5 years. The City has increased monitoring in this reserve to reduce the opportunity for vandalism or arson occurring.

As the City is highly urbanised, most bushland areas are fragmented, reducing potential fire paths travelling between reserves. Bushfires that have occurred in the City have been contained to one reserve or park. Very few occurrences of bushfires spreading into adjoining houses have occurred in the past 20 years, however the risk is still there since some residential properties directly adjoin vegetation. Adequate firebreaks and/or irrigated grass buffers should be established between areas of native vegetation and adjacent properties.

Table 5 Summary of fire occurrence and ignition source between 2016-2021 for City of Melville

Reported Cause	2016/17	2017/18	2018/19	2019/20	2020/21	Total
Burn off fires	0	1	0	1	1	3
Campfires/bonfires/outdoor cooking	3	1	1	2	1	8
Children misadventure	1	0	1	0	0	2
Cigarette	28	22	19	14	16	99
Electrical distribution (excl. power lines)	0	0	0	0	1	1
Hot works (grinding, cutting, drilling etc…)	2	0	0	0	0	2
Improper Fuelling/Cleaning/Storage/Use of material ignited	0	0	1	2	0	3
Other open flames or fire	1	1	1	0	0	3
Power lines	1	0	1	2	2	6
Reignition of previous fire	3	3	0	4	4	14

Suspicious/Deliberate	20	23	41	11	17	112
Undetermined	0	1	1	1	0	3
Vehicles (incl. farming equipment/activities)	0	0	0	0	1	1
Weather Conditions- Lightning	1	0	1	1	0	3
Weather Conditions (high winds, natural combustion excl. lightning)	2	0	1	0	0	3
Yard maintenance, hand held equipment	0	0	0	0	1	1
Total Number of Bushfires	**62**	**52**	**68**	**38**	**44**	**264**

3.2.6 Current Bushfire Risk Management Activities

Map of Bushfire Prone Areas

The intent of the WA Government's Bushfire Prone Planning Policy is to implement effective risk based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure. The *State Planning Policy 3.7 – Planning for Bushfire Prone Areas* ensures bushfire risk is given due consideration in all future planning and development decisions. This policy does not apply retrospectively, however the BRM Plan can help address this risk for existing development and establishing an effective treatment plan to manage the broader landscape and any unacceptable community risks. The City of Melville Bushfire Prone Area is shown in Figure 5.

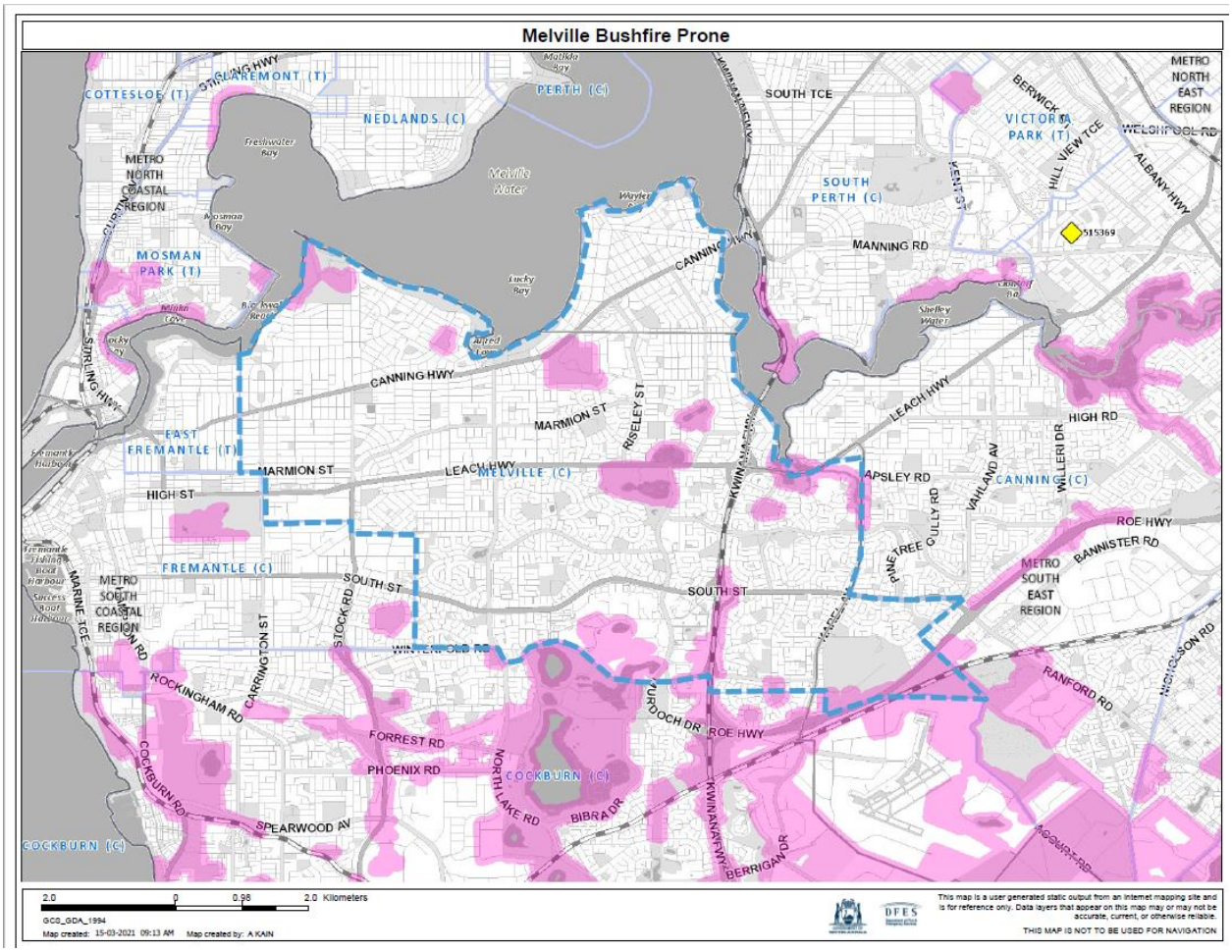

Figure 5 Bushfire Prone Areas within the City of Melville (as at 15-03-2021)

Fire Brigades

The City of Melville is located within the metropolitan fire district (ESL1) and has one career Fire and Rescue station located at Murdoch. Murdoch is backed up by career stations at Canning Vale, Fremantle, and Cockburn. It is also important to note the City of Melville adjoins Jandakot airport where DFES bases its fixed and rotary wing aircraft for fire suppression for the south west fire season. Jandakot airport is located less than 3NM to the centre of the City of Melville the above stations and assets are operated by DFES.

The City does not have any volunteer brigades operating in its vicinity.

Burning Restrictions

The Bush Fires Act 1954 (section 24G (2)) allows the City to prohibit the burning of rubbish, refuse or vegetation unless written approval has been issued by Health Services. The City imposes this restriction unless a permit has been obtained. The City's Health Local Laws (1997) also prohibit the escape of smoke from any premises unless through a chimney. The Health Local Laws also state that approval must be gained for any burning for firebreaks or vacant land in accordance with the designated bushfire season.

The City can issue burning permits, however this has historically only been for the use of campfires. Prescribed burning has not previously been undertaken on a large scale as a bushfire mitigation technique. There have been localised grass tree burning in recent years and one small trial at Piney Lakes Reserve.

Bush Fires Act 1954 section 33 Fire Management Notices

As per the *Bush Fires Act 1954*, it is the responsibility of the Local Government to ensure the risk of bushfire is minimised. The City of Melville fire season commences 15 November each year and continues through to 30 April the following year. Section 33 of the Act allows Local Governments to required owners and occupiers of properties within their jurisdiction to undertake action to prevent the spread and impact of bushfires. The City of Melville does this by placing a notification within the Government Gazette and local newspaper, as well as placing notifications on social media to alert residents to the requirement. In addition, the City of Melville also sends letters to all owners of vacant blocks requesting they clear their land prior to 15 November.

The City of Melville Local Law relating to firebreaks was repealed on 24 April 2021. The City instead issues notices direct to landowners, which is a more direct and flexible way to manage bushfire risk than relying on residents to be aware of their obligations under a local law.

Community engagement activities

Prior to bushfire season, the City promotes the Bushfire Ready campaign and DFES information through social media and the website. Historically DFES undertook an annual community fire-preparedness workshop for our local community the City will work with DFES in hopes to re-establish this.

Information is provided in the Fire Break Notice issued at the beginning of bushfire season, and has been recently updated to incorporate more visual aids for the local community. Bushfire notices are targeted towards those residents directly at risk or who have an obligation under the *Bush Fires Act 1954*, in order for education to be efficient and targeted.

Firebreak maintenance activities

A list of all reserves where firebreaks exist and maintenance is carried out in the City has been compiled in Table 6. The priority rating for each bushland from the City's perspective is based on fire risk. Priority one firebreaks take priority, due to environmental importance or proximity to human settlement. Not all reserves within the City require firebreaks and therefore are not listed in this table.

Table 6 Fire break maintenance priorities for Bushland Reserves

Priority	Reserves
1	Blackwall Reach Reserve Bateman Park Bullcreek Reserve Reg Bourke Richard Lewis Point Walter Reserve Robert Weir Peter Ellis Wireless Hill Ken Hurst Park
2	Harry Stickland Trevor Gribble Bill Brown Peter Bosci Phillip Jane George Welby Ron Carroll
3	Bob Crawford Ken Ingram Connelly Reserve Hatfield Reserve Harold Field Reserve Beasley Park Douglas Freeman Park Dudley Hartree P J Hanley Bainton Park

	Elizabeth Manion Park Fred Johnson Park William Hall

Other Current Local Government Wide Controls

Local Government Wide Controls are activities that reduce the overall bushfire risk within the City of Melville. These types of activities 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. Some notable controls currently in place in City of Melville are:

- Total Fire Ban declaration and notifications
- Fuel Load management
- Firebreak maintenance in City-owned bushland reserves
- Bushfire risk captured through Corporate Risk Register
- Fire evacuation plans for City-owned buildings
- Fire response plans in conjunction with DFES

Further information about the Local Government Wide Controls and how they will support the treatment of bushfire risk can be found in Appendix D Local Government Wide Controls.

4. Asset Identification and Risk Assessment

4.1. Planning Areas

The City of Melville has a single planning area based on the Electoral Ward boundaries.

4.2. Asset Identification

Asset identification and risk assessment has been conducted at the local level using the methodology described in the Guidelines using BRMS. Identified assets are categorised into the following categories and subcategories provided in Table 3.

Table 3 – Asset Categories and Subcategories

Asset Category	Asset Subcategories
Human Settlement	**Residential areas** Residential areas, including dwellings in rural areas and the rural-urban interface. **Places of temporary occupation** Commercial and industrial areas, mining sites or camps and other locations where people may work or gather. **Special risk and critical facilities** Locations and facilities where occupants may be especially vulnerable to bushfire for one or more of the following reasons: • Occupants may have limited knowledge about the impact of bushfires; • Occupants may have a reduced capacity to evaluate risk and respond adequately to bushfire event; • Occupants may be more vulnerable to stress and anxiety arising from a bushfire event or the effects of smoke; • There may be significant communication barriers with occupants; • Relocation and/or management of occupants may present unique challenges or difficulties, such as transportation, or providing alternative accommodation, healthcare or food supplies; or • Facilities that are critical to the community during a bushfire emergency.
Economic	**Agricultural** Areas under production, such as pasture, livestock, crops, viticulture, horticulture and associated infrastructure. **Commercial and industrial** Major industry, waste treatment plants, mines (economic interest), mills, processing and manufacturing facilities and cottage industry. **Critical infrastructure** Power lines and substations, water pumping stations, tanks/bores and pipelines, gas

Asset Category	Asset Subcategories
	pipelines, telecommunications infrastructure, railways, bridges, port facilities and waste water treatments plants. **Tourist and recreational** Tourist attractions, day-use areas and recreational sites that generate significant tourism and/or employment within the local area. These assets are different to tourist accommodation described as a Human Settlement Asset (see above). **Commercial forests and plantations** Plantations and production native forests. **Drinking water catchments** Land and infrastructure associated with drinking water catchments.
Environmental	**Protected** Flora, fauna and ecological communities that are listed as a: • Critically Endangered, Endangered or Vulnerable species under the Environmental Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act 1999) (including associated critical habitat); • Critically Endangered, Endangered or Vulnerable species under the Biodiversity Conservation Act 2016; • Critically Endangered, Endangered or Vulnerable ecological community under the EPBC Act 1999 (Cth); • Critically Endangered, Endangered or Vulnerable Threatened Ecological Community (TEC) endorsed by the Minister for Environment (WA); • Fauna protected under international conventions; and • Ramsar wetlands of international importance. **Priority** Flora, fauna and ecological communities that are a: • Priority species listed on the Priority Flora or Priority Fauna Lists held by DBCA (Priority 1-5). • Priority Ecological Community (PEC) (Priority 1-5); and • Wetlands of national or state importance. **Locally important** Species, populations, ecological communities or habitats that the local community or independent scientific experts consider important for the area and for which there is some scientific evidence that protection would be beneficial. Wetlands of local importance. Sites being used for scientific research.
Cultural	**Aboriginal heritage** Places of indigenous significance identified by the DPLH or the local community.

Asset Category	Asset Subcategories
	European heritage Non-Indigenous 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 local community as being significant to local heritage. **Other** Other assets of cultural value to the local community, for example community halls, churches, clubs 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 *Asset Risk Register* at Appendix B shows the consequence and likelihood ratings assigned to each asset or group of assets identified and the subsequent risk rating.

The percentage of assets within the local government in each asset category at the time of BRM Plan endorsement is shown in Table 7.

Table 7- Asset Category Proportions

Asset category	Proportion of identified assets
Human Settlement	77%
Economic	17%
Environmental	3%
Cultural	3%

4.3.1 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.

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

- **Consequence Rating – Human Settlement, Economic and 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.

- **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.

4.3.2 Likelihood Assessment

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

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

Table 8. This table shows the proportion of assets at risk from bushfire in each risk category at the time the BRM Plan was endorsed.

Table 8- Local Government Asset Risk Summary

Asset Category	Risk Rating					
		Low	Medium	High	Very High	Extreme
	Human Settlement		*25.4%*	*22.5%*	*12.7%*	*16.9%*
	Economic	*1.4%*	*1.4%*	*1.4%*	*9.9%*	*2.8%*
	Environmental				*2.8%*	
	Cultural		*1.4%*	*1.4%*		

5. Risk Evaluation

5.1. Evaluating Bushfire Risk

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

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

5.2. 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 (refer Table 9).

Table 9- Criteria for Acceptance of Risk and Course of Action

Risk Rating	Criteria for Acceptance of Risk	Course of Action
Extreme	Risk to be accepted where all practical attempts are made to mitigate the risk down to Very High rating or lower, while balancing impacts on other values including biodiversity and amenity. Assessment of treatment option has been undertaken and documented with most suitable treatments applied	Extreme risk assets are required to be treated within two years of the plan's endorsement. Treatments will be approached by: • Prioritise treatments that will have maximum benefit to multiple assets and critical infrastructure. • Prioritise treatments that benefit vulnerable communities. • Identification of partnerships with other agencies for strategic mitigation, resourcing and funding where required. • Prioritise communication with asset owners in this class to increase awareness and ownership of risks. Treatments to increase separation distance or reduce fuel loading are preferred where practical. Some treatments may come in the form of community engagement and notification of landholder risk. These assets and treatments are to be reviewed prior to the start of each bushfire season for any significant changes.
Very High	Risk to be accepted where all practical attempts are made to mitigate the risk down to High rating or lower, while balancing impacts on other values including biodiversity and amenity. Assessment of treatment option has been undertaken and documented with most suitable treatments applied	Very High risk assets are required to be treated within two years of the plan's endorsement. Treatments will be approached by: • Mitigation to be undertaken once extreme risks have been addressed according to acceptance criteria • Prioritise treatments that will have maximum benefit to multiple assets and critical infrastructure. • Prioritise treatments that benefit vulnerable communities. • Identification of partnerships with other agencies for strategic mitigation, resourcing and funding where required. • Prioritise communication with asset owners in this class to increase awareness and ownership of risks. These assets and treatments are to be reviewed prior to the start of each bushfire season for any significant changes.
High	Risk to be accepted where all practical attempts are made to mitigate the risk down to	High risk assets are required to be treated within three years of the plan's endorsement. Treatments will be approached by: • Mitigation to be undertaken once extreme and very high risks have

	Medium rating or lower, while balancing impacts on other values including biodiversity and amenity. Assets to be monitored on 2 yearly basis	been addressed according to acceptance criteria • Prioritise treatments that will have maximum benefit to multiple assets and critical infrastructure. • Prioritise treatments that benefit vulnerable communities. • Identification of partnerships with other agencies for strategic mitigation, resourcing and funding where required. • Prioritise communication with asset owners in this class to increase awareness and ownership of risks. These assets and treatments are to be reviewed every 2 years for any significant changes.
Medium	Medium risk assets acceptable with adequate routine controls. Assets to be monitored on 2 yearly basis	Specific treatment action is not required; risk may be managed with routine controls and monitored as required. Mitigation measures will be approached by: • Identification of partnerships with other agencies for strategic mitigation, resourcing and funding where required. • Communication with asset owners in this class to increase awareness as required. These assets are to be monitored as required for any significant changes or increase in risks.
Low	Low risk assets acceptable with adequate routine controls. Assets to be monitored on 5 yearly basis	Specific treatment action is not required; risk may be managed with routine controls and monitored as required. Mitigation measures will be approached by: • Identification of partnerships with other agencies for strategic mitigation, resourcing and funding where required. • Communication with asset owners in this class to increase awareness as required. These assets are to be monitored as required for any significant changes or increase in risks.

5.3. Treatment Priorities

The treatment priority for each asset has been automatically assigned by BRMS and recorded in the *Treatment Schedule*, based on the asset's risk rating. Table 10 shows how consequence and likelihood combine to give the risk rating and subsequent treatment priority for an asset.

Table 10- Treatment Priorities

Likelihood	Consequence				
		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)

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 are non-asset specific, rather they reduce the overall bushfire risk within the local government. As a result of the BRM process, improvements to existing controls include:

- Development of a City-wide communications plan
- Review of current emergency procedures
- Updates to the City of Melville Bushfire Guidelines
- Mapping of bushfire risk and gathering information on asset owners who own bushfire risk relevant to City-managed assets.
- Improvements to unplanned bushfire occurrence mapping procedures for fires larger than 0.5ha

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 five asset specific treatment strategies:

- **Fuel management**

  Treatment reduces or modifies the bushfire fuel through manual, chemical and planned 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.

6.3. Development of the Treatment Schedule

The treatment schedule is a list of bushfire risk treatments recorded within BRMS. City of Melville will be focusing on developing a program of works that covers activities to be undertaken within the first year after the approval of the BRM Plan. The treatment schedule will evolve and develop throughout the life of the BRM Plan. The treatment schedule will be developed in broad consultation with land owners and other stakeholders including DFES and DBCA.

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's *Treatment Schedule* 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 approval. Significant circumstances that may warrant an earlier review of the BRM Plan include:

- Changes to organisational responsibilities or legislation;
- Changes to the bushfire risk profile of the local government; or
- Following a major fire event.

7.2. 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 as described in Table 9. New assets will be added to the Asset Risk Register when they are identified.

7.3. Reporting

The City of Melville will be requested to contribute information relating to their fuel management activities to assist in the annual OBRM *Fuel Management Activity Report*. This includes firebreak maintenance and fuel load reduction activities undertaken on City managed land, number of infringement notices issued for Section 33 non-compliance, and engagement with other land managers in high fire risk areas.

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 (BRMS) used to record the details of assets identified in the Bushfire Risk Management Plan (BRM Plan).
Asset Risk Register	A report produced within the BRMS that details the consequence, likelihood, risk rating and treatment priority for each asset identified in the BRM Plan.
Bushfire	Unplanned vegetation fire. A generic term which includes grass fires, forest fires and scrub fires both with and without a suppression objective.
Bushfire Risk Management Plan	A development related document that sets out short, medium and long term bushfire risk management strategies for the life of a development.
Bushfire Risk	The chance of a bushfire igniting, spreading and causing damage to the community or the assets they value.
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.
Consequence	The outcome or impact of a bushfire event.

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, it is the potential of a bushfire igniting, spreading and impacting on an asset.
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.
Risk Register	A component within the BRMS used to record, review and monitor risk assessmer and treatments associated with assets recorded in the BRM Plan.
Risk treatment	A process to select and implement appropriate measures undertaken to modify risk.
Rural Urban Interface	The line or area where structures and other human development adjoin or overlap with undeveloped bushland.
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 planned 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 BRM Plan, including coordinating or undertaking work, monitoring, reviewing and reporting.

Treatment Planning Stage	The status or stage of a treatment as it progresses from proposal to implementation.
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 BRMS that details the treatment priority of each asset identified in the BRM Plan and the treatments scheduled.
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 planned burn.
Vulnerability	The susceptibility of an asset to the impacts of bushfire.

9. Common Abbreviations

AFAC	Australasian Fire and Emergency Services Authorities Council
BFAC	Bush Fire Advisory Committee
BRM	Bushfire Risk Management
BRM Branch	Bushfire Risk Management Branch (DFES)
BRM Plan	Bushfire Risk Management Plan
BRMS	Bushfire Risk Management System
DBCA	Department of Biodiversity, Conservation and Attractions
DFES	Department of Fire and Emergency Services
DPLH	Department of Planning, Lands and Heritage
EPBC Act	Environmental Protection and Biodiversity Conservation Act
FPC	Forest Products Commission
GIS	Geographical Information System

LEMC	Local Emergency Management Committee
OBRM	Office of Bushfire Risk Management (DFES)
PEC	Priority Ecological Community
SEMC	State Emergency Management Committee
TEC	Threatened Ecological Community
UCL	Unallocated Crown Land
UMR	Unmanaged Reserve
WA	Western Australia
WAPC	Western Australian Planning Commission

10. Appendices

Appendix A	Communication Strategy
Appendix B	List of Threatened Species, Threatened Ecological Communities and Matters of Environmental Significance
Appendix C	Treatment Schedule
Appendix D	Local Government Wide Controls Table

Appendix A Communication Strategy

City of Melville

Bushfire Risk Management Planning

COMMUNICATION STRATEGY

Document Control

Document Name	Bushfire Risk Management Plan Communications Strategy
Document Owner	City of Melville, CEO
Document Location	
Current Version	1.2
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Related Documents

Title	Version	Date
City of Melville Bushfire Risk Management Plan	1.4	November 2022

Amendment List

Version	Date	Author	Section
1.1	8/6/2022	K. Fowler	
1.2	30/8/2022	K. Fowler	

1. Introduction

A Bushfire Risk Management (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 Melville. This Communication Strategy accompanies the BRM Plan for the City of Melville.

It documents the:

- communication objectives;
- roles and responsibilities for communication;
- key stakeholders;
- stakeholders engaged in the development of the BRM Plan and Treatment Schedule; and
- Communication Plan for the implementation and review of the BRM Plan including: 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

2.1. Communication Objectives

The communication objectives for the development, implementation and review of the BRM Plan for the City of Melville are as follows:

1. Key stakeholders understand the purpose of the BRM Plan and their role in the BRM planning process.
2. Stakeholders who are essential to the BRM 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.

5. The community and other stakeholders engage with the BRM planning process and as a result are better informed about bushfire risk and understand their responsibilities to address bushfire risk on their own land.

2.2. Communication Roles and Responsibilities

City of Melville 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:

- City of Melville CEO is responsible for endorsement of the BRM Plan Communications Strategy.
- Coordinator Rangers & Emergency Management, responsible for external communication with other landholders and stakeholders within the local government area.
- City of Melville Natural Areas Officer and Natural Areas Supervisor responsible for operational-level communication between the Shire and the Department of Fire and Emergency Services.

2.3. Key Stakeholders for Communication

The following table identifies key stakeholders in BRM planning process, its implementation and review. 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.

Who is the stakeholder?	What is their role or interest that makes them a stakeholder?	Rating	What level of engagement is necessary for the stakeholder?
Department of Fire and Emergency Services/Office of Bushfire Risk Management (OBRM)	Approval Body for some treatments, Collaborator on BRMP	High	Collaborate
Dept Biodiversity, Conservation and Attractions	Land Owner/Manager	Low	Inform
Main Roads	Asset Owner/Land Manager and Treatment Manager	Medium	Consult
City of Melville	Land Owner, Treatment Manager	High	Inform
Private Landowners	Asset Owner	High	Consult
Department of Education	Asset Owner	Medium	Consult
Murdoch University	Asset Owner/Land Manager and Treatment Manager	Medium	Collaborate
Department of Health (DoH) /SERCO	Asset Owner/Land Manager and Treatment Manager	High	Collaborate
South Metropolitan TAFE	Asset Owner	Medium	Consult

Water Corporation	Asset Owner	Low	Inform
Western Power	Asset Owner	Low	Inform
Amana Living	Asset Owner	Low	Inform
Department Sports and Recreation (Point Walter Camp)	Asset Owner	Medium	Consult
Bushland Friends of Groups	Interested Party	Medium	Consult
Department of Water, Environment and Regulation	Approval Body for some treatments	Low	Inform/Approvals

3. Communications Log – Development of the BRM Plan and Treatment Schedule

This Communications Log captures the communications with key internal and external stakeholders that occurred during the development of the BRM Plan and associated Treatment Schedule.

Timing of communication	Stakeholders	Purpose	Summary	Communication Method	Lesson Identified	Follow up
2018/19, October 2021	DoH/SERCO	Consultation	Consultation on BRMP, Fuel load management recommendations	Phone and Email	N/A	Yes- upon endorsement of BRMP

October 2021	DFES/OBRM	Undertake Bushfire Risk Assessments for BRMP	Reserve Fuel Loading	Site meeting	N/A	
2/12/2021	Murdoch University	Discuss arrangement for fuel load management	Proposed prescribe burn	In person meeting	N/A	Contact when prescribed burn scheduled
16/12/21	DFES/OBRM, COM	Discuss development of BRMP	Risk assessments and responsible officers	In person meeting	N/A	
17/02/22	DFES/OBRM	Submission of draft BRMP	Draft presented for endorsement	Email	N/A	Additional comments to address before endorsement

4. Communications Plan – Implementation and Review of the BRM Plan

This Communications Plan outlines the key communication initiatives that will be undertaken during the implementation and review of the BRM Plan.

Timing of communication	Stakeholders	Communication Objective(s)	Communication Method	Key Message or Purpose	Responsibility
Within 6 months of BRMP endorsement	DFES/OBRM	Collaborate	Email/Site meetings as required	Develop treatment schedule	Natural Areas Officer and Natural Areas Supervisor (COM)
Annually	DFES/OBRM	Collaborate	Email/Site meetings as required	Review of BRMP risk assessments, reporting to OBRM	Natural Areas Officer and Natural Areas Supervisor (COM)
Prior to 2023 Bushfire Season	Private Landholders, Amana Living, Western Power, Main Roads, Water Corporation	Inform	Letter	Bushfire Risk rating	Coordinator Rangers & Emergency Management (COM)

Prior to 2023 Bushfire Season	DoH/SERCO	Consult	Meeting	Consultation on treatment implementation	Coordinator Rangers & Emergency Management (COM)
Prior to 2023 Bushfire Season	Murdoch University	Consult	Email	Consultation on treatment implementation	Coordinator Rangers & Emergency Management (COM)
Prior to 2023 Bushfire Season	South Metro TAFE	Consult	Email	Consultation on treatment implementation	Coordinator Rangers & Emergency Management (COM)
Within 2 years of BRMP endorsement	Dept of Education, Dept Sports and Rec	Consult	Email	Discuss Bushfire Risk Plan for schools and Pt Walter Camp at risk	Coordinator Rangers & Emergency Management (COM)
As Required	DWER	Approvals	Permit Applications	Clearing permits as required where treatment undertaken that removes native vegetation	Natural Areas Officer (COM)
As required	Bushland Friends of Groups	Consult	Email	Treatment implementation	Natural Areas Community Officer (COM)
As required	DBCA	Consult	Email	Treatment implementation	Natural Areas Officer (COM)
5 years	DFES/OBRM	Collaborate	Meeting	Review of Plan and risk assessments	City of Melville

Appendix B List of Threatened Species, Threatened Ecological Communities and Matters of Environmental Significance

Significance	Legislation	Type	Site/Species	Threatened Category
Matters of National Environmental Significance (Federal Listing)	EPBC Act 1999	Threatened Ecological Communities	Banksia Woodlands of the Swan Coastal Plain	Endangered
			Tuart Woodlands of the Swan Coastal Plain	Critically Endangered
		Threatened Flora	*Caladenia huegelii*	Endangered
		Threatened Fauna	*Calidris canutus*	Endangered
			Calidris ferruginea	Critically Endangered
			Calidris tenuirostris	Critically Endangered
			Charadrius leschenaultii	Vulnerable
			Numenius madagascariensis	Critically Endangered
			Sterna nereis	Vulnerable
			Calyptorynchus banksia naso	Vulnerable
			Calyptorhynchus baudinii	Endangered
			Calyptorhynchus latirostris	Endangered
		Migratory Birds	*Actitis hypoleucos*	
			Arenaria interpres	
			Calidris alba	
			Calidris acuminata Calidris melanotos	
			Calidris ruficollis	
			Calidris subminuta Limicola falcinellus	
			Limosa lapponica	
			Limosa limosa Numenius phaeopus	
			Philomachus pugnax Tringa brevipes	
			Tringa glareola	
			Tringa nebularia	
			Tringa stagnatilis	
			Apus pacificus	
			Ardea alba	
			Ardea ibis	
			Haliaeetus leucogaster	
			Merops ornatus	
			Pandion haliaetus	
			Pluvialis squatarola	
			Hydroprogne caspia	

State Listing	BC Act 2016	DBCA listed Threatened Ecological Communities	Floristic Community Type (Swan Coastal Plain) No. 24 Northern Spearwood Shrublands and Woodlands	
	Aboriginal Heritage Act 2021	Registered Aboriginal Heritage Sites	Booragoon Lake Swan River Foreshore Blackwall Reach Foreshore Point Heathcote Reserve Piney Lakes Reserve	
	EP Act 1986	Environmentally Sensitive Area (ESA)	Swan-Canning Estuary Booragoon Lake	Nationally important wetland
			Blue Gum Lake Ken Hurst Park Richard Lewis Bull Creek Park Piney Lakes Reserve Quenda Wetland	Conservation Category Wetland
			Harry Sandon Park Blue Gum Reserve Ken Hurst Park Blackwall Reach/Point Walter/Attadale Reserves Wireless Hill Park Booragoon Lake Bateman/Bull Creek/Richard Lewis/Reg Bourke Park Piney Lakes	Bush Forever

Appendix C Treatment Schedule- Proposed Treatments for Year 2 of BRMP

Treatment Ref	Treatment ID	Treatment Strategy	Treatment Type	Treatment Objective	Treatment Manager	Date Scheduled	Season	Year of Works	Completed
8879		Fuel Management	Mechanical Works	Lower the overall Bushfire Risk to the School	Department of Education	01/07/2021	Winter	2021/2022	N
6242	2728	Fuel Management	Mechanical Works	Reduce the Bushfire Risk on the DoE Site	Department of Fire & Emergency Services	31/01/2019	Summer	2018/2019	N
15804	16858	Fuel Management	Mechanical Works	To create a 31 meter low fuel buffer zone around the building. Reducing ladder fuels and improve fire response access.	Local Government			2023	N
15805	16859	Fuel Management	Mechanical Works	To create a 31 meter low fuel buffer zone around the building. Reducing ladder fuels and improve fire response access.	Local Government			2023	N
15808	16889	Fuel Management	Mechanical Works	To maintain a 31 meter low fuel buffer zone around the building. Reducing ladder fuels and improve fire response access.	Local Government			2023	N
15811	16892	Fuel Management	Chemical Works	To minimise identified grass weeds from the reserve.	Local Government		Spring	Annual	N
15812	16893	Preparedness	Firebreak(s)	Maintain fire response access.	Local Government			Annual	N
15813	16894	Preparedness	Firebreak(s)	To maintain fire response access	Local Government			Annual	N
15814	16895	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
15823	16929	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N

Treatment Ref	Treatment ID	Treatment Strategy	Treatment Type	Treatment Objective	Treatment Manager	Date Scheduled	Season	Year of Works	Completed
15826	16932	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
15828	16934	Preparedness	Firebreak(s)	To maintain firebreak to allow fire response access.	Local Government			Annual	N
15829	16935	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
15830	16936	Preparedness	Firebreak(s)	To maintain fire response access.	Local Government			Annual	N
15832	16938	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
15834	16940	Preparedness	Firebreak(s)	To maintain fire response access.	Local Government			Annual	N
15835	16941	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
15838	16955	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
15839	16956	Fuel Management	Mechanical Works	To create a low fuel buffer zone along the boundary of the reserve adjacent to the road. Reducing ladder fuels and improve fire response access.	Local Government			2023	N
15840	16957	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
15841	16958	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
15847	17024	Fuel Management	Mechanical Works	To create a low fuel buffer zone along the boundary of the reserve adjacent to the tennis courts and building. Reducing	Local Government			2023	N

Treatment Ref	Treatment ID	Treatment Strategy	Treatment Type	Treatment Objective	Treatment Manager	Date Scheduled	Season	Year of Works	Completed
				ladder fuels and improve fire response access.					
15848	17025	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
15849	17026	Fuel Management	Mechanical Works	To create a low fuel buffer zone along the boundary of the reserve adjacent to the road. Reducing ladder fuels and improve fire response access.	Local Government			Annual	N
15987	18285	Fuel Management	Mechanical Works	To reduce over hanging fuel load.	Local Government			2023	N
15989	18287	Fuel Management	Mechanical Works	To create a low fuel buffer zone along the boundary of the reserve adjacent to the road. Reducing ladder fuels and improve fire response access.	Local Government			2023	N
15991	18289	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government	TBD	Spring	Annual	N
15998	18296	Preparedness	Firebreak(s)	To maintain fire response access.	Local Government	TBD		Annual	N
15999	18297	Preparedness	Firebreak(s)	To maintain clear access for fire response teams.	Local Government	TBD		Annual	N
16000	18298	Preparedness	Firebreak(s)	To maintain clear access for fire response teams.	Local Government	TBD		Annual	N
16001	18299	Preparedness	Firebreak(s)	To maintain clear access for fire response teams.	Local Government	TBD		Annual	N
16002	18300	Preparedness	Firebreak(s)	To maintain clear access for fire response teams.	Local Government	TBD		Annual	N

Treatment Ref	Treatment ID	Treatment Strategy	Treatment Type	Treatment Objective	Treatment Manager	Date Scheduled	Season	Year of Works	Completed
16003	18301	Preparedness	Firebreak(s)	To maintain clear access for fire response teams.	Local Government	TBD		Annual	N
16005	18303	Preparedness	Firebreak(s)	To maintain clear access for fire response teams.	Local Government	TBD		Annual	N
16009	18307	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
16010	18308	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
16012	18310	Preparedness	Firebreak(s)	To maintain clear access for fire response teams.	Local Government	TBD		Annual	N
16013	18311	Preparedness	Firebreak(s)	To maintain clear access for fire response teams.	Local Government	TBD		Annual	N
16014	18312	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government	TBD	Spring	Annual	N
16016	18314	Preparedness	Firebreak(s)	To maintain clear access for fire response teams.	Local Government	TBD		2022	N
16017	18315	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
16020	18318	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
16028	18343	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
16029	18344	Fuel Management	Mechanical Works	To create a low fuel buffer zone along the boundary of the reserve adjacent to the road. Reducing ladder fuels and improve fire response access.	Local Government	TBD		Annual	N

Treatment Ref	Treatment ID	Treatment Strategy	Treatment Type	Treatment Objective	Treatment Manager	Date Scheduled	Season	Year of Works	Completed
16030	18345	Fuel Management	Chemical Works	To reduce identified weed grass species within the reserve.	Local Government		Spring	Annual	N
16097	18805	Fuel Management	Mechanical Works	To create a low fuel buffer zone along the boundary of the reserve. Reducing ladder fuels and improve fire response access.	Local Government	TBD		2023	N

Appendix D Local Government Wide Controls Table 2022-2027

Control		Action or activity description	Lead agency	Other stakeholder(s)	Notes and comments
Ref No	What is the control in place?	What is the name of the specific action or activity?	Who is the agency responsible for implementation of the control?	Are there any other key stakeholders who contribute to the success of the control?	Provide a brief description of the action or activity, its contribution to bushfire risk management in the local government, target areas, key timeframes and any work being undertaken to improve the control.
3.2.6	Enforcement of Bush Fires Act 1954	Fire Management Notices for fuel management and firebreak compliance	City of Melville		Annual inspections of firebreak and fuel management compliance, issuing of fire management notices.
		Declaration of Total Fire Bans	City of Melville	DFES	Utilising multiple avenues to communicate Total Fire Bans to the community on days of extreme weather.
	Application of State Planning Policy 3.7- Planning for Bushfire Prone Areas	Fuel Management in Bushfire Prone Areas	City of Melville	Other land management agencies where applicable	Fuel load reduction and risk minimization in areas mapped on the Bushfire Prone Mapping undertaken by DFES, through mechanical and chemical means. Management of established firebreaks in reserves and setting response plans with DFES on annual basis. Firebreak management not limited to only bushfire prone areas mapped, extends to other bushland reserves of a certain size as identified in 3.2.6.

	Community Engagement	Programs to support community awareness of Bushfire preparedness	City of Melville	DFES	Utilising social media, website and flyers to support and communicate the bushfire preparedness messaging from Emergency WA.