Shire of Broomehill Tambellup

looking forward

# Bushfire Risk Management Plan

# 2024 - 2026

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# Document Control

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|---|---|---|---|
| **Document name** | BT_BRMP-v1.1 | **Current version** | 1.1 |
| **Document owner** | CEO Shire of Broomehill-Tambellup | **Issue date** | XX/XX/2024 |
| | | **Next review date** | XX/XX/2026 |

# Document Endorsements

This Bushfire Risk Management Plan has been assessed and endorsed by the Office of Bushfire Risk Management as consistent with the standards detailed within the *Guidelines for Preparing a Bushfire Risk Management Plan*.

The approval of the Bushfire Risk Management Plan by Shire of Broomehill-Tambellup Council signifies support of the plan's implementation and commitment to working with risk owners to manage bushfire risk. Approval does not signify acceptance of responsibility for risk treatments or outcomes on land that is not managed by the Shire of Broomehill-Tambellup.

| Local Government | Representative | Signature | Date |
|---|---|---|---|
| Shire of Broomehill-Tambellup | Michael White - President | | |

# Publication information

# Chapter 1: Introduction

## 1.1. Background

This Bushfire Risk Management (BRM) Plan provides contextual information to inform a structured approach to identifying, assessing, prioritising, monitoring and treating bushfire risk. The document encompasses all land within the Shire of Broomehill-Tambellup and has been written on behalf of all stakeholders within that area. The plan is informed by consultation and communication with land and asset managers that has occurred throughout its development to ensure an informed and collaborative approach to planning. The plan has been prepared by Shire of Broomehill-Tambellup with due consideration of the principles in the international risk management standard *ISO 31000:2018 Risk Management* and is consistent with the standards outlined in the *Guidelines for Preparing a Bushfire Risk Management Plan* (the Guidelines) published by the Office of Bushfire Risk Management (OBRM).

## 1.2. Objective of the Bushfire Risk Management planning program

The objective of the BRM planning program is to support local governments to reduce the threat posed by bushfire. The Shire of Broomehill-Tambellup BRM Plan will contribute to achieving the objective of the BRM program by:

- Guiding and coordinating a cross-tenure, multi-stakeholder approach to BRM planning.
- Facilitating the effective use of the financial and physical resources available for BRM activities.
- Supporting integration between risk owners, strategic objectives and tactical outcomes.
- Documenting processes used to monitor and review the implementation of treatment plans to ensure they are adaptable and that risk is managed to an acceptable level.

## 1.3. Legislation, policy and standards

Legislation, policy and standards that were applied in the development of this BRM Plan can be found in the *Bushfire Risk Management Planning Handbook – Appendix 1 – Summary of Related Legislation, Policy and Guidelines*.

# Chapter 2: The risk management process

The BRM planning process is a cycle of understanding the context and assessing and treating risks (Figure 1). Each of these steps is informed by communication and consultation and supported by monitoring and review. The three products produced during the BRM planning process are the BRM Plan, Asset Risk Register and Treatment Schedule (Figure 1).

Further details on the guiding principles and process for the development of this plan can be found in Chapter 2 of the Guidelines.

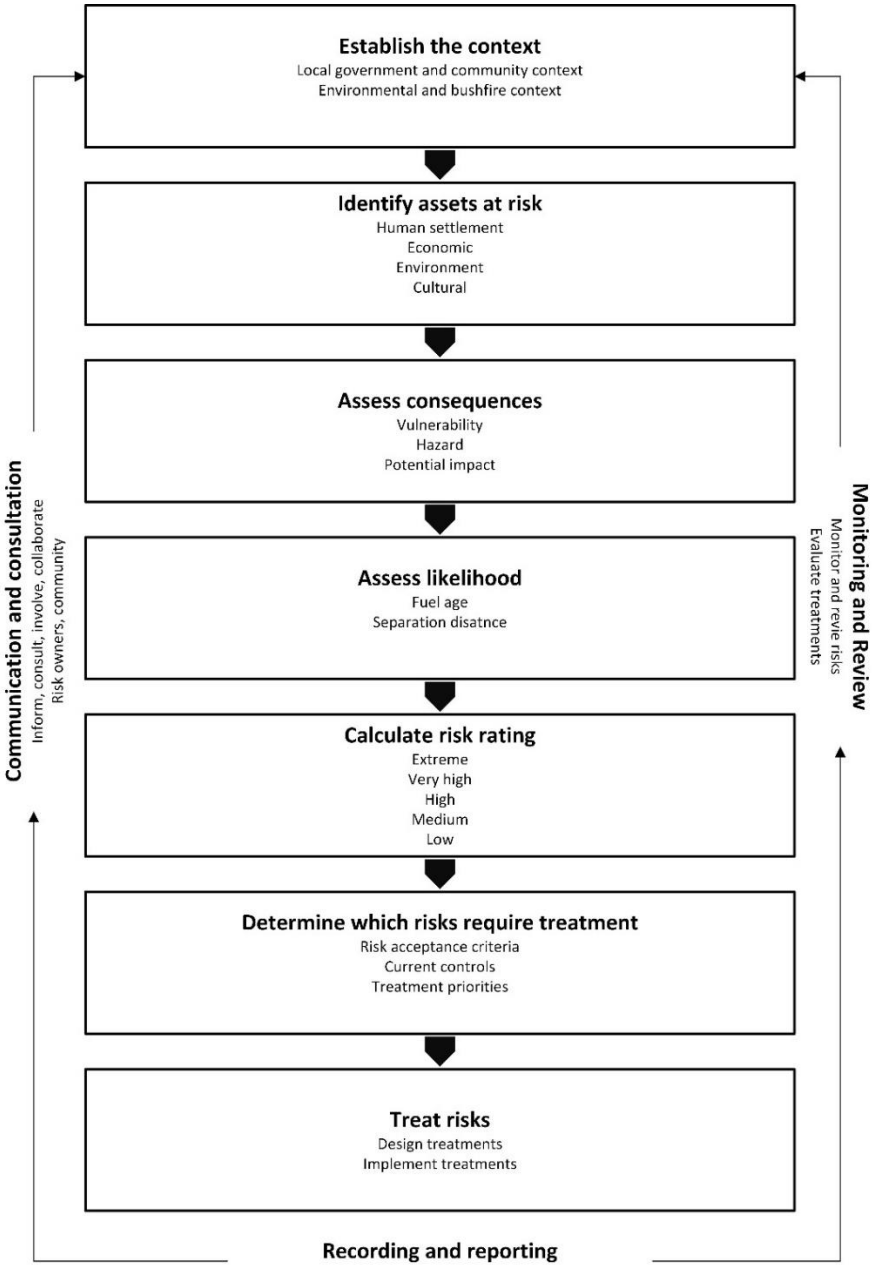



Figure 1. The Bushfire Risk Management planning process

## 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 in the Bushfire Risk Management (BRM) planning process

| Stakeholder* | Roles and responsibilities |
|---|---|
| Local government | • Custodian of the BRM Plan.<br>• Coordinate the development and ongoing review of the BRM Plan.<br>• Undertake bushfire risk assessment of local government area.<br>• Submit the draft BRM Plan to OBRM for review and endorsement.<br>• Develop and implement a Treatment Schedule for local government managed land.<br>• Encourage risk owners to treat identified risks. |
| DFES | • Contribute to the development and implementation of the BRM Plan.<br>• Facilitate involvement of state and federal government agencies in the BRM planning process.<br>• Undertake treatments on Unmanaged Reserves and Unallocated Crown Land within gazetted town sites.<br>• By agreement, implement treatment strategies for other land managers.<br>• Endorse BRM Plans as consist with the Guidelines, BRM Program and dynamic risk environment.<br>• Administer the Mitigation Activity Fund Grants Program. |
| Department of Biodiversity, Conservation and Attractions (DBCA) | • Contribute to the development of the BRM Plan.<br>• Implement their treatment program on DBCA managed land.<br>• Provide advice on environmental assets and appropriate treatment strategies for their protection. |
| Department of Planning, Lands and Heritage | • Identify managed assets.<br>• Provide advice on management of Aboriginal Cultural Heritage. |
| Other State and Commonwealth | • Identify managed assets.<br>• Provide advice on current risk treatment programs.<br>• Contribute to the development of BRM Plans. |

| Stakeholder* | Roles and responsibilities |
|---|---|
| Government agencies and public utilities | • Undertake treatments on lands they manage. |
| Corporations and private land owners | • Identify managed assets.<br>• Provide advice on current risk treatment programs.<br>• Undertake treatments on lands they manage. |

## 2.2. Communication and consultation

Communication and consultation are fundamental to the development, implementation and review of the BRM Plan. A Communication Plan to ensure appropriate and effective communication with relevant stakeholders at each stage of the BRM planning process is at Appendix C. A Communication Log summarising important stakeholder interactions is also provided.

# Chapter 3: The Bushfire Risk Management Plan (BRMP)

The Bushfire Risk Management Plan (BRMP) is a critical document that contains essential regional and local data acquired during the assessment phase. This data is utilised to assess the level of risk posed by bushfires and to determine the necessary actions to reduce this risk. In the development of this plan, significant emphasis has been placed on promoting the concept of 'Shared Responsibility.'

Shared responsibility entails the recognition that multiple parties or individuals have a role to play in addressing the risk of bushfires. In this approach, each party assumes a share of the responsibility for dealing with this issue, rather than relying solely on a single entity or individual.

In the realm of bushfire risk management, shared responsibility encompasses state and local government agencies, private corporations and businesses, local community groups, residents, and ratepayers, all working collectively. Together, this collective endeavours to identify bushfire hazards, participate in risk reduction efforts, and prepare for emergencies.

The principle of shared responsibility acknowledges that many challenges are too intricate or substantial to be effectively tackled by a single entity. Instead, a collective effort is required to develop sustainable and effective solutions. By collaborating and sharing responsibility, stakeholders can bring their unique perspectives, resources, and expertise to the table, thereby increasing the likelihood of success and enhancing overall outcomes.

# Chapter 4: Establishing the Context

In this Bushfire Risk Management (BRM) Plan, the concept of the "context of bushfire in the landscape" encompasses a comprehensive understanding of physical, ecological, and societal factors that collectively influence the likelihood and impact of bushfires. Developing an effective Bushfire Risk Management Plan (BRMP) for the Shire of Broomehill-Tambellup hinges on a thorough grasp of the specific context of bushfires within the region, serving as the cornerstone of the plan.

The forthcoming sections of this report will extensively explore the Shire's distinctive characteristics and framework. This exploration encompasses an in-depth examination of community dynamics, geographical landscape, environmental features, industrial presence, climatic conditions, historical context, existing bushfire mitigation strategies, and the valuable contributions made by key stakeholders in mitigating bushfire risks.

In Section 8, titled "Recommendations," guidance will be provided on addressing areas of concern identified in Section 4. While these concerns may not find direct inclusion in the Bushfire Risk Management System (BRMS), they are nonetheless acknowledged as pivotal opportunities for enhancing bushfire risk mitigation efforts.

## 4.1 Local government and community context

### Strategic and corporate framework

The Shire of Broomehill-Tambellup's Strategic and Corporate Framework is not merely a static document but a living embodiment of the community's aspirations and needs. It reflects a deep understanding of the region's past, present, and future, integrating diverse perspectives and priorities into a cohesive vision for sustainable development and community well-being.

Within the Shire, demographic considerations go beyond mere statistics to encompass the lived experiences and aspirations of its residents. Understanding the age distribution, workplace industries, and cultural diversity. It also takes into account the economic landscape, focusing on sustainable economic development through new business incentives, business support, and tourism initiatives. Infrastructure planning addresses natural areas, and community facilities, aligning with both current and future development. Environmental sustainability is a key theme, emphasising responsible resource management and conservation efforts.

On the community front, the framework prioritises robust community engagement to ensure that strategies align with actual community needs. It also emphasises cultural preservation, acknowledging and safeguarding local traditions, Indigenous history, and cultural diversity. Addressing community service needs, such as healthcare, and social services, is central. Additionally, the framework considers recreational preferences and leisure requirements, outlining

plans for the development and maintenance of parks, sports facilities, and other recreational spaces.

The primary objective of this bushfire risk management plan is to enhance the strategic and corporate framework of the Shire, thereby providing the opportunity to integrate comprehensive measures into future planning and decision-making processes. By providing a foundational understanding of the risks inherent to the Shire, the BRMP achieves this goal through several key components. These include mapping vulnerable assets, cultivating relationships with diverse stakeholders, conducting thorough risk assessments, and drawing insights from historical lessons learned. The integration of insights from the "people power" document further facilitates alignment with strategic objectives, effectively bridging the gap between Broomehill-Tambellup's overarching strategic vision and the imperatives of bushfire risk management.

People Power identifies opportunities across various domains, including community cohesion, cultural appreciation, environmental conservation, built infrastructure enhancement, and distinctive interactions unique to the BT region. These areas offer invaluable insights into community values while also pinpointing vulnerable sectors, crucial assets, and catalysts for community engagement.

Community unity initiatives prioritise well-being and safety through the development of educational programs, robust community engagement strategies, and heightened awareness through communication during emergency situations. Furthermore, efforts are directed towards bolstering volunteerism within the Shire, encompassing development plans, training and resource surveys, program creation to foster intergroup connections, and succession planning. Cultural appreciation underscores the significance of heritage preservation, encompassing physical and moral aspects. There is a strong emphasis on capturing, conserving, and disseminating various heritage facets, including buildings, significant sites, historic events, and cultural traditions, cherished by both the Shire and its community. This underscores the initial steps towards identifying vulnerabilities within the landscape.

Reviewing and celebrating natural environments fosters a deeper appreciation for local reserves and waterways, underlining their intrinsic value. Investment in infrastructure aimed at preserving and enhancing these natural assets not only enhances their social worth but also garners support from the local community, particularly through heritage channels. Similarly, investments in built environments aim at preserving, distinguishing, and evolving existing and new infrastructure within the Shire. These strategic approaches not only adds value to the shire but also attracts tourism, further amplifying the region's distinction. Supported through the cultural, natural and built environments, unique BT interactions, strives to attract tourism to the region, showcasing its diverse offerings and fostering economic growth.

The strategic and corporate framework underscores the shires commitment to public safety and proactive measures, reinforcing the credibility of its broader vision and strategies. In essence, this plan has been developed as an integral driver for the shires framework, actively contributing to the local government's overarching goals of community safety, environmental stewardship, infrastructure resilience, collaboration, adaptability, and public trust. Helping to provide a pathway to protect what matters most to the community.

In conjunction with the strategic and corporate framework, the Shire employs Local Emergency Management Arrangements (LEMA) as a fundamental structure for orchestrating and overseeing emergency response initiatives within the region. LEMA serves as a critical mechanism for ensuring adept preparedness, timely response, and comprehensive recovery from a spectrum of emergencies, including bushfires. Within the framework of LEMA, the Shire conducts assessments to discern the risks and vulnerabilities inherent to the local community, formulates response plans, and identifies necessary resources. This document provides valuable guidance to the Bushfire Risk Management Plan (BRMP) on how to effectively bolster community support for bushfire prevention efforts.

The BRM Plan interlinks with the emergency management structures of the shire, specifically the Local Emergency Management Committee (LEMC) and the Bush Fire Advisory Committee (BFAC). Serving as a foundational document, the plan provides essential information to the LEMC, guiding collaborative planning efforts that seamlessly integrate responses to bushfires with broader emergency management initiatives. Similarly, the BFAC draws upon the plan for policy development, community engagement strategies, and recommendations for ongoing updates. Consistent communication strategies, public awareness campaigns, and a feedback loop from real-time responses further solidify the linkages, fostering a dynamic and collaborative emergency management framework that prioritises community safety and resilience.

Implementing this plan establishes a clear direction for bushfire risk management within the Shire's boundaries, highlighting the shared accountability and responsibility towards this dynamic matter. Regular reviews and adaptations to maintain this plan's relevance, ensures the community can enhance resilience, protect lives and property, and contribute to overall safety and well-being.

### Shire of Broomehill-Tambellup Implementation:

The Bushfire Risk Management Plan (BRMP) represents a comprehensive framework aimed at providing the Shire of Broomehill-Tambellup, its stakeholders, and the broader community with a thorough understanding of bushfire risk within its jurisdiction. Its primary goal is to enhance community awareness, education, and the implementation of planned treatment activities across various localities, facilitating the identification of treatment priorities and aiding in future planning and budget allocation. While traditional approaches to bushfire risk management focused predominantly on response and recovery efforts, there's now a shift towards a more holistic risk management approach encompassing preventive and preparatory measures. Regular review and updates to this plan ensure its continued relevance in light of evolving bushfire risks.

Approved by both the Department of Fire and Emergency Services (DFES) and the Shire of Broomehill-Tambellup Council, the ongoing execution, implementation, review, and adjustment of this plan are overseen by the Shire of Broomehill-Tambellup's Chief Executive Officer (CEO). Collaborating closely with the Community Emergency Services Manager (CESM), the Local Emergency Management Committee (LEMC), and the Bushfire Advisory Committee (BFAC), the CEO ensures the effective administration and evolution of this Bushfire Risk Management Plan (BRMP). Acknowledging the substantial workload associated with this endeavour, the absence of a dedicated position within the shire or region to address long-term objectives may result in a delayed implementation of the plan. However, maintaining the accuracy and currency of data

remains imperative for the shire to uphold a transparent understanding of its ongoing endeavours in managing bushfire risks.

## Land use and tenure

The Shire of Broomehill-Tambellup exhibits diverse land tenures, ranging from privately-owned agricultural lands and residential lots to public amenities, reserves and conservation areas. Figure 2 and Table 2 provides an in-depth breakdown, delineating the ownership structures and associated risk ownership.

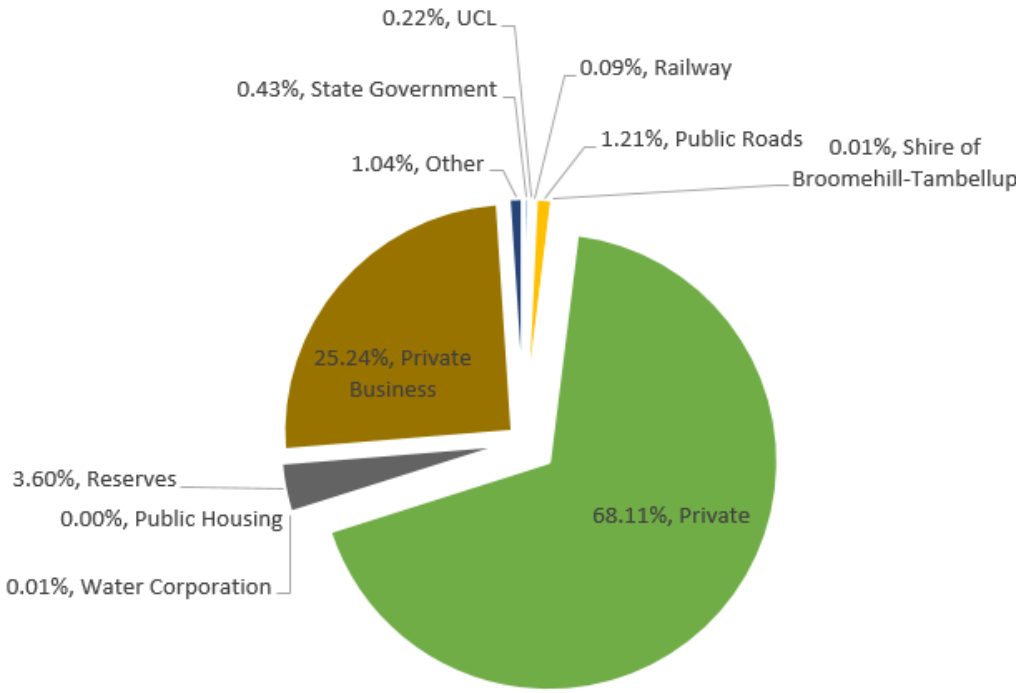



Figure 2 –The Shire of Broomehill-Tambellup land tenure

In a municipality represented by predominantly private landholders, the risk of bushfires may be heightened due to the decentralised nature of land management practices. The Shire of Broomehill-Tambellup illustrates this scenario, with primary land uses predominantly involving crop farming, forestry, and sheep husbandry. The specific management practices associated with these activities, coupled with the timing of their implementation, consistently elevate the inherent risk of bushfires in the region.

| Land Manager/Agency | Percent of Area |
|---|---|
| **State Government** | 0.43% |
| **Shire of Broomehill-Tambellup** | 0.01% |
| **Private** | 68.11% |

| Land Manager/Agency | Percent of Area |
|---|---|
| **Private Business** | 25.24% |
| **Public Roads** | 1.21% |
| **Railway** | 0.09% |
| **Reserves** | 3.60% |
| **Unallocated Crown Land** | 0.22% |
| **Public Housing** | 0.00% |
| **Water Corporation** | 0.01% |
| **Total** | 2,610.00 km² |

Table 3 – Summary of land management responsibilities within the Shire of Broomehill-Tambellup.

In light of the substantial portions of the Shire managed by private landowners, several challenges arise, necessitating strategic considerations within the Bushfire Risk Management (BRM) Plan:

*Reduced Local Population for Fire Prevention:*
The significant management of land by private owners contributes to a diminished local population in towns and communities, impacting the available manpower for fire prevention and firefighting efforts.

*Engagement of Private Landowners as Stakeholders:*
Given the high percentage of privately owned land, proactive engagement with private landowners as key stakeholders becomes crucial. Education and consultation will play pivotal roles in aligning their efforts with the BRM Plan and mitigation strategies.

*Risk Amplification from Non-Compliance:*
Non-compliance by one landholder with Council policies poses an increased risk to neighbouring landowners, particularly those on adjoining properties, emphasising the need for consistent adherence to regulations.

*Economic and Social Implications of Farm Loss:*
The potential loss of one farm, considering the predominantly private land management, carries significant economic and social implications for the Shire, necessitating a comprehensive risk assessment.

*Balancing Mitigation Impact and Productivity:*
Balancing the impacts of mitigation and risk reduction must be carefully considered in the broader context of productivity and associated costs. Striking this balance is essential for sustainable and effective bushfire management practices within the Shire.

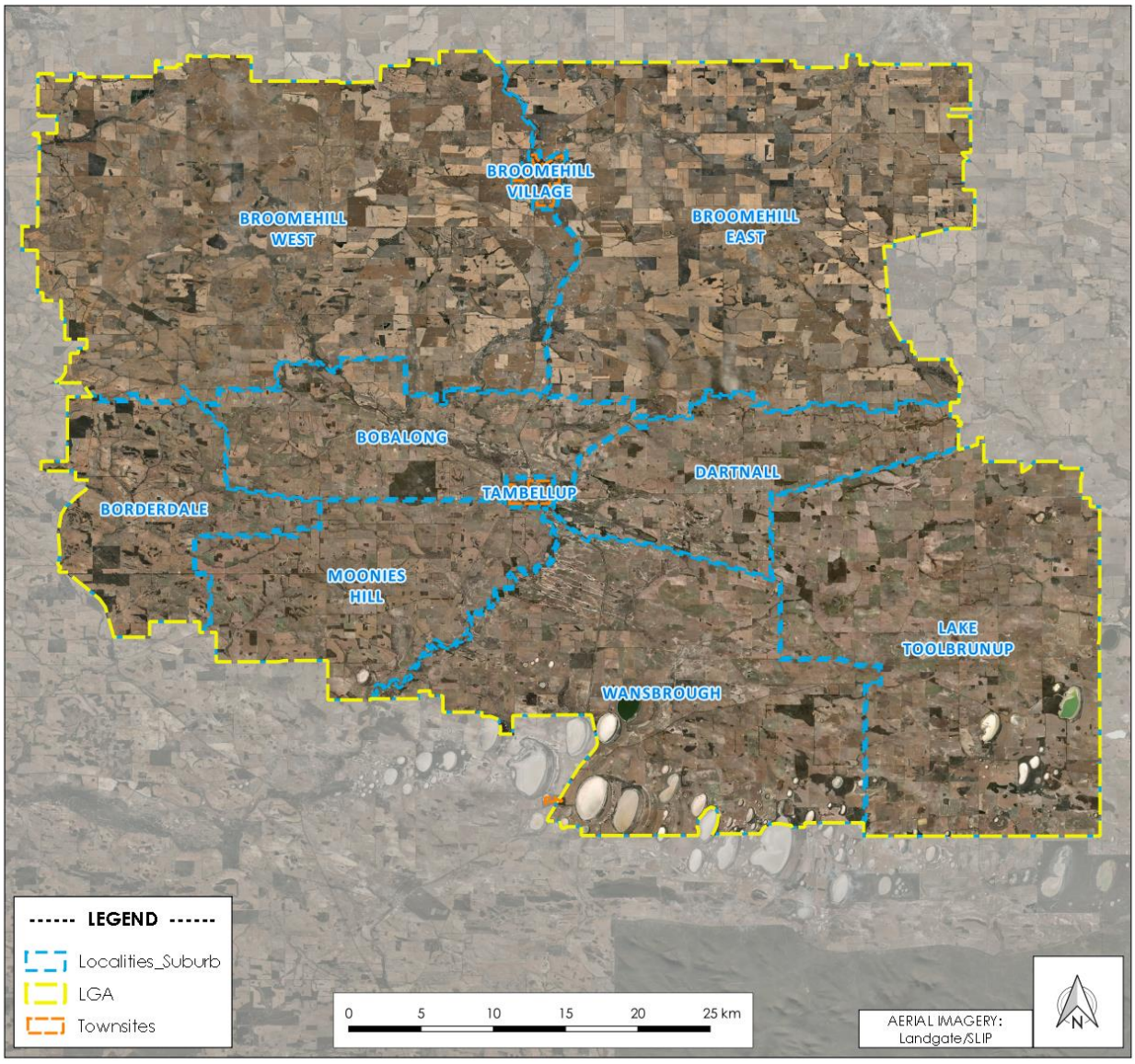



Figure 3 –The Shire of Broomehill-Tambellup map

In addressing the bushfire risk posed by hazardous fuels on private land within the Shire of Broomehill-Tambellup, a traditional yet effective strategy involves the enforcement of the Firebreak Order in accordance with the Bush Fires Act – section 33. This order serves as a foundational document for mitigating bushfire hazards on private properties and is extensively detailed in section 4.2.7 - Current Bushfire Risk Management Activities.

However, it is noteworthy that several government agencies own and manage land within the Shire, and in contrast to private landholders, they are not obligated to adhere to the shire's firebreak notice. This lack of a minimum requirement leads to disparities in land management priorities, frequency, and extent of land management activities among these agencies.

To address this inconsistency and enhance collaborative risk mitigation efforts, this plan strives to bridge the gap. By recognising key stakeholders, identifying relevant contacts within these organisations, establishing accountability measures, and fostering collaboration, the plan aims to

improve overall risk management for the Shire and its community. This approach ensures a more cohesive and coordinated strategy for bushfire risk reduction across both private and government-managed lands.

### Infrastructure

The Shire of Broomehill-Tambellup identifies several significant facilities and structures within its boundaries, each carrying its own level of exposure and vulnerability to bushfire, particularly in the rural context of the region. Through the years, identification of significant municipal Heritage Buildings have been inventorised, cherished for their historical and architectural value, are often constructed from materials prone to fire damage, increasing their susceptibility to bushfire threats. Broomehill's Imperial Hotel is one of the many heritage buildings to be found within the shire, not only holds heritage value, but the Broomehill community formed a cooperative to invest in redeveloping this historic building back to its glory. Providing short-stay accommodation and a social hub to help bolster the opportunities for tourism and continue community connection. Additionally, the sentimental and irreplaceable nature of these structures underscores the need for robust protection measures.

Cemeteries in Broomehill, Pindellup, and Tambellup, while not inherently flammable, the universally recognised significance of cemeteries, the intentional visitation and appeasing features like vegetation and fences can create various levels of vulnerabilities with regards to the cemeteries physical components and the broader community's psychological connection.

Similarly, the Broomehill Caravan Park, situated close to a natural settings, faces heightened risks due to the presence of flammable materials and the transient nature of its occupants. In the rural landscape of the Shire, safeguarding these assets requires strategic planning, community engagement, and collaboration with limited resources and reliance on volunteer firefighters, underscoring the unique challenges faced in protecting these significant structures from bushfire damage.

## Community demographics and values

The Shire of Broomehill-Tambellup boasts a diverse population, comprising agricultural communities and residents in townships. Demographic data reveals a mix of ethnicities and languages, emphasising the importance of understanding the community's linguistic diversity. This understanding is critical for assessing community capacity and resilience to bushfires, taking into account potential language cultural barriers that may influence communication and response strategies.

Moreover, recognising vulnerable groups within this diverse population, such as the elderly or individuals with mobility challenges, allows for targeted and tailored risk mitigation efforts. Given the predominantly rural nature of the population, with a significant proportion residing in agricultural areas dedicated to farming, there is a unique context to consider. Understanding the lifestyle and land use patterns of residents in these agricultural areas becomes essential for crafting effective and community-specific bushfire risk management strategies.

The most recent census for Broomehill-Tambellup reported a population of 1,046, indicating a sparsely populated area. This characteristic carries inherent advantages in mitigating the risk of

bushfires. With fewer residents living in high-risk zones, there are fewer assets to protect. In the event of an evacuation, a smaller population facilitates better local knowledge of people's whereabouts, streamlining the evacuation process with fewer individuals to communicate with, evacuate, and transport to safety.

Furthermore, the limited number of structures and homes to protect in a sparsely populated area allows firefighters to potentially focus their efforts more effectively on containing and extinguishing the fire. This contrasts with more densely populated areas where the protection of homes and structures might necessitate a higher prioritisation, highlighting an additional benefit of the area's sparse population in managing bushfire incidents.

Table 3 below provides comparison data relating to the 2016 and 2021 Census (courtesy of Australian Bureau of Statistics) for the Shire of Broomehill-Tambellup.

| Categories | 2016 | 2021 | Difference |
|---|---|---|---|
| Population | 1,144 | 1,046 | - 8.9% |
| Median Age | 39 years | 41 years | + 5.0% |
| Over the age of 55 | 341 (29.8%) | 354 (33.8%) | + 3.7% |
| Under the age of 14 | 273 (23.9%) | 230 (21.9%) | - 17% |
| Male Gender | 50.6% | 50.3% | - 0.6% |
| Female Gender | 49.3% | 50.2% | + 1.8% |
| Indigenous Status | 11.4% | 13% | + 13.1% |
| Born in Australia | 76.9% | 78.2% | +1.7% |
| England | 3.8% | 3.6% | - 5.4% |
| New Zealand | 2.4% | 1.9% | - 23.25% |
| Primary language: English | 84.7% | 85.3% | + 0.7% |
| Nyungar | 0.7% | 0.9% | + 25% |
| Education: Completion of year 10 or beyond | 53.9% | 59% | + 9.0% |
| Employed Residents | 52.9% | 60.4% | +13.2% |
| Grain-Sheep or Grain Beef | 10.8% | 11.3% | + 4.5% |
| Primary Education | 3.9% | 3.5% | - 10.8% |
| Local Government Admin | 3.7% | 2.7% | - 31.25% |

Table 4 – 2016 and 2021 LGA Broomehill-Tambellup Census

The demographic information for Broomehill-Tambellup indicates not only the impact of bushfires on the community but also underscores additional challenges. The aging population, with the median age rising to 41 years in 2021 compared to the 2016 ABS estimate, suggests a higher proportion of older residents. This demographic shift implies that the shire may need to address different social and health needs compared to younger populations.

As the population ages, the potential challenges for the defence and recovery from bushfires become more complex. Older residents may have unique vulnerabilities and require specific support during evacuation, emergency response, and recovery efforts. Health considerations, mobility issues, and access to medical resources are crucial factors that need to be considered in the context of an aging population.

The current population and demographics of the Shire of Broomehill-Tambellup may not pose significant challenges for bushfire response at present. However, the trends of population decline and an aging demographic raise concerns for the future. If these patterns persist, the shire may need to adapt its emergency management strategies to address the evolving needs of an aging population.

Addressing the challenges associated with an aging population requires a holistic approach, involving collaboration between emergency services, healthcare providers, community organisations, and local government. Strategies may include tailored evacuation plans for older residents, community education on fire safety for vulnerable populations, and enhanced healthcare and social support systems to ensure the well-being of all residents, particularly those who may face increased challenges during bushfire events. Planning for the future should take into account these demographic shifts to build a resilient and inclusive community response to bushfire risks.

### Farming and Backpackers

Over time, the Shire has witnessed a trend of farm consolidation or amalgamation, driven primarily by the pursuit of economies of scale. This process involves farmers acquiring or merging with neighboring properties, leading to larger farms. The key motivation behind this consolidation is the ability to spread fixed costs, such as machinery and infrastructure, over a larger land area.

However, this shift has brought about notable changes, including a decrease in local labor availability, necessitating the outsourcing of labor for seasonal work. The introduction of backpackers to work on farms, while addressing labor needs, also introduces potential risks associated with bushfires. Several factors contribute to an increased risk in this context:

- *Lack of Farming Experience*: Many backpackers lack experience in farming practices and may be unfamiliar with the associated fire risks. Activities involving machinery that produces sparks or the use of tools creating heat can inadvertently start fires.
- *Limited Fire Safety Knowledge*: Backpackers may lack awareness of fire safety practices, such as refraining from smoking near flammable materials, ensuring proper campfire extinguishment, and promptly reporting signs of fire.
- *Environmental Unawareness*: Backpackers may be unfamiliar with environmental factors contributing to bushfire risk, such as dry weather conditions, high winds, and heatwaves. They may underestimate how a small fire can escalate into a large, uncontrollable bushfire.
- *Language and Communication Barriers*: Communication challenges due to language barriers may hinder effective understanding of instructions and coordination among workers or supervisors, elevating the risk of miscommunication and accidents.
- *Insufficient Training and Supervision*: Some employers may fail to provide adequate training or supervision to backpackers, increasing the likelihood of accidents and incidents.

- *Short-Term Nature of Employment*: Backpackers, being temporary in both location and employment, may not receive substantial investment from employers in terms of protective clothing, equipment, or training for bushfire protection. Consequently, the responsibility often falls on the shire to provide continuous management of bushfire brigade membership, supply uniforms, and offer training.

### Community awareness

The community within the Shire of Broomehill-Tambellup demonstrates a nuanced understanding of bushfire risk, shaped by the resilience inherent in small rural towns and the strong reliance on farm response firefighters. There exists a deep awareness of the potential threats posed by bushfires, considering the rural landscape and agricultural activities as contributing factors to fire susceptibility. Residents acknowledge the pivotal role of farm response firefighters, who often serve as the first line of defense against bushfires due to their intimate knowledge of local terrain and vegetation. This reliance on community members for firefighting underscores the collective commitment to protecting lives, property, and livelihoods.

Despite the recognition of bushfire risk, the community exhibits a resilient attitude characterised by preparedness measures and collaborative response efforts. Residents are actively engaged in fire prevention initiatives, including fuel reduction activities, firebreak maintenance, and participation in rural fire awareness education. Moreover, the strong sense of community cohesion fosters effective communication channels and mutual support networks, enhancing the collective response to bushfire emergencies.

However, it's essential to acknowledge the challenges inherent in managing bushfire risk in small rural towns. Limited resources and infrastructure, coupled with vast geographic areas to cover, can pose significant obstacles to effective fire management. The seasonal nature of agricultural work also impacts firefighting capacity, as farm response firefighters may be occupied during critical periods such as seeding or harvest seasons.

Despite these challenges, the community's resilience and collaborative spirit serve as valuable assets in mitigating bushfire risk. By fostering ongoing communication, enhancing firefighting capabilities, and implementing proactive risk management strategies, the Shire of Broomehill-Tambellup continues to strengthen its preparedness and response to bushfire threats, ensuring the safety and well-being of its residents.

## Cultural Heritage

Within the Shire of Broomehill-Tambellup's boundaries, the state recognises five heritage buildings, which all of these buildings are considered at bushfire risk. At a local level, the shire acknowledges 210 heritage areas, which nearly all of them fall within a bushfire risk area. These at-risk sites, both at the state and local levels, hold historic and social value to the community, necessitating additional measures for preservation.

The Shire of Broomehill-Tambellup is committed to honoring the community's aspirations for heritage preservation within its boundaries. Recognising the significance of this endeavor, the Shire has taken proactive steps to establish a local register of these assets and implement a planning policy aimed at safeguarding them for future generations. This comprehensive approach

underscores the Shire's dedication to conserving all aspects of cultural heritage and reflects its readiness to adapt and enhance its conservation efforts as responsibilities evolve over time. Given the deep-rooted attachment of the community to these heritage assets, it is imperative to remain vigilant in monitoring and addressing any potential risks of damage or destruction. To facilitate this, the Shire has leveraged the Bushfire Risk Management Plan (BRMP) and the Bushfire Risk Management System (BRMS) program, systematically identifying these assets for streamlined risk assessment and ongoing management.

In adherence to the Aboriginal Cultural Heritage Act 1972, the Shire diligently seeks community input to identify and evaluate areas with potential Aboriginal cultural heritage significance. Fostering ongoing relationships with Aboriginal communities and Traditional Owners, the Shire maintains a local inventory of identified sites, ensuring active collaboration in safeguarding cultural heritage. This proactive approach serves as a foundation for integrating cultural considerations into bushfire mitigation efforts, enabling the implementation of precautionary measures such as adjusting activity timing, methods, or locations to preserve culturally significant sites.

Moreover, the Shire plays a vital role in raising awareness within the broader community about the existence of Aboriginal cultural heritage sites and the imperative to safeguard them during bushfire mitigation initiatives. The Shire has registered seven sites on the Aboriginal Cultural Heritage Inquiry System, providing an additional tool to identify and assess potential impacts on Aboriginal cultural heritage sites. This comprehensive approach aligns with the Shire's dedication to upholding legal obligations while actively preserving and respecting Aboriginal cultural heritage.

### Economic activities and industry

This plan underscores the agricultural sector's substantial role in contributing to bushfire risk within the shire, citing factors such as landscape modification, native vegetation removal, introduction of annual crops, weed proliferation, contribution to salinity, and farming practices. These factors not only heighten vulnerability in the agricultural industry but also extend risks to other economic activities.

Given the shire's heavy reliance on agriculture, effective bushfire risk management is paramount. Severe bushfires could have profound physical and financial repercussions, devastating crops, livestock, infrastructure, transport corridors, feed sources, and elevating the risk of topsoil erosion.

The period from mid-October to late November marks a critical phase when crops become highly flammable as they cure for harvest. Late November to January, the start of the bushfire season, is particularly precarious as matured crops undergo harvesting. The combination of machinery use, hot/dry days, and 100% cured crops creates a heightened risk of fire, especially considering the characteristics of the crops being grassland.

Majority of the region's economy is tied to farming practices, including the cultivation of crops and livestock farming. Bushfires can pose a direct threat to agricultural assets, including crops, livestock, and infrastructure.

The destruction of farmland and crops can have immediate and long-term economic consequences for local farmers and businesses. In addition, the loss of native vegetation and the introduction of non-native plant species due to agriculture practices contribute to changes in the

landscape, impacting the overall ecosystem and biodiversity. This, in turn, can affect the tourism sector, which is a major component of tourism for the shire.

Furthermore, the potential for increased frequency and intensity of bushfires may result in higher insurance premiums for local businesses, adding an additional financial burden. The economic vulnerability is not only limited to the immediate impact of bushfires but extends to the long-term recovery and rebuilding efforts, requiring significant financial investments and resources.

Without mitigation methods, fires in such conditions can quickly escalate into highly uncontrollable situations. The Great Southern Region's well-developed network of sealed roads, including the crucial Great Southern Highway, plays a vital role in facilitating diverse modes of transportation. This comprehensive network links various towns and serves purposes ranging from emergency services access to commercial transportation and tourism-related activities.

The direct impact or destruction of this primary resource would bear significant consequences for the community. Isolation, hindered emergency response, disrupted businesses, impacted property values, compromised healthcare, education, and economic disruptions are potential outcomes. Such events may lead to supply chain disruptions, reduced tourism, increased costs, and necessitate costly and time-consuming infrastructure rebuilding, with potential environmental damage to address.

To mitigate the bushfire risk linked to economic activities, the Shire has instituted several measures under the provision of the fire break notice. When engaging in harvesting, swathing, and baling activities, the Shire mandates the presence of a powered unit with a minimum 400 liters of water directly adjacent to the works, providing a proactive approach to fire prevention. Harvest and vehicle movement bans are strategically employed to further diminish the bushfire risks associated with economic activities. These bans are enacted in response to specific high risk weather conditions or to facilitate the unimpeded attendance of fire units during active fire incidents within the Shire. These measures underscore a commitment to both preventive actions and rapid response strategies, ensuring a comprehensive approach to economic-related bushfire risk management.

## 4.2. Environment and bushfire context

### Topography and landscape features

The Shire of Broomehill-Tambellup, faces distinct geographic influences that contribute to its vulnerability to bushfires. The region's climate is delineated by extended periods of high temperatures and low humidity, creating conditions conducive to the rapid spread of bushfires. The native vegetation, influenced by the Avon-Wheatbelt biogeographic region, encompasses scrub-heaths and eucalypt woodlands, impacting the fuel load and influencing the intensity of potential bushfires.

The undulating landscapes with low relief in the shire's topography, while aesthetically pleasing, can expedite the spread of fires, particularly when combined with dry vegetation. Extensive land clearing for agriculture has altered the land use pattern, creating a mosaic of agricultural and

remnant native vegetation, further complicating fire management strategies. Proximity to urban areas adds an additional layer of complexity, as rural and residential interfaces increase the risk to communities.

While breaks in dense fuels provide opportunities for fire response tactics, the delicate balance between utilising these breaks and addressing the negative ecological impacts of land clearing necessitates careful management. Comprehensive bushfire risk management plans must account for these geographic influences, considering climate, vegetation, topography, land use, and community dynamics to enhance overall resilience and minimise the impact of bushfires.

The Shires landscape exhibits features that significantly influence fire behavior and bushfire risk. The slopes and changes in elevation can accelerate the spread of fires, especially under windy conditions, creating challenges for containment and control efforts. Land use patterns, particularly the juxtaposition of agricultural areas with remnant native vegetation, introduce a mosaic landscape. This mosaic affects fire behavior, with the contrast between open farmland and vegetated areas influencing flame height, rate of spread, and overall fire intensity.

The composition and structure of the native vegetation contribute to the fuel load. Different vegetation types burn at varying intensities, influencing the overall fire behavior. Additionally, the presence of continuous stream channels and colluvial processes in certain areas can impact fire movement and intensity.

The semi-arid Mediterranean climate further enhances the fire risk, as prolonged periods of high temperatures and low humidity create favorable conditions for ignition and rapid fire spread.

Proximity to urban interfaces, where rural and residential areas meet, introduces a critical factor. The risk to communities increases in these zones, emphasising the importance of strategic planning, community education, and infrastructure protection.

A landscape with distinctive features that pose challenges to effective bushfire response and mitigation. Agricultural fencing emerges as a significant factor, creating obstacles for firefighting resources and limiting access to critical areas. The dense network of fences can impede the establishment of strategic control lines, hindering the movement of personnel and firefighting equipment. Addressing these fencing restrictions becomes paramount in planning and executing efficient bushfire response tactics.

Another noteworthy aspect is the increased fuel load resulting from crops that haven't been harvested. Unharvested crops serve as a ready source of fuel, escalating the risk and intensity of bushfires. The presence of extensive agricultural lands amplifies the challenge, necessitating careful consideration and proactive measures to mitigate the impact of unharvested crops on fire behavior.

Additionally, the recent introduction of wind turbines in the landscape adds a layer of complexity to bushfire risk management. The infrastructure associated with wind farms alters the terrain and when operational could be a significant ignition point. Understanding the layout of the wind turbines, access roads, and associated facilities is crucial for devising effective mitigation strategies.

Dams throughout the region are heavily relied on as a major water source, with the drying climate it can have a huge impact on readily available water. The location and accessibility of dams also

create another level of issues when it comes to responding to bushfires. Adequate water supply is vital for firefighting efforts, and the absence of easily accessible water points can hinder the ability to contain and control fires effectively.

Mitigation strategies are to consider all aspects of the shires bushfire risks and be tailored to address the specific challenges posed by the region's topography, vegetation, climate, and land use patterns to enhance overall preparedness and resilience.

### Climate and weather

The Shire of Broomehill-Tambellup faces heightened bushfire risk due to its Mediterranean climate, presented by hot and dry summers and mild, wet winters. The combination of elevated temperatures and low humidity levels during summer creates a landscape prone to the rapid ignition and spread of fires. Prevailing wind patterns play a pivotal role, influencing the direction and speed of fire expansion. Strong winds can carry embers over considerable distances, sparking spot fires ahead of the main front and making the fires more challenging to predict. Periods of heatwaves contribute to decreased soil moisture, rendering vegetation more susceptible to ignition and elevating the overall fire danger.

The prevalence of thunderstorms in the region introduces the looming threat of lightning strikes, acting as potential ignition sources that can trigger fires in remote areas. These fires, originating in less accessible locations, present formidable challenges for firefighting endeavors. The heightened risk is intensified during periods of extreme temperatures, represented by prolonged summer conditions, which accelerate the desiccation of vegetation, creating an environment conducive to rapid fire spread. Compounding these challenges are the seasonal strong prevailing winds that persist throughout the entire bushfire season. Primarily occurring in the late afternoon, these winds predominantly blow from the south/southwest direction, further amplifying the vulnerability to bushfires and necessitating strategic planning for effective firefighting and risk mitigation.

Over numerous years, fire brigades across the Shire have been actively engaged in vegetation management, engaging in hazard reduction burns as a primary strategy, preferably conducted in autumn or, alternatively, in spring. However, achieving consistency, ensuring the availability of volunteers and suitable conditions for these burns has been a challenge due to various contributing factors. Notably, the demands of agricultural operations, particularly during critical phases such as seeding and harvesting, have posed constraints on the reliable execution of these essential hazard reduction burns. This intersection of land management priorities underscores the need for careful planning and coordination to optimise the effectiveness of vegetation management strategies within the Shire.

#### Bushfire Season:

The bushfire season in the Shire of Broomehill-Tambellup typically spans from December to March, coinciding with the region's hot and arid summer climate. These months pose a heightened risk of bushfires due to the prevailing weather conditions characterised by high temperatures and low humidity levels.

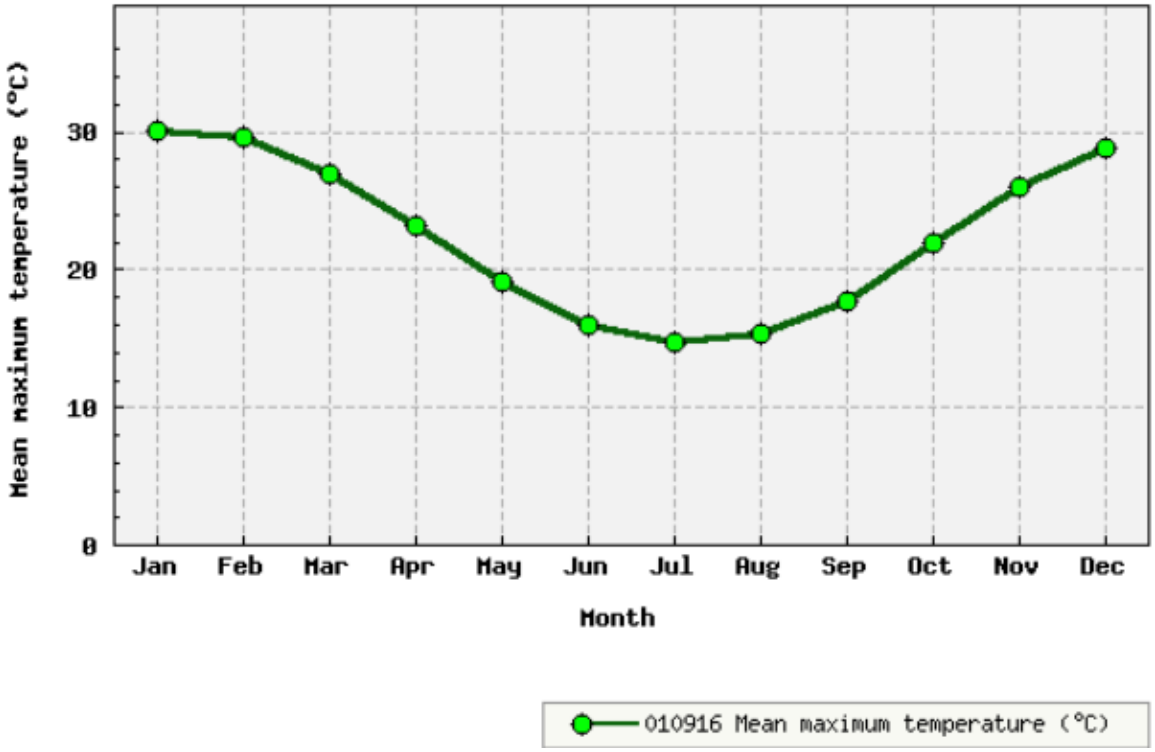
The peak of fire danger usually occurs from late spring through early autumn, as the vegetation on the ground becomes increasingly dry following the winter rains. This period sees the convergence

of heat troughs, particularly in proximity to the Pilbara region, along with the influx of hot air masses from the interior, creating an environment conducive to hazardous fire weather conditions.

As a guide, here are some key characteristics of the average climate in the Shire of Broomehill-Tambellup (closest weather station is Katanning):

### Temperature:

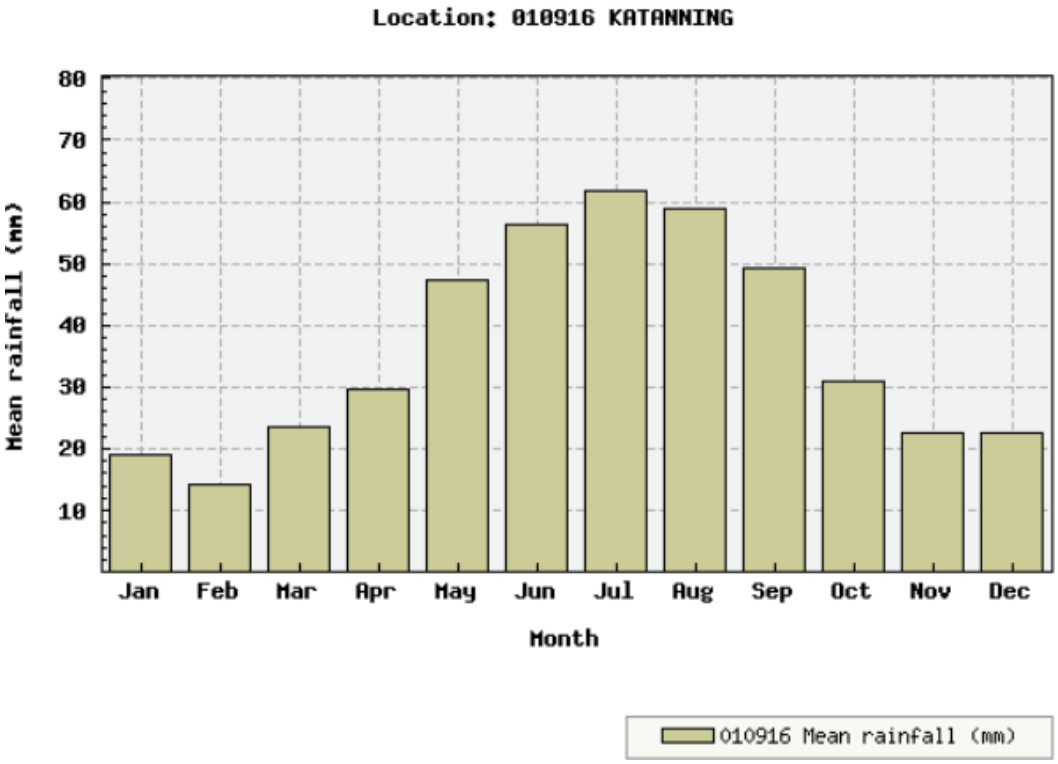
Seasonal temperature patterns significantly influence the local climate. During the summer months (December-February), the average maximum temperature hovers around 30°C, as illustrated in Graph 1. Correspondingly, the average minimum temperature in this period is approximately 15°C. In the winter months (June-August), a distinct shift is observed, with the average maximum temperature decreasing to approximately 16°C, accompanied by an average minimum temperature of around 9.2°C.




Graph 1 – Mean maximum temperature line graph

### Rainfall:

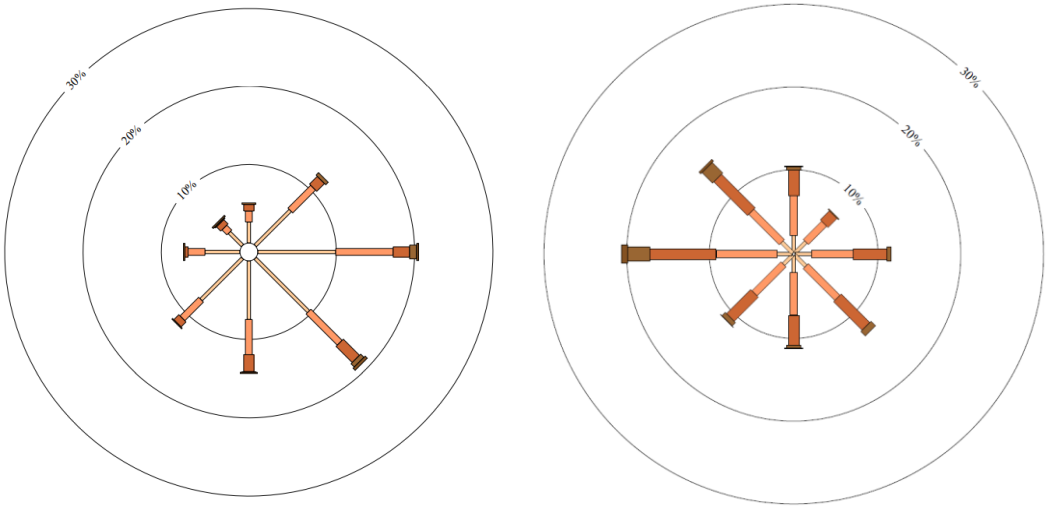
Annually the average rainfall for the shire is approximately 436 millimeters, with the predominant rainfall concentrated during the winter months. Notably, January and February emerge as the driest months, while July and August register as the wettest, as depicted in Graph 2. Recognising this seasonal precipitation pattern is vital for evaluating bushfire risk, as it directly influences vegetation moisture levels and the overall susceptibility of the landscape to ignition and fire propagation.




Graph 2 – Mean rainfall bar graph

## Wind:

The Shire of Broomehill-Tambellup can experience strong winds throughout the year, with the highest wind speeds typically occurring in spring and summer. The prevailing winds in this region are usually in the afternoon from the west-southwest direction (see figure 4& graph 3).




9am 3pm

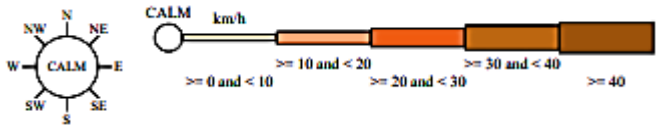
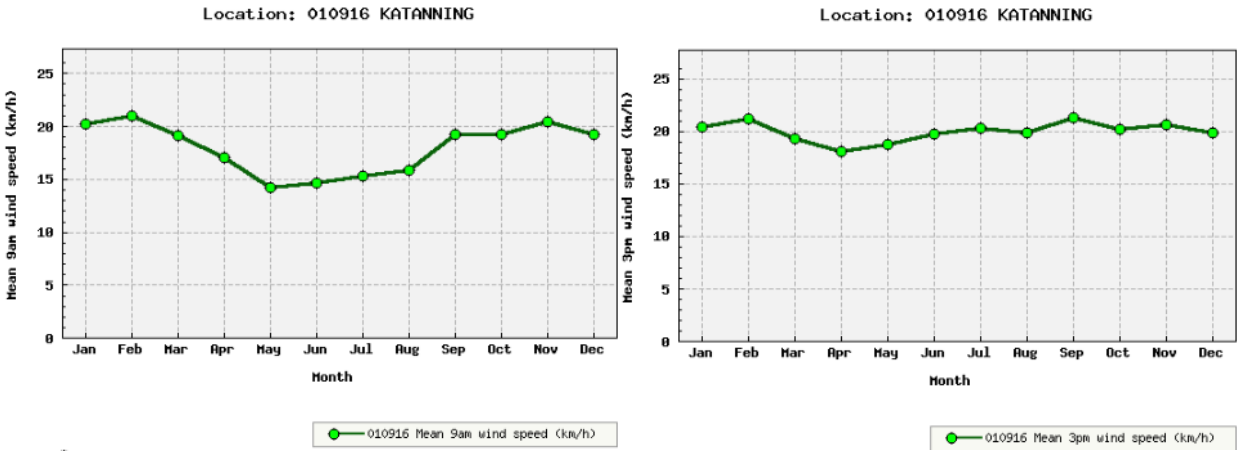



Figure 4 – Wind rose 9am & 3pm




Graph 3 – Mean 9am & 3pm wind speed

While historical weather data remains instrumental in forecasting future weather patterns, its efficacy diminishes in capturing the dynamic impacts of climate change. Evolving atmospheric variables, shifts in rainfall patterns, and rising sea levels introduce uncertainties into long-range weather predictions. Natural phenomena like El Niño and La Niña events, along with solar variability, further contribute to unpredictable weather patterns.

Between 2020 and 2023, Australia experienced an extended La Niña climate pattern, modelled by a cooling equatorial Pacific Ocean and subsequent global weather shifts. In Western Australia, La Niña typically results in cooler and wetter conditions, leading to above-average rainfall, particularly in the north and northwest, with potential flooding. It also influences cooler temperatures in the southern regions and stronger coastal winds.

While the primary impact of La Niña is observed in northern Western Australia, the southern parts experience cooler summers and increased rainfall. A February 2023 report from the Climate Council, titled "Powder Keg: Australia Primed to Burn," highlighted Australia's future weather predictions, historical patterns, and the heightened risk of major grass fires. Given the agricultural nature of the majority of the Broomehill-Tambellup Shire, which comprises grasslands or crops, the report underscores the need for the shire to consider future risks.

Key findings from the report pertinent to the Shire include:

- The La Niña cycle during 2020-2023 reduced the risk of bushfires due to cooler and wetter weather patterns, promoting increased vegetation growth.
- Australia anticipates the conclusion of the prolonged La Niña cycle with the potential onset of an El Niño cycle, intensifying the threat of both grassfires and major forest fires. El Niño induces warmer and drier conditions, reduced rainfall, and heightened bushfire risk in Western Australia.

- Historical instances of protracted La Niña events in the 1950s, 1970s, and 1990s resulted in prolific vegetation growth followed by extensive grass fires and major forest fires.
- Recent global events underscore the danger of grass fires, particularly in hot and dry conditions. If accompanied by strong winds, these fires could escalate to an unprecedented scale, posing a significant risk to people, wildlife, and property.

To proactively manage these risks, the Shire of Broomehill-Tambellup, along with relevant authorities, diligently monitors weather and fire conditions during this critical period. Timely warnings and alerts are issued as needed. Residents are strongly advised to take preventative measures, including ensuring the bushfire resilience of their properties and having a well-prepared bushfire survival plan in place.

## Native Vegetation

The Shire of Broomehill-Tambellup grapples with enduring challenges stemming from extensive land clearing for agricultural pursuits. This practice has not only impacted native habitats but has also exacerbated salinity issues across the region. The absence of natural barriers to salt incursion amidst fluctuating water table levels renders vast areas unsuitable for agricultural use and compromises the integrity of indigenous vegetation. This, in turn, significantly influences the susceptibility of these landscapes to bushfires. While some areas become highly combustible due to dead or dying vegetation, others transform into barren expanses. Addressing bushfire risks necessitates a nuanced approach tailored to each area's specific conditions, accounting for prior land use practices and resulting landscape modifications that shape fire behavior and mitigation strategies.

### Native Vegetation Distribution

The extensive land clearing for agricultural purposes in the Shire has led to the fragmentation and isolation of native vegetation, presenting a complex mix of challenges and opportunities. While the breaks in dense vegetation offer potential avenues for fire response tactics and may reduce overall bushfire risk, the encroachment of agricultural environments around these areas has negatively impacted the ecological health and persistence of native flora. The introduction of non-native plant species has triggered various issues, including the displacement of native flora by invasive species, alterations in soil composition and nutrient levels, and accelerated post-fire recovery, altering vegetation structure and increasing fuel loads. Furthermore, the fragmentation and isolation of these areas pose significant threats to vegetation survival and biodiversity, hindering species recolonisation and exacerbating genetic bottlenecking due to diminished genetic diversity. The integration of agricultural practices around these areas has compounded ecological impacts, highlighting the urgent need for comprehensive strategies to mitigate adverse effects on native vegetation and bolster ecosystem resilience.

### Vegetation Systems

The following vegetation system definitions provide a better understanding of the different formation of native vegetation found in the Shire of Broomehill-Tambellup. Figure 5 visually shows the boundaries of the vegetation systems.

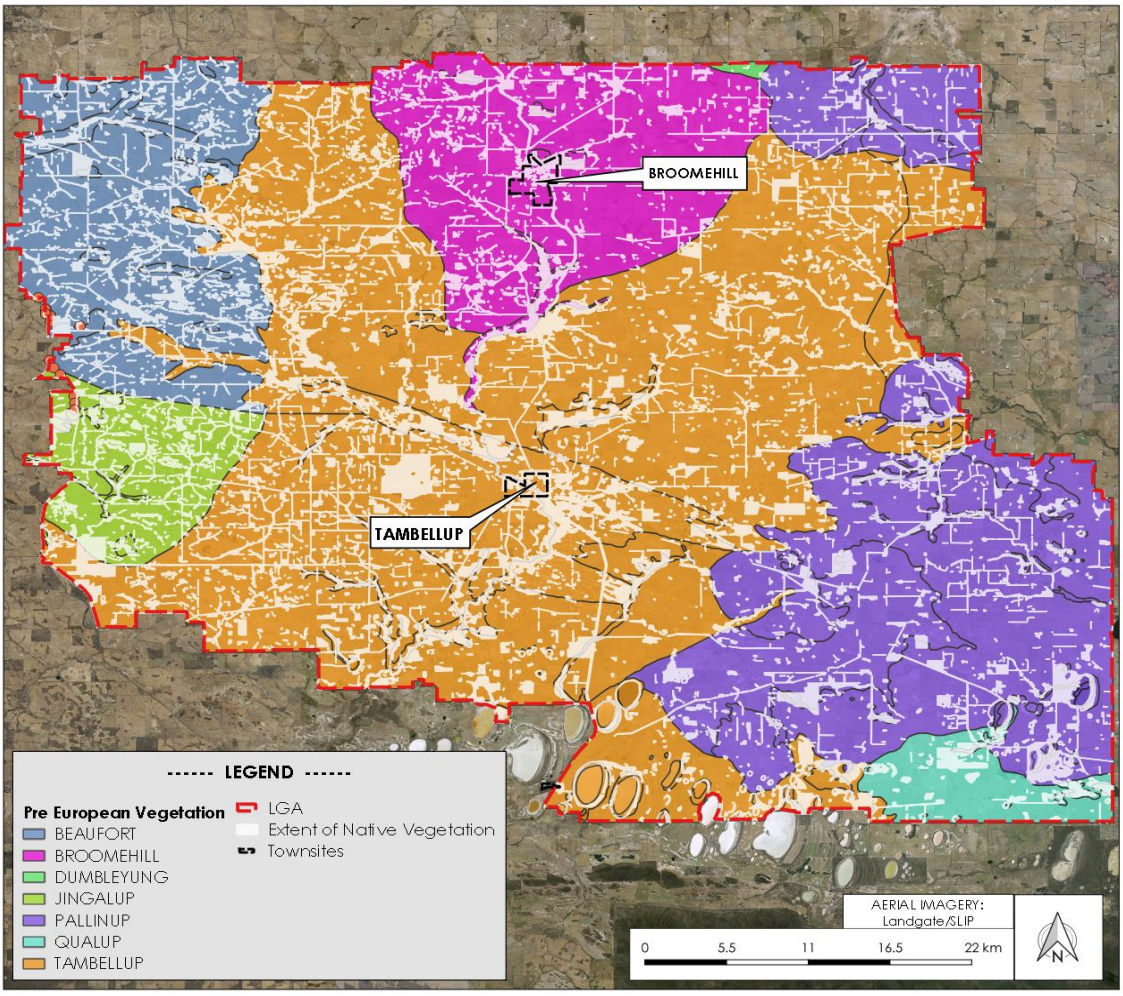



Figure 5 –The Shire of Broomehill-Tambellup Vegetation map

*Broomehill Vegetation:*

A plateau forming an almost flat to gently undulating plain with heavy soils which are subject to inundation. The area was originally covered by woodland whose composition varied from area to area, the prevalence of blue mallet associated with wandoo formed the bulk of the woodland population. Brown mallet and blue mallet abundance on lateritic rises, dissected and undulating terrain would be populated by York gum rather than blue mallet. Flat top Yates and red Morrel are occasional species, salmon gum less common. Smaller species, jam, manna wattle, rock sheoak, needle tree and grass tree.

*Tambellup Vegetation:*

Dissected country, almost entirely drained by the Gordon River. A number of laterite capped hills carrying blue and brown mallet woodland. Predominately covered with woodland of wandoo and flat topped yate, becoming isolated on valley floors where wandoo alone occurred with sandy soils. Occasional large shrubs, jam, rock sheoak and stinkwood would become dense in open patches of woodlands. Other small shrubs, common brown pea, needle leaved chorizema, terate leaved

dampiera, York road poison, mountain primrose and narrow leaved pimelia. Herbaceous plants included, pincushions, cowslip orchid and vanilla orchid.

Depicted within figure 5, white lines outline the extent of remaining native vegetation within the boundaries of the shire.

### Fire behaviour:

In contrast to agricultural farmland, native vegetation areas present a more diverse landscape with varied fuel structures and compositions. These areas feature dense vegetation patches interspersed with open spaces or natural fire breaks, creating a mosaic landscape that significantly influences fire behavior. The topography and configuration of native vegetation areas, including hills, valleys, and natural features like streams or rocky outcrops, further impact fire behavior by altering wind patterns and the rate of fire spread. Human activities and infrastructure, such as roads, buildings, and machinery, also play a role in shaping fire behavior, although agricultural areas are typically more heavily influenced by human interventions.

Native vegetation often comprises a wider array of fuel types, including trees, shrubs, and grasses, which may not burn as rapidly or uniformly as agricultural crops. Additionally, these areas may contain natural breaks such as rocky outcrops, streams, or patches of less flammable vegetation, which can impede the progress of a fire and slow its spread.

Understanding these differences is crucial for developing effective fire management and mitigation strategies tailored to each specific environment. While both agricultural farmland and native vegetation areas pose fire risks, variations in fuel characteristics, management practices, landscape configuration, and human influences necessitate distinct approaches to fire prevention, preparedness, and response.

### Species Vulnerability:

Despite the adaptability of indigenous plants to fire for regeneration and management, overlooking vulnerability or introducing an incorrect fire regime can have devastating effects on the vegetation, its ecosystem, or the survival of specific species. The following endemic native plants in the Shire of Broomehill-Tambellup exemplify susceptibility to fire:

Wandoo Eucalyptus:

- Medium to large-sized tree, regenerating by seeding into an ash bed.
- Resilient to mild or moderate intensity fire, susceptible to high-intensity bushfires.

Banksia Species:

- Various forms, exhibiting susceptibility to fire.
- Seeds require heat from fire and nutrients from ash for germination; smoke may further promote seed germination.

When mitigation planning is being undertaken, the two principles will be considered, the ecological management of vegetation and the abatement of fire hazard.

Correctly managing the remaining native vegetation is paramount for the Shire. During the planning stages of any future mitigation works, consideration of native species and their vulnerability will be assessed for appropriate courses of action.

### Mitigation Works

Common bushfire mitigation techniques such as planned burns or mechanical works are employed to reduce fuel loads and decrease potential fire severity. However, if not managed appropriately, mitigation works can result in unintended negative consequences, including weed infestations, disease introduction and increased fuel loads.

During planned burns, the intense heat can stimulate dormant weed seeds to germinate rapidly, leading to new weed populations that outcompete native vegetation. Simultaneously, mechanical works may introduce weeds due to inadequate machinery cleanliness, inadvertently transporting them to new areas during reactive bushfire control or mitigation programs.

### Weeds

Weeds pose a significant risk as potential fuel sources for bushfires due to their inherent flammability. Many weed species are highly combustible, readily igniting and facilitating the rapid spread of fire. Compounding this risk, weeds often thrive in less-maintained areas such as roadsides, vacant lots, and other challenging-to-access locations.

The competitive nature of weeds, outcompeting native vegetation, alters the landscape and heightens the bushfire risk. Invasive weeds can swiftly dominate an area, displacing less flammable native plants and creating conditions conducive to the accumulation of dry, combustible materials like dead leaves and branches. This buildup increases the susceptibility of the area to ignition and amplifies the potential for rapid fire spread.

Furthermore, some weeds exhibit a response to fire that stimulates their growth, complicating control efforts. Beyond their combustibility, certain weed species produce volatile oils that can easily ignite. These oils may be released into the air during hot and dry weather conditions, further elevating the likelihood of ignition or the escalation of a bushfire. The multifaceted nature of weed-related risks underscores the importance of proactive management strategies to mitigate the impact of weeds on bushfire hazards.

## Introduced Vegetation

A substantial 91%, with ongoing clearing, of the native vegetation in Broomehill-Tambellup has been removed to make way for farmland and agricultural use. This trend aligns with broader patterns observed across various regions in Australia, including Western Australia. The loss of native vegetation is a consequence of extensive land clearance driven by agricultural expansion, urban development, and other human activities.

### Plantation:

Eucalypt and pine plantations, commonly cultivated for timber production, pose specific and heightened bushfire risks due to their unique characteristics. These risks include high fuel loads with highly flammable foliage and bark, rapid biomass production rates, and the presence of volatile essential oils in eucalyptus trees. The needle-like leaves of pine trees can easily ignite and

contribute to the spread of fire, potentially leading to more intense crown fires. Additionally, these plantations are often monoculture, increasing vulnerability to widespread damage in the event of a fire.

The dense stands in these plantations can create challenging conditions for firefighting efforts, limiting access for firefighting resources. Proximity to urban areas raises concerns about potential impacts on human lives and property, emphasising the need for effective fire prevention and response measures. The combustibility of eucalypts and pine trees increases the risk of ember transport during a fire, potentially igniting new areas and exacerbating the overall fire risk. Effective risk management for these plantations involves a combination of preventive measures, such as firebreaks and thinning, along with preparedness measures, early detection, community education, and collaboration with firefighting agencies. Land-use planning and zoning regulations are crucial for minimising the impact of these plantations on nearby communities.

### Agriculture:

91% of the shire has undergone clearance for agricultural purposes. This underscores the critical need for a comprehensive understanding and effective management of introduced vegetation, including crops, plantations, orchards, and weeds, in relation to the risk of bushfires. The subsequent section outlines pertinent characteristics and key considerations related to agricultural land use.

The cultivation of rye, wheat, oats, lupins, and canola is prevalent in agricultural practices. The bushfire risk associated with these crops is subject to variability influenced by factors such as the specific crop type, prevailing climate conditions, and the farming practices employed.

| | |
|---|---|
| Oats (cereal grain) | Find applications in animal feed and human consumption, such as oatmeal or granola. With a biomass production rate similar to wheat, oats typically carry a lower fuel load than ryegrass. |
| Wheat (cereal grain) | A cereal grain cultivated for both human consumption and animal feed, exhibits a lower biomass production rate compared to ryegrass. This generally leads to a lower fuel load; however, variations in fuel load can be influenced by the specific type of wheat and the farming practices employed. |
| Ryegrass | Frequently utilised for forage, pasture, or as a cover crop to mitigate soil erosion and enhance soil quality. Due to its high biomass production rate, ryegrass can generate a substantial amount of plant material, resulting in a relatively high fuel load. |
| Lupins (legumes) | Commonly grown for animal feed and soil improvement. Despite their ability to fix nitrogen in the soil, enhancing soil fertility, lupins generally exhibit a lower biomass production rate compared to cereal grains, resulting in a potentially lower fuel load. |
| Canola (oilseed) | Utilised for cooking oil and biodiesel production, generally exhibits a lower biomass production rate. The specific characteristics of canola contribute to its potential impact on bushfire risk, a consideration that warrants further exploration. |

As a general trend, ryegrass and other cereal grains typically have higher fuel loads compared to legume crops such as lupins or oilseed crops. The precise fuel load of a specific crop is contingent

upon several factors, including the particular crop variety, prevailing growing conditions, and the farming practices implemented.

In addition to the inherent characteristics of a crop, additional considerations stem from the practices employed during the curing or harvesting process. The following outlines some of the critical concerns associated with these practices.


Chemicals - Depending on the growing conditions, chemicals are used on crops to speed the process of curing or to suppress weeds/pests. The residue of some herbicides can be flammable and can contribute to the ignition of plant material. While burning of certain crops (for example canola) with chemical residue can release additional toxins into the air, such as polycyclic aromatic hydrocarbons (PAHs) and dioxins, which are associated with increased cancer risk.

Diseases - The presence of diseases, such as ergot fungus, poses a significant risk to cereal crops, particularly rye. Ergot produces toxic compounds known as ergot alkaloids and thrives in warm and humid conditions, primarily during flowering and grain development. To mitigate the impact of this fungus on the harvest, farmers employ a strategy of cutting crops higher during seasons with higher rainfall. While this approach helps reduce the overall abundance of the fungus, it inadvertently results in a higher fuel load during the bushfire season.

## Important species and communities

The Shire of Broomehill-Tambellup is home to various species and communities protected under both state and Commonwealth legislation. These may include threatened or endangered plant and animal species, as well as unique ecological communities. These protected areas contribute significantly to the biodiversity of the region and are subject to conservation measures.

### Threatened Flora:

Threatened flora comprises plant species that have undergone assessments designating them as being at risk of extinction. In the Western Australian context, these species are officially recognised as "Declared Rare Flora" (DRF), signifying their status as plants in need of particular protection due to their vulnerability to extinction, rarity, or the necessity for specialised safeguarding measures.

Within the Shire's jurisdiction, a number of priority plant species have been identified, a detailed reference of these specific species is cataloged in Table 4 for easy and comprehensive consultation.

| Species | Common Name | Conservation Status |
|---|---|---|
| Acacia depressa | Echidna Wattle | T EN |
| Gastrolobium lehmannii | Cranbrook Pea | T VU |
| Adenanthos pungens subsp. effusus | Sprawling Spiky Adenanthos | T CR |

Table 5 – Broomehill-Tambellup's Threatened Flora

### Threatened Fauna:

The Biodiversity Conservation Act of 2016 provides a precise definition for "threatened fauna," categorising it as fauna that is either rare or faces the imminent risk of extinction. These species are designated as "threatened" following comprehensive surveys that confirm their rarity, precarious status, or the necessity of special protective measures.

Moreover, the Biodiversity Conservation Act of 2016 extends protection to various other categories of fauna. This includes migratory birds safeguarded under international agreements, species presumed to be extinct, and other fauna with specific protective designations. A comprehensive list of both threatened and specially protected fauna within the jurisdiction of the Shire can be found in Table 5, emphasising the significance of conservation efforts in preserving the diverse and vulnerable wildlife in the region.

| Scientific Name | Common Name | Conservation Status |
|---|---|---|
| Bertmainius monachus | Talyuberlup pygmy trapdoor spider | T EN |
| Bettongia penicillata ogilbyi | woylie, brush-tailed bettong | T CR |
| Calidris canutus | Red knot | T EN |
| Calidris ferruginea | Curlew Sandpiper | T CR |
| Calyptorhynchus banksii naso | forest red-tailed black cockatoo | T VU |
| Calyptorhynchus baudinii | Baudin's cockatoo | T EN |
| Calyptorhynchus latirostris | Carnaby's cockatoo | T EN |
| Calyptorhynchus sp. | white-tailed black cockatoo | T EN |
| Charadrius leschenaultii | Greater sand plover, large sand plover | T VU |
| Dasyurus geoffroii | chuditch, western quoll | T VU |
| Leipoa ocellata | malleefowl | T VU |
| Macrotis lagotis | bilby, dalgyte, ninu | T VU |
| Myrmecobius fasciatus | numbat, walpurti | T EN |
| Pseudocheirus occidentalis | Western ringtail possum, ngwayir | T CR |
| Psophodes nigrogularis | western whipbird | T EN |

Table 6 – Broomehill-Tambellup's Threatened Flora

Red/White tailed, Carnaby and Baudin Cockatoo's have been sighted within the shire, these protected species relies on wandoo and other endemic flora for habitat trees for nesting and residence. When planning and executing mechanical and planned burning mitigation works, it is crucial to carefully assess the potential impacts on habitat, especially in recognized or isolated areas of significance.

Consideration should be given to the effects of habitat destruction and disturbance, recognising the importance of these areas for these Cockatoo's and other native fauna species. Preserving native environmental pockets during mitigation works becomes paramount, contributing to the conservation of habitat for a variety of native fauna.

To achieve this conservation objective, the implementation of a strategy involving identifying habitat trees and creating a protection zone by raking the surface and duff fuel away from the tree before undertaking slower, mosaic burning, would be highly recommended. This approach creates security of future long term nesting, while providing additional time for animals and insecta, including the Cockatoos, to find refuge in unburnt pockets. Moreover, it ensures the creation of areas of refuge, facilitating the movement of animals through the landscape once burning activities are completed. Adopting such practices becomes a critical balancing act, effectively conserving essential habitat for Cockatoos and the broader native fauna community in Broomehill-Tambellup, while still addressing the imperative need for bushfire risk mitigation. This thoughtful and strategic approach underscores the Shire's commitment to preserving biodiversity and maintaining a delicate equilibrium between conservation efforts and necessary risk mitigation measures.

### Threatened Ecological Communities:

The term "Ecological Community" is used to describe naturally occurring biological groupings inhabiting specific habitat types. Within this context, Threatened Ecological Communities (TECs) are identified and categorised based on the degree of threat they face, including classifications such as "Presumed Totally Destroyed," "Critically Endangered," "Endangered," and "Vulnerable." Certain TECs, including the nationally recognised "Eucalypt Woodlands of the Western Australian Wheatbelt," located within the Shire's boundaries, receive legal protection under the Environmental Protection and Biodiversity Conservation Act of 1999 (Cth).

| Scientific Name | Common Name | Conservation Status |
|---|---|---|
| Eucalypt woodlands of the Western Australian Wheatbelt | Wheatbelt Woodlands | P3 CE |
| Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia | Proteaceae Dominated Kwongkan Shrubland | P3 EN |

Table 7 – Broomehill-Tambellup's Threatened Ecological Communities

Eucalypt woodlands stand as an iconic element of the Wheatbelt landscape, comprising 62 distinct vegetation communities, each characterised by unique species compositions and structural features. Dominated by eucalypts with single trunks (not mallees), the understorey displays a diverse range, from open grassy areas to shrubby patches. This ecological community serves as crucial habitat for numerous plant and animal species that rely on Eucalypt woodlands for shelter and sustenance. Additionally, these woodlands provide essential ecosystem services, including the regulation of local water tables and salinity levels.

For your reference, Table 6 provides a comprehensive list of Threatened Ecological Communities (TECs) situated within the Shire, outlining their respective classifications and highlighting the importance of conservation efforts in safeguarding these vital habitats.

Within frequently burned areas, the suitability of habitats for specific plant and animal species may be compromised. While the effective management of bushfire risk is integral to the preservation of these species, a meticulous evaluation of potential consequences stemming from these management practices is imperative to prevent adverse outcomes.

Due to the confidential nature of information pertaining to protected flora and fauna, a judicious approach has been taken in the documentation of data. Consequently, it is essential to engage subject matter experts for verification of the location of environmental assets within the Shire's jurisdiction and to assess the potential impacts of both mitigation and response strategies.

The Shire places particular emphasis on the significance of flora and fauna, recognising them not only as valuable environmental assets but also as influencers of the array of treatment options available for identified risks associated with other assets. The selection of treatments demands a careful consideration of the implications for environmental and heritage considerations.

Inadequate treatment selection carries the potential for adverse consequences, encompassing harm to environmentally sensitive areas, loss of biodiversity, destruction of habitats, and impairment of natural, historical, and indigenous values. Consequently, all treatments must undergo assessment in accordance with the specified requirements for the identified flora and fauna. Furthermore, it is imperative to ensure that relevant authorities are consulted before the initiation of any mitigation work.

The Shire is committed to reminding landowners and managers, whenever feasible, of their obligation to secure necessary clearances and approvals before undertaking vegetation-based treatments. This obligation extends to areas designated as Environmentally Sensitive Areas, habitats for Threatened Fauna, locations housing Declared Rare Flora, and other designated Threatened Ecological Communities (TECs).

### Community valued environmental assets

As identified within the people power community plan, Boot Rock Reserve, Gordon River/Weir, and Tambellup Water Reserve hold significant importance for the community of Broomehill-Tambellup as vital environmental assets vulnerable to fire. These reserves play crucial roles in preserving biodiversity, providing habitat for native flora and fauna, and maintaining ecosystem balance. They also serve as recreational areas for residents, offering opportunities for outdoor activities such as hiking, birdwatching, and picnicking.

In the event of a bushfire, these reserves face the risk of severe damage or destruction, which could have profound ecological and social implications. The loss of vegetation, wildlife habitat, and natural landscapes within these reserves would not only diminish their environmental value but also impact the community's recreational and cultural experiences. Additionally, the destruction of

these reserves could lead to soil erosion, degradation of water quality, and loss of ecosystem services, further exacerbating the effects of the fire on the local environment and community.

Therefore, the shire see it to be crucial to prioritise the protection and management of these reserves to minimize the risk of fire and ensure their long-term sustainability. This includes implementing measures such as fuel reduction programs, firebreak construction, and community education initiatives to raise awareness about fire prevention and safety. By safeguarding these environmental assets, the Shire is not only protect the natural heritage of the area but also contributing the well-being and resilience of the community as a whole.

## Historical bushfire occurrence

### Recorded Incidents:

Fires within the Shire of Broomehill-Tambellup are documented through the DFES Incident Reporting System (IRS). It's important to note that the data obtained from this system has inherent limitations, as not all ignitions are reported and recorded within the IRS. Additionally, figures may not comprehensively capture incidents attended solely by the DBCA – Parks and Wildlife Service within the Shire.

In the context of this record, a bushfire is defined as any vegetation fire (bush, grass, scrub, forest) of any size, while a "fire (large)" refers to a bushfire exceeding one hectare in size.

Between July 1, 2012, and June 30, 2022, a total of 267 bushfire incidents were recorded within the Shire. The primary ignition source during this period was machinery, accounting for a total of 35 incidents. Weather related incidents, primarily lightning caused fires were the second-highest contributors, combining for an additional 34 fires. Locations that are most affected by fire incidents include, Broomehill East & West.

These statistics provide insights into the prevalence and sources of bushfires within the Shire of Broomehill-Tambellup, though it's important to acknowledge the potential underreporting and the influence of other factors that may impact the accuracy and completeness of the data. The coinciding data can be found in Tables 7, 8, 9.

### Historic Bushfires of Broomehill-Tambellup:

Historical fires have shaped the understanding of bushfire risk management in the Shire. Learning from these events has been instrumental in refining strategies to address future challenges. Notable fires, their impacts, and the lessons learned include understanding the effectiveness of firebreaks, the importance of community awareness and preparedness, and the need for coordinated emergency response efforts.

The Broomehill-Tambellup Shire has experienced many fires over the years, below three bushfires have been identified, each with distinct characteristics:

December 2013:

| | | | |
|---|---|---|---|
| Cause | Agricultural Machinery | Vegetation | Wheat Crop |
| Locality | Lake Toolbrunup | Area | 200 hectares burnt |
| Response | 1 VFES unit and 52 farm fire units | | |

| | |
|---|---|
| Narrative | Originating from a machinery fire within a wheat crop, responders successfully brought the fire under control within 2 hours of ignition. |

November 2015:

| | | | |
|---|---|---|---|
| Cause | Lightning | Vegetation | Wooden Sleeper within scrub/bushland |
| Locality | Moonies Hill | Area | 700 hectares burnt |
| Response | 120 farm fire units | | |
| Narrative | Ignited by lightning striking a wooden sleeper two days prior on a total fire ban day, this fire remained undetected until significant development. The weather conditions supported the fire's progression. Seven farm units sustained damage during firefighting efforts, and an abandoned farm house was lost during the incident | | |

April 2022:

| | | | |
|---|---|---|---|
| Cause | Burn off | Vegetation | Grass |
| Locality | Broomehill West | Area | 350 hectares burnt |
| Response | 10 farm fire units | | |
| Narrative | Stemming from an escaped burn, responders had the fire contained and controlled within two and a half hours. Despite initial plans for machinery support being unavailable, crews successfully conducted a large back burn to create a low fuel buffer around the fire ground. | | |

Several notable trends and lessons emerge from the historic bushfire incidents within the Shire of Broomehill-Tambellup. Firstly, the causes of these fires vary, ranging from agricultural machinery incidents to lightning strikes and escaped burn-offs. This diversity underscores the multifaceted nature of bushfire risks and highlights the importance of comprehensive risk management strategies that address various ignition sources. Secondly, the response to these incidents involved a combination of volunteer and farm response units, with the number of units deployed tailored to the scale and severity of each fire. The effectiveness of containment strategies was evident in incidents where responders swiftly brought the fires under control, preventing further escalation and damage. Moreover, the narratives underscore the significant impact of weather conditions on fire behaviour, emphasising the need for adaptive strategies that account for changing environmental factors. Lastly, the incidents demonstrate the importance of resource management and adaptability, with firefighting crews improvising and utilising available resources effectively to mitigate fire spread and damage.

The historical data of these incidents provides valuable insights into local fire dynamics. Understanding the causes, responses, and outcomes of past fires is pivotal for informed decision-making. This historical context aids in identifying regions with a higher likelihood of fire initiation and discerning underlying patterns or trends. Such knowledge is instrumental in developing and implementing effective treatment strategies to mitigate the impact of future bushfires. It emphasises the importance of continuous assessment and adaptation of strategies based on lessons learned from past experiences.

Table 8 – Department of Fire and Emergency Services Incident Attendance Record:

| *No. of Incidents Attended*<br>This report shows the number of Incidents attended in any capacity.<br>It does not count multiple turnouts to the same Incident.<br>*Note: Bushfire (lge) is a fire greater than 1 hectare* | 2012/2013 | | | | 2013/2014 | | | | 2014/2015 | | | | 2015/2016 | | | | 2016/2017 | | | | 2017/2018 | | | | 2018/2019 | | | | 2019/2020 | | | | 2020/2021 | | | | 2021/2022 | | | | TOTAL BRIGADE COMBINED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brigade Name | Fire - Bushfire (lge) | Fire - Bushfire (sml) | Fire - Other | TOTAL | Fire - Bushfire (lge) | Fire - Bushfire (sml) | Fire - Other | TOTAL | Fire - Bushfire (lge) | Fire - Bushfire (sml) | Fire - Other | TOTAL | Fire - Bushfire (lge) | Fire - Bushfire (sml) | Fire - Other | TOTAL | Fire - Bushfire (lge) | Fire - Bushfire (sml) | TOTAL | Fire - Bushfire (lge) | Fire - Bushfire (sml) | Fire - Other | TOTAL | Fire - Bushfire (lge) | Fire - Bushfire (sml) | Fire - Other | TOTAL | Fire - Bushfire (lge) | Fire - Bushfire (sml) | Fire - Other | TOTAL | Fire - Bushfire (lge) | Fire - Bushfire (sml) | TOTAL | Fire - Bushfire (lge) | Fire - Bushfire (sml) | Fire - Other | TOTAL | |
| BROOMEHILL CENTRAL BFB | 0 | 1 | 0 | 1 | 3 | 2 | 1 | 6 | 2 | 4 | 0 | 6 | 1 | 1 | 1 | 3 | 3 | 0 | 3 | 4 | 1 | 0 | 5 | 2 | 1 | 2 | 5 | 3 | 1 | 0 | 4 | 3 | 0 | 3 | 5 | 0 | 0 | 5 | **41** |
| BROOMEHILL EAST BFB | 0 | 2 | 1 | 3 | 0 | 1 | 0 | 1 | 2 | 2 | 0 | 4 | 3 | 1 | 0 | 4 | 4 | 1 | 5 | 2 | 2 | 1 | 5 | 4 | 2 | 0 | 6 | 2 | 4 | 0 | 6 | 3 | 1 | 4 | 6 | 0 | 0 | 6 | **44** |
| BROOMEHILL WEST BFB | 3 | 2 | 1 | 6 | 1 | 3 | 0 | 4 | 2 | 3 | 0 | 5 | 2 | 0 | 0 | 2 | 4 | 1 | 5 | 5 | 3 | 1 | 9 | 4 | 0 | 1 | 5 | 5 | 0 | 1 | 6 | 4 | 2 | 6 | 11 | 2 | 0 | 13 | **61** |
| TAMBELLUP EAST BFB | 3 | 7 | 0 | 10 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 4 | 2 | 1 | 7 | 3 | 0 | 3 | 3 | 1 | 3 | 7 | 5 | 0 | 0 | 5 | 4 | 3 | 0 | 7 | 3 | 2 | 5 | 7 | 2 | 1 | 10 | **57** |
| TAMBELLUP WEST BFB | 1 | 1 | 0 | 2 | 3 | 1 | 1 | 4 | 1 | 2 | 2 | 5 | 1 | 1 | 0 | 2 | 0 | 4 | 4 | 3 | 7 | 1 | 11 | 6 | 4 | 0 | 10 | 5 | 4 | 1 | 10 | 4 | 2 | 6 | 7 | 3 | 0 | 10 | **64** |
| TOTAL YEAR COMBINED | 2012/2013 | | | 22 | 2013/2014 | | | 17 | 2014/2015 | | | 21 | 2015/2016 | | | 18 | 2016/2017 | | | 20 | 2017/2018 | | | 37 | 2018/2019 | | | 31 | 2019/2020 | | | 33 | 2020/2021 | | | 24 | 2021/2022 | | | 44 | |

Table 9 – Department of Fire and Emergency Services Ignition Cause Record:

| Ignition Cause | 2012/2013 | 2013/2014 | 2014/2015 | 2015/2016 | 2016/2017 | 2017/2018 | 2018/2019 | 2019/2020 | 2020/2021 | 2021/2022 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Total Number of Bushfires:*** | ***21*** | ***11*** | ***16*** | ***18*** | ***16*** | ***24*** | ***12*** | ***17*** | ***12*** | ***24*** | ***171*** |
| Burn off fires | 0 | 1 | 2 | 3 | 2 | 6 | 3 | 3 | 2 | 3 | 25 |
| Campfires/bonfires/outdoor cooking | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 4 |
| Children misadventure | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Cigarette | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| Electrical distribution (excl. power lines) | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Electrical Equipment - Cause unknown | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Other open flames or fire | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| Power lines | 0 | 4 | 2 | 1 | 2 | 0 | 2 | 3 | 1 | 9 | 24 |
| Reignition of previous fire | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| Suspicious/Deliberate | 4 | 1 | 3 | 1 | 2 | 7 | 1 | 1 | 0 | 4 | 24 |
| Undetermined | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 7 |
| Unreported | 7 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Vehicles (incl. Farming Equipment/Activities) | 0 | 1 | 5 | 0 | 5 | 6 | 5 | 5 | 4 | 4 | 35 |
| Weather Conditions - Lightning | 8 | 1 | 0 | 11 | 0 | 1 | 1 | 3 | 5 | 4 | 34 |

Table 10 – Department of Fire and Emergency Services Incident Record:

| Incident Date | Suburb | Street | Cause of Ignition | Size (Ha) |
|---|---|---|---|---|
| 17/12/2013 | LAKE TOOLBRUNUP | POOTENUP RD | Vehicles (incl. Farming Equipment/Activities) | 200 |
| 25/02/2015 | BROOMEHILL EAST | PALLINUP RD | Power lines | 35 |
| 17/11/2015 | MOONIES HILL | PAUL VALLEY RD | Weather Conditions - Lightning | 700 |
| 10/01/2016 | BROOMEHILL EAST | MARSHALL RD | Power lines | 20 |
| 03/03/2016 | BROOMEHILL EAST | NORRISH RD | Burn off fires | 80 |
| 18/12/2016 | BROOMEHILL EAST | BROOMEHILL-GNOWANGERUP RD | Vehicles (incl. Farming Equipment/Activities) | 20 |
| 23/12/2016 | BROOMEHILL WEST | CLINIC RD | Vehicles (incl. Farming Equipment/Activities) | 50 |
| 02/01/2017 | BROOMEHILL EAST | HERON RD | Vehicles (incl. Farming Equipment/Activities) | 100 |
| 13/01/2017 | BROOMEHILL WEST | FLAT ROCKS RD | Vehicles (incl. Farming Equipment/Activities) | 30 |
| 10/12/2017 | BROOMEHILL EAST | BROOMEHILL-GNOWANGERUP RD | Vehicles (incl. Farming Equipment/Activities) | 53 |
| 01/02/2018 | BROOMEHILL WEST | HOLDING RD | Vehicles (incl. Farming Equipment/Activities) | 30 |
| 07/04/2018 | DARTNALL | BURRIDGE RD | Burn off fires | 20 |
| 14/12/2018 | WANSBROUGH | POOTENUP RD | Vehicles (incl. Farming Equipment/Activities) | 70 |
| 02/02/2019 | BROOMEHILL WEST | FLAT ROCKS RD | Power lines | 80 |
| 03/12/2019 | BORDERDALE | WARRENUP RD | Weather Conditions - Lightning | 80 |
| 05/12/2019 | WANSBROUGH | WATERGARRUP RD | Vehicles (incl. Farming Equipment/Activities) | 20 |
| 20/04/2020 | BROOMEHILL WEST | PINDELLUP RD | Burn off fires | 100 |
| 23/01/2021 | BROOMEHILL WEST | NOOKANELLUP RD S | Weather Conditions - Lightning | 151 |
| 17/04/2021 | BROOMEHILL WEST | GRAHAMS WELL RD | Burn off fires | 25 |
| 04/12/2021 | MOONIES HILL | JOHNSTON RD N | Vehicles (incl. Farming Equipment/Activities) | 45 |
| 30/12/2021 | MOONIES HILL | TAMBELLUP WEST RD | Vehicles (incl. Farming Equipment/Activities) | 20 |
| 24/02/2022 | DARTNALL | GNOWANGERUP-TAMBELLUP RD | Power lines | 25 |
| 08/04/2022 | BROOMEHILL WEST | BIRT RD | Burn off fires | 350 |

### Common Sources of Ignition:

The Shire of Broomehill-Tambellup faces various sources of ignition and areas prone to bushfires, creating a complex landscape for fire risk management. Common sources of ignition include lightning strikes, especially during thunderstorms prevalent in the region. Additionally, human activities such as arson, discarded cigarettes, and equipment use in agriculture contribute to the ignition risk.

The areas prone to bushfires encompass vast expanses of agricultural land, where dry vegetation, prevalent during specific seasons, acts as fuel. Crop residues, grasslands, and dense vegetation near watercourses are particularly susceptible. The combination of dry conditions, prevailing winds, and agricultural operations can elevate the risk, making it crucial to address ignition sources and implement strategic measures to safeguard these vulnerable areas. The Shire's bushfire risk management plan needs to focus on these key sources and prone regions to enhance preparedness and prevention strategies.

### Suspicious/Deliberate fires:

Suspicious or deliberate ignition causes can exert a profound influence on bushfires in the Great Southern region. These human-initiated fires contribute significantly to the area's fire dynamics, with far-reaching consequences. Firstly, they escalate the frequency of fires, straining firefighting resources, and hampering the ability to respond promptly to all incidents. Moreover, the extension of the fire season due to human-caused ignitions means that fire management efforts must be maintained year-round. Deliberate fire spreading is another concerning aspect, as it can lead to rapidly spreading and uncontrollable blazes, posing substantial threats to both property and lives.

Additionally, these ignitions divert resources away from proactive fire management measures like hazard reduction burns, which are crucial for reducing the overall fire risk in the region. The economic impact is significant, with costs related to firefighting, property damage, insurance claims, and lost tourism revenue. Furthermore, the psychological and societal impact cannot be underestimated, as intentional fires create fear, uncertainty, and distress within communities, disrupting the social fabric. Table 8 identifies 24 deliberate/suspicious fires have been lit over the documented years.


### Machinery caused fires:

Farm machinery has been identified as one of the highest contributors to bushfires within the shire of Broomehill-Tambellup, unfortunately the cause isn't simple. Common causes like, machinery coming into contact with dry vegetation or crops during harvest or buildup of plant

debris on the equipment are avoidable but only require minimal negligence or complacency before a fire can develop.

Several causes of fires within machinery and equipment are identified, each posing a potential risk:

- *Electrical issues:*
  Description: Faulty wiring, frayed wires, or a short circuit leading to an electrical spark.
  Risk: Can result in a fire within the equipment.
- *Fluid leaks:*
  Description: Oil or fuel leaks that can ignite upon contact with a hot surface in the engine compartment.
  Risk: Potential for fire when flammable fluids come into contact with heat sources.
- *Overheating:*
  Description: Engine running too hot due to issues like a malfunctioning cooling system, blocked radiator, or a non-functioning fan.
  Risk: Elevated temperatures can lead to a fire within the machinery.
- *Improper maintenance:*
  Description: Failure to adequately maintain the vehicle, including neglecting worn-out or damaged parts, using incorrect fluids, or irregular oil changes.
  Risk: Increases the likelihood of a fire due to equipment malfunction.
- *Collision:*
  Description: Contact with power lines, stationary items, or fence posts that can result in sparks igniting nearby materials like crops or vegetation.
  Risk: Impact-related sparks can lead to fires in the surrounding environment.

Besides these primary causes, other contributing factors may play a role. The Shire of Broomehill-Tambellup has recorded a minimum of 35 machinery-caused fires between 2013 and 2022, with the exact number potentially being less due to machinery/equipment fires falling under the broader category of vehicle fires.

Certain agricultural practices, such as stubble crunching and high-speed tilling, introduce additional fire risks:

- *Stubble Crunching:*
  Description: Crushes leftover plant material into small pieces, leaving a layer of dry, fine combustible material on the soil surface.
  Risk: Creates a potential fuel source for fires, especially in conditions of high temperatures, low humidity, and strong winds.
- *High-Speed Tilling:*
  Description: Removes protective ground cover and reduces soil moisture.
  Risk: Increases susceptibility to fire by removing natural barriers and moisture content from the soil.

These factors highlight the importance of fire prevention measures, proper equipment maintenance, and awareness of agricultural practices that may contribute to the risk of fires. Agricultural operators should implement safety protocols and adhere to best practices to minimise the occurrence and impact of machinery-related fires.

### Crop/Stubble/Agricultural Burning

Crop burning, also known as agricultural or stubble burning, involves intentionally setting fire to crop residues or leftover agricultural vegetation on farmland. This practice is employed for various reasons, including removing crop residues, controlling weeds, preventing diseases, and preparing fields for the next planting season.

While crop burning serves agricultural purposes, it carries significant bushfire risks. The dry and flammable nature of stubble can cause fires to spread rapidly, posing a danger to surrounding areas, including vegetation and properties. Moreover, the smoke generated from stubble burning can affect air quality and potentially harm the health of nearby communities.

Although these practices are typically undertaken during the permit season when the risk is considered more manageable, it places a considerable amount of responsibility on landowners to understand and uphold their duty to surrounding residents. Despite precautions, there is a historical record indicating that, between 2013 and 2022, 25 bushfires evolved from escaped burns associated with crop burning activities.

This underscores the need for landowners to exercise caution, adhere to regulations, and implement appropriate safety measures when engaging in crop burning activities. Additionally, community awareness and communication are crucial to mitigating the risks associated with this practice and ensuring the safety of both agricultural operations and neighboring residents.

### Lightning caused fires:

Lightning strikes pose a significant risk of causing bushfires, particularly in areas illustrated by dry vegetation and hot, dry weather conditions. The heat generated by the electrical discharge during a lightning strike can easily ignite flammable materials on the ground, leading to the rapid spread of fires. This risk is particularly prevalent in regions with a Mediterranean climate, such as the Great Southern region of Western Australia.

In the Great Southern region, which experiences long, dry summers, the conditions are conducive to the ignition and spread of fires caused by lightning strikes. The region is marked by extensive grasslands, forests, and crop lands, providing ample fuel for fires to propagate.

The Shire of Broomehill-Tambellup, within the Great Southern region, has recorded a minimum of 34 instances of lightning-caused fires between 2013 and 2022, as indicated in Table 8. This underscores the frequency and impact of lightning strikes as a significant contributor to bushfire incidents in the area.

Given the fire-prone nature of the region, it is crucial for local authorities, communities, and emergency services to remain vigilant and implement effective prevention and response measures to mitigate the risks associated with lightning-caused fires. This may include early detection systems, strategic land management practices, and public awareness campaigns to ensure the safety of residents and the protection of valuable natural resources.

## Current bushfire risk management controls

### Shire of Broomehill-Tambellup:

The Shire of Broomehill-Tambellup is committed to mitigating the impact of bushfires through proactive measures. As part of its responsibilities, the Shire oversees the inspection and management of fire mitigation and hazard reduction measures on land owned by or vested to the Shire. This includes local parks and reserves, road reserves, recreation areas, and drainage reserves.

Annually, the Shire diligently implements its Bushfire Preventive works, which involves undertaking hazard reduction works on the land it owns and controls. These hazard reduction efforts encompass a range of activities, including mechanical works, slashing, chemical spraying, and pruning. These measures are strategically designed to reduce the risk of fires and enhance overall fire safety.

Additionally, the Shire employs prescribed burning as a proactive strategy where necessary. Prescribed burns are intentionally set under controlled conditions to reduce fuel loads, preventing the rapid spread of fires and supporting biodiversity in the region. This method is carefully planned and executed to achieve specific ecological and fire prevention objectives.

By consistently implementing these fire prevention and hazard reduction measures, the Shire of Broomehill-Tambellup aims to create a safer environment for its residents, protect valuable assets, and contribute to the overall resilience of the community in the face of bushfire risks. It reflects a proactive and comprehensive approach to managing fire hazards and promoting the well-being of the Shire's residents and ecosystems.

The Shire of Broomehill-Tambellup employs various measures to contribute to bushfire risk management controls:

*Fire Management Notices:*
The Shire utilises Section 33 fire management notices under the Bush Fires Act 1954, issuing directives for firebreaks, hazard reduction, and preventive measures.

*Restricted Burning Times and Prohibited Burning Times:*
Governed by the Bush Fires Act 1954, Sections 17 & 18, the Shire manages restricted and prohibited burning times to regulate controlled burns, aligning with seasonal conditions and weather patterns.

*Vehicle Movement Bans:*
Harvest vehicle movement bans are enforced during heightened fire danger periods to restrict the movement of agricultural vehicles, reducing the risk of fires caused by machinery operation.

*Bushfire Advisory and Local Emergency Management Committees:*
The Bushfire Advisory Committee provides advice and recommendations for bushfire prevention, preparedness, and response. Simultaneously, the Local Emergency Management Committee coordinates preparedness, response, and recovery efforts for all emergency situations, contributing to community resilience.

In 2017 and 2018, the Shire of Broomehill-Tambellup conducted a comprehensive risk assessment to evaluate potential hazards within its jurisdiction. This assessment scrutinized 194 risk statements across four primary hazards, resulting in the identification of 75 risks necessitating treatment and 31 requiring further consideration. Subsequently, in September 2022, the Local Emergency Management Committee (LEMC) reviewed the 'fire' risk area to delineate possible treatment avenues. These treatment options encompass diverse methodologies and strategies focusing on preparedness, education, compliance measures, response tactics, and safeguarding significant structures.

Many of these strategies have been actively employed for several years, undergoing continuous refinement and enhancement. However, the review process also identified new initiatives and pathways for future exploration and implementation. The summarised list of strategies for introduction or continuation includes:

- Establishment of Bushfire Ready Groups and associated plans
- Tailored workshops addressing specific vulnerabilities
- Promotional campaigns to raise awareness of bushfire risks and encourage preparedness and response
- Facilitation of interactions between brigades and schools to foster community engagement and preparedness
- Development of bushfire programs tailored for educational institutions
- Formulation of firebreak notices to enhance fire risk management on properties
- Conducting property inspections to assess and address fire hazards
- Implementation of notification services to disseminate timely information and alerts
- Collaboration with external stakeholders to identify their bushfire preparedness programs

These strategies collectively contribute to bolstering the Shire's resilience and preparedness in the face of bushfire threats, ensuring a proactive and coordinated response to safeguard lives, property, and the environment.

*Volunteer Bushfire Brigades:*
The Shire has five strategically located volunteer Bushfire Brigades equipped to respond swiftly to fire incidents. These brigades, including Broomehill Central, Broomehill East, Broomehill West, Tambellup East, and Tambellup West, play a crucial role in early detection, containment, and suppression efforts.

These comprehensive measures, ranging from regulatory directives to community engagement and firefighting resources, collectively contribute to the Shire's robust bushfire risk management controls, aiming to enhance overall safety and resilience.

### Other Local Government Wide Controls:

*State government legislation:*
State Planning Policy 3.7 (SPP 3.7) is a key framework by the Western Australian State Government to manage bushfire risks. It regulates building in bushfire-prone areas, aiming to minimise risks to people, property, and the environment. Local governments implement the policy by identifying new developments in such areas, using third-party assessments and specifying planning and construction standards to reduce bushfire risks. SPP 3.7 ensures compliance with standards like the Australian Standard AS 3959:2018. Additionally, the Guidelines for Planning in Bushfire Prone Areas, developed by the Department of Planning, Lands, and Heritage, complements SPP 3.7 by offering comprehensive guidance for responsible and sustainable development in bushfire-prone regions. Both documents collectively contribute to minimising the impact of bushfires on communities and the environment.

*Total Fire Bans:*
Western Australian Total Fire Ban Declarations are official announcements issued during periods of heightened fire danger to restrict or prohibit specific fire-related activities in designated areas. These bans aim to prevent uncontrolled wildfires by restricting activities like open-air fires, the use of certain equipment prone to sparking, and specific industrial processes. Compliance is crucial for public safety, and the bans are communicated through official channels, including announcements and social media.

| Shire of Broomehill-Tambellup Historic Total Fire Ban Days | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| 1 | 0 | 2 | 1 | 12 | 2 | 1 | 0 | 9 | 4 | 3 | 3 | 1 |

Table 11 – Shire of Broomehill-Tambellup Total Fire Ban Record

A list of local government wide controls for reducing bushfire risk in Shire of Broomehill-Tambellup is provided in Appendix B.

### Key Stakeholders Mitigation Activities

During the assessment phase, extensive consultations were initiated with key stakeholders crucial to the bushfire risk management efforts within the Shire of Broomehill-Tambellup. This deliberate engagement aimed not only to identify suitable points of contact but also to delve into the specific policies, guidelines, practices, and valuable contributions each stakeholder brings to the table in the collective pursuit of effective bushfire risk mitigation.

These consultations provided an invaluable opportunity to gain insights into the diverse strategies employed by each stakeholder, thereby enhancing our understanding of the comprehensive network of initiatives in place. By accentuating the specific roles and contributions of each stakeholder, the assessment process sought to create a more nuanced and detailed picture of the collaborative efforts underway to safeguard the Shire against the threat of bushfires.

### Department of Fire and Emergency Services

The Department of Fire and Emergency Services (DFES) significantly contributes to the Shire of Broomehill-Tambellup's comprehensive bushfire risk management controls through a range of programs and financial support mechanisms. Under the Bushfire Risk Management Program, DFES provides industry expertise, guidance on best practices, and financial support to bolster the Shire's strategies for mitigating bushfires. The Community Emergency Service Manager Program sees DFES supporting training initiatives and resource provision for Community Emergency Service Managers, strengthening their ability to coordinate local emergency services and community resilience efforts.

In managing unallocated Crown land and unmanaged reserves, DFES collaborates with the Shire, offering planning support and potential financial assistance to implement effective risk reduction measures. Tambellup's Volunteer Fire and Emergency Service Brigade benefits from full financial support from DFES, ensuring they have the necessary resources for operational readiness, training, and equipment. Additionally, in the event of a bushfire incident exceeding the Shire's capabilities, DFES mobilises resources, coordinates emergency responses, and provides operational support to manage the situation effectively.

Actively contributes to the establishment of a Bushfire Ready Program supporting Tambellup's Volunteer Fire and Emergency Service to implement. Helping coordinating and guiding the community to be well-prepared and equipped to address bushfire risks effectively. This includes providing critical communication platforms, training opportunities and additional resources to seek further understanding.

This multifaceted collaboration underscores DFES's commitment to enhancing community safety and resilience in the face of bushfire risks.

### Department Biodiversity, Conservation and Attractions

The Department of Biodiversity, Conservation and Attractions (DBCA) assumes a pivotal role in comprehensive bushfire mitigation through a multifaceted approach. This involves adherence to pertinent laws and guidelines, maintaining prescribed burning capabilities, meticulous record-keeping and mapping systems, formulation and review of regional fire plans, execution of prescribed burning and fuel management, seamless integration of fire management with broader conservation endeavors, establishment of fire breaks and access tracks, collaborative partnerships for cooperative fire management, infusion of traditional knowledge where feasible, and provision of fire management training to personnel and operators.

The primary objectives of these efforts are to minimise the risk of losing threatened species, critical habitats, and significant natural and cultural values due to inappropriate fire regimes. In the course of bushfire mitigation and suppression activities, the paramount focus is on protecting human life and property, with subsequent attention directed towards preserving the natural environment and cultural heritage.

The department's bushfire mitigation strategies encompass early suppression of bushfires, especially around high-value assets, tailored fire management measures to safeguard biodiversity assets, ensuring the safety of threatened species, judicious construction and maintenance of internal fire access tracks, careful consideration of perimeter access track necessity, avoidance of vegetation modification unless deemed a significant risk, and the establishment of temporary fire control lines when deemed necessary.

### Main Roads Western Australia (MRWA)

Main Roads actively fulfills its responsibilities in bushfire risk management and mitigation, operating with a keen focus on minimising potential hazards. The organisation assumes its duty of care by implementing appropriate measures to reduce bushfire risks, actively participating in the development and execution of Bushfire Risk Management Plans led by Local Governments. This collaborative engagement ensures that the strategic planning considers the integration of Main Roads' assets and infrastructure into the broader bushfire risk management framework.

In order to effectively manage bushfire risks, Main Roads conducts assessments of potential impacts on its assets, identifying vulnerable areas and evaluating risks posed to critical infrastructure such as roads, bridges, and facilities. These risk assessments empower Main Roads to implement targeted measures that mitigate and manage potential bushfire impacts on its assets. Strategies may involve integrating design features that enhance fire resistance, adopting

maintenance practices with a specific focus on bushfire risk, and coordinating with relevant stakeholders to develop comprehensive emergency response plans.

Main Roads actively discharges its duty of care by contributing to the development of Bushfire Risk Management Plans, undertaking rigorous risk assessments, and implementing proactive measures to minimise the impact of bushfires on its operations. This approach ensures the safeguarding of infrastructure, prioritises the safety of road users, and contributes to the overall resilience of the wider community.

For effective bushfire risk management, Main Roads has identified critical assets within bushfire-prone areas, including 24-hour rest bays, timber and timber hybrid traffic and pedestrian bridges, and regional offices along with operationally crucial facilities in depots. In the Great Southern Region, Main Roads conducts herbicide spraying and brush cutting on bridge structures as needed, while also implementing vegetation clearing for Bridge Fire Mitigation. This involves the removal of all vegetation within a cleared area around bridges, extending 10 meters on each side of the structure, 5 meters beyond the barrier railing, and 6 meters above the deck to ensure a clear work environment and facilitate fire suppression.

Furthermore, open areas within the road reserve, such as shoulders, drains, and gravel pits, undergo Fire Hazard Reduction slashing of grasses covering approximately 200 hectares per calendar year. Parking bays under Main Roads' management undergo scheduled grass and weed control activities twice per calendar year, ensuring a proactive approach to maintaining a fire-resilient environment.

### Public Transport Authority

The Public Transport Authority (PTA) assumes responsibility for mitigating bushfire risk on PTA Land and engages in collaborative efforts with local governments and fire authorities to effectively manage this risk. Their focus encompasses ensuring safety along passenger and freight rail lines, stations, depots, and other facilities. The PTA proactively conducts fuel reduction activities, maintains firebreaks, and implements procedures to minimise bushfire risk arising from maintenance operations. In addition, they respond to fire protection notices, support emergency response measures, and maintain open communication with fire authorities and local governments to formulate and execute efficient bushfire mitigation strategies. The PTA actively contributes to the development of Bushfire Risk Management Plans initiated by local governments and fire authorities.

Key strategies employed by the PTA to minimise bushfire risks on its land include contributing to comprehensive bushfire risk assessments and implementing tailored mitigation measures. The PTA adopts fuel reduction strategies that take into account conservation, infrastructure, and cultural values. Their commitment extends to collaborating with local governments and land managers to develop long-term bushfire mitigation plans, incorporating proactive measures for

bushfire preparedness, such as controlled access, adherence to safe operating procedures, and the establishment of asset protection zones. The PTA further supports bushfire hazard reduction through donations, funding for fuel reduction activities, and active participation in rail safety access initiatives. Collaborative efforts with stakeholders are directed at protecting areas of high conservation value and Aboriginal sites.

Notably, the PTA oversees a redundant railway in the north-west corner of the shire, connecting between the adjacent shires of Kojonup and Katanning. Future plans involve the development of a heritage rail trail from Kojonup townsite through to Katanning. Although no mitigation works have been undertaken within the rail reserve at present, the PTA has expressed its commitment to working alongside the shire to reduce bushfire risk within the Broomehill community.

### Western Power

Western Power Corporation, operating in Western Australia and overseeing the state's electricity network, adopts a comprehensive strategy to mitigate bushfire risk. This includes:

- Regular Maintenance and Inspections: Western Power prioritises the regular maintenance and inspections of its infrastructure, covering power lines, poles, and transformers. These activities, conducted yearly from March to August, aim to identify potential hazards and promptly repair or replace equipment as needed.
- Vegetation Management: The Corporation actively engages in vegetation management practices to minimise the risk of vegetation interfering with power lines and triggering bushfires. This involves tree trimming, vegetation removal, and the use of herbicides. These measures apply to areas vested in either crown land or under the Corporation's control.
- Collaboration with Emergency Services: Western Power establishes close collaboration with emergency services to ensure seamless coordination in bushfire response efforts. This collaboration extends to providing support for firefighting operations to effectively address and manage bushfire incidents.
- Community Education and Awareness: Recognising the importance of community involvement, Western Power conducts education and awareness campaigns. These initiatives aim to empower the community by encouraging proactive steps to reduce bushfire risks. Additionally, the Corporation urges community members to report any potential hazards observed near the electricity network.

In summary, Western Power Corporation's approach encompasses proactive infrastructure maintenance, vegetation management, collaborative efforts with emergency services, and community-focused education to collectively address and mitigate the bushfire risk associated with its electricity network.

# Chapter 5: Asset identification and risk assessment

Assets at risk from bushfire in Shire of Broomehill-Tambellup are recorded in the *Asset Risk Register* in the BRMS. Assets are divided into four categories: human settlement, economic, climate, and cultural. Each asset has been assigned a bushfire risk rating between low and extreme based on the risk assessment methodology described in the Guidelines and Handbook.

## 5.1. Local government asset risk profile

A summary of the risks assessed in Shire of Broomehill-Tambellup is shown in Table 3. This table shows the proportion of assets at risk from bushfire in each risk category at the time the BRM Plan was endorsed. This table was correct at the time of publication but may become outdated as risks are treated or additional risks are identified and assessed. A report may be generated from the BRMS to provide the most current risk profile.

Table 12 – Local Government Asset Risk Summary

| Asset Category | Risk Rating | | | | | |
|---|---|---|---|---|---|---|
| | | Low | Medium | High | Very High | Extreme |
| | Human Settlement | 3% | 2% | 21% | 29% | 25% |
| | Economic | 0% | 1% | 3% | 3% | 8% |
| | Environmental | 0% | 0% | 0% | 0% | 0% |
| | Cultural | 2% | 0% | 2% | 1% | 2% |

# Chapter 6: Risk evaluation

## 6.1. Risk acceptance criteria

The acceptable level of risk for each asset category is shown in Table 4. A risk that is assessed as exceeding these limits will be considered for treatment.

Table 13 – Risk acceptance criteria for bushfire risk in Shire of Broomehill-Tambellup.

| | Asset category | | | |
|---|---|---|---|---|
| | Human settlement | Economic | Environmental | Cultural |
| Acceptable risk level | Medium | Medium | High | high |

Risks below the acceptable level do not require treatment during the life of this BRM Plan. They will be managed by routine local government wide controls and monitored to detect any increase in their risk rating.

## 6.2. Treatment priorities

The treatment priority for each asset is automatically assigned by BRMS, based on the asset's risk rating. Table 5 shows how consequence and likelihood combine to give the risk rating and subsequent treatment priority for an asset. The treatment priority assigned in BRMS will help inform decision making for risk acceptability and development of the Treatment Strategy and schedule.

Table 14 – 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) |

# Chapter 7: Risk treatment

The purpose of risk treatment is to reduce the potential impact of 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 to make bushfires less likely or less harmful.

## 6.1. Treatment Strategy

The Treatment Strategy serves as the cornerstone of the Shire of Broomehill-Tambellup's bushfire risk management efforts, providing a detailed roadmap for addressing the challenges posed by bushfires across the region. Developed through careful analysis of various factors, including risk distribution, community values, stakeholder programs, and treatment constraints, this strategy represents a comprehensive approach to safeguarding lives, property, and natural resources from the threat of bushfires.

At its core, the strategy emphasises the importance of aligning treatment preferences with the specific vulnerabilities and characteristics of different areas within the shire. Recognising the diverse ecosystems and landscapes present, it underscores the need for tailored approaches that take into account factors such as land use patterns, vegetation types, and resource availability. By doing so, the strategy ensures that treatment efforts are targeted and effective, maximising their impact in reducing bushfire risk.

The strategy is structured around two distinct hierarchical processes, each designed to guide the prioritisation and implementation of treatment measures. The initial numbering system establishes a clear hierarchy of priority areas for treatment, with considerations such as population density influencing the allocation of resources. Additionally, the delineation of land areas enables the development of custom treatment options, further enhancing the strategy's flexibility and adaptability to local conditions.

Within this framework, the strategy outlines three levels of response: Primary, Secondary Response, and Last Resort. Each level corresponds to a set of treatment measures tailored to address specific aspects of bushfire risk. The preference levels are crafted with thoughtful consideration of the following components:

*Land Use Characteristics:*
The nature and purpose of land use in a specific area impact factors such as fuel load, accessibility, and vulnerability to bushfires.

*Land Transformation and Development:*
Changes in land development, such as urbanisation or agricultural expansion, alter the natural state of the landscape, influencing fire behaviour and treatment selection differently.

*Vegetation Characteristics and Composition:*

Different vegetation characteristics and types contribute variably to managing fuel load, the viability/quality of vegetation, biodiversity, and whether it consists of native or introduced species. Mismanagement of these factors can have potential negative long-term impacts on the environment and fuel load.

*Localised Capabilities:*
The availability of resources, infrastructure, and personnel within a specific locality influences the feasibility of certain response measures. Understanding local capabilities ensures the formulation of realistic and achievable strategies.

The Primary Response encompasses proactive measures aimed at mitigating risk, while the Secondary Response provides additional support and contingency options. In extreme scenarios, the Last Resort offers decisive actions to manage high-risk situations effectively.

Central to the strategy's success is its focus on collaboration and partnership. By engaging with stakeholders, including local communities, government agencies, and emergency services, the strategy leverages collective expertise and resources to achieve its objectives. This collaborative approach ensures that treatment efforts are informed by local knowledge and priorities, enhancing their relevance and effectiveness.

The Treatment Strategy represents a proactive and holistic approach to bushfire risk management in the Shire of Broomehill-Tambellup. Through careful analysis, strategic planning, and collaboration, the strategy aims to reduce the impact of bushfires on the community and environment, safeguarding the region for future generations.

1) Shire managed land within Gazetted Townsites:

| Preference | Method type | Description: |
|---|---|---|
| Primary response | Vegetation management | Modify or remove excess vegetation to create breaks and reduce fuel density. |
| | Firebreaks/Access Tracks | Removal of vegetation to create vehicle accessible tracks. |
| Secondary response | Herbicide | Targeted use of herbicides to control invasive or highly flammable plant species. |
| Last resort | Controlled Burns | Prescribed burns to reduce accumulated fuel loads and prevent the spread of large, intense fires. |

2) Rural Urban Interface:

| Preference | Method type | Description: |
|---|---|---|
| Primary response | Community Planning | Educating defensible space around homes |

| | | |
|---|---|---|
| | | Community education programs around preparedness and household bushfire plan creation. |
| | | Implementing and educating SPP 3.7, AS3959 and other associated resources for new developments |
| | Building Design and Retrofitting | Educate, construction and retrofitting of structures with fire-resistant materials and features. |
| | Ember-Resistant Landscaping | Educating, selecting and maintaining vegetation that is less likely to ignite from embers. |
| | Fire break notice | Compliance to the Shire of Broomehill-Tambellup Firebreak notice. |
| Secondary response | Herbicide | Targeted use of herbicides to control invasive or highly flammable plant species. |
| | Vegetation management | Modify or remove excess vegetation to create breaks and reduce fuel density. |
| | Firebreaks/Access Tracks | Removal of vegetation to create vehicle accessible tracks. |
| Last resort | Controlled Burns | Prescribed burns to reduce accumulated fuel loads and prevent the spread of large, intense fires. |

3) Agricultural Environment:

| Preference | Method type | Description: |
|---|---|---|
| Primary response | Community Planning | Educating defensible space around homes |
| | | Implementing and educating SPP 3.7, AS3959 and other associated resources for new developments |
| | Building Design and Retrofitting | Educate, construction and retrofitting of structures with fire-resistant materials and features. |
| | Ember-Resistant Landscaping | Educating, selecting and maintaining vegetation that is less likely to ignite from embers. |

| | | |
|---|---|---|
| | Fire break notice | Compliance to the Shire of Broomehill-Tambellup Firebreak notice. |
| | Vegetation management | Modify or remove excess vegetation to create breaks and reduce fuel density. |
| | Firebreaks/Access Tracks | Removal of vegetation to create vehicle accessible tracks. |
| | Herbicide | Targeted use of herbicides to control invasive or highly flammable plant species. |
| Secondary response | Controlled Burns | Prescribed burns to reduce accumulated fuel loads and prevent the spread of large, intense fires. |

4) Road reserves:

| Preference | Method type | Description: |
|---|---|---|
| Primary response | Herbicide | Targeted use of herbicides to control invasive or highly flammable plant species. |
| Secondary response | Vegetation management | Removal of excess vegetation to create breaks and reduce fuel density. |
| Last resort | Controlled Burns | Prescribed burns to reduce accumulated fuel loads and prevent the spread of large, intense fires. |

5) Woodland/Reserves Environment:

| Preference | Method type | Description: |
|---|---|---|
| Primary response | Understory Management | Modifying understory vegetation to break up fuel continuity. |
| | Firebreaks/Access Tracks | Removal of vegetation to create vehicle accessible tracks. |
| Secondary response | Selective Thinning | Removal of excess vegetation to create breaks and reduce fuel density. |
| | Herbicide | Targeted use of herbicides to control invasive or highly flammable plant species. |
| Last resort | Controlled Burns | Prescribed burns to reduce accumulated fuel loads and prevent the spread of large, intense fires. |

The inclusion of controlled burns in this treatment strategy is a critical consideration. However, implementing this practice in a natural environment requires meticulous planning, extensive knowledge, and careful timing, presenting challenges in resource allocation. Timing is especially crucial, with the most suitable period often aligning with seeding or harvest seasons. This synchronisation is essential for minimising disruptions to agricultural operations and mitigating potential risks associated with poorly timed or under-resourced burns. Consequently, controlled burns are designated as a last resort measure, aimed at reducing burdens on emergency services and avoiding the pitfalls of ill-informed or inadequately supported burn operations.

The treatment strategy acknowledges the importance of non-physical mitigation measures. This includes integrating community engagement, educational programs, and regulatory measures into the overall framework to address bushfire risk comprehensively.

It's important to note that effective bushfire risk treatments often involve a combination of these strategies, and their success depends on factors such as community engagement, ongoing monitoring, and adaptability to changing conditions. Collaboration between land managers, communities, and fire authorities is essential for comprehensive and successful bushfire risk management.

The Shire of Broomehill-Tambellup's treatment strategy adopts a modifiable approach to bushfire risk management. By addressing unacceptable risks, considering the influence of various factors, involving the broader community, and integrating diverse treatments, the strategy aims to enhance overall resilience and reduce the impact of bushfires on the district.

*Holistic Strategy:*
The shire is consistently investing in the development of long-term strategies for sustained bushfire risk reduction, this includes measures such as land-use planning, community education, and policy changes that contribute to a resilient and fire-safe environment.

## 6.2. Treatment Schedule

The Treatment Schedule is a list of bushfire risk treatments recorded within BRMS. Shire of Broomehill-Tambellup will be focusing on developing a program of works that covers activities to be undertaken within the two years after the approval of the BRM Plan. The Treatment Schedule will evolve and develop throughout the life of the BRM Plan.

The Shire of Broomehill-Tambellup Treatment Schedule is a live document managed on BRMS. It is designed by the outcome of the risk assessment process and Treatment Strategy. The Treatment Schedule was developed in broad consultation with land owners and other stakeholders.

Land managers are responsible for implementing treatments 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.

# Chapter 8: Recommendations

Table 15 outlines alternative options aimed at mitigating and managing bushfire risks, offering proactive measures beyond what BRMS and associated programs currently provide. These recommendations, identified as key elements of an overarching risk management strategy, target specific areas of concern and propose practical steps to mitigate potential impacts on lives, property, and the environment.

Tailored to the unique characteristics of the region, these recommendations take into account factors such as vegetation types, weather patterns, population density, and existing infrastructure. Each recommendation in this section serves as a comprehensive approach, encompassing preventive measures like fuel reduction activities and infrastructure modifications, as well as emergency response procedures, community education, and interagency coordination.

Effective implementation of these recommendations necessitates a collaborative effort, engaging various stakeholders such as government agencies, emergency services, local communities, and landowners. This collective approach is crucial for ensuring the success of the proposed measures in enhancing bushfire resilience and minimising the associated risks.

| Subject | Recommendation |
|---|---|
| Habitable Buildings with build date pre-2015 | The Shire of Broomehill-Tambellup, characterised by its generational history, encompasses habitable buildings constructed prior to the establishment of bushfire-prone areas, policies, and guidelines. To enhance bushfire protection for these structures, the Shire should consider providing advice and education on voluntary upgrades, repairs, or additions. Examples of recommended measures include the installation of gutter guards to reduce fine fuels near the roof space, closing gaps around the exterior of houses to prevent ember ingress, inspecting exposed timber beams for weathering, upgrading evaporative air-conditioning systems, maintaining solar panels, utilising fire-resistant fly screen material, and assessing and potentially modifying external plastic facades. These proactive steps aim to empower residents to safeguard their homes and contribute to building a resilient and fire-safe community. |
| Asbestos buildings | As previously mentioned, numerous properties within the Shire may include or be constructed with asbestos. It is imperative to disseminate information regarding asbestos in buildings, elucidating its implications both during and after a fire event. |
| Identifying fire period/seasons | Some bushfires have been caused due to lack of advertisement surrounding prohibited/permit times of the year, utilising the main roads around the shire with signage to identify if permits are required or prohibited would help reduce the risk of accidental fires. |
| Fire danger ratings | During permit season and the newly introduced "AFDRS" system, displaying signage with current fire danger rating information can significantly contribute to reducing accidental fires, particularly on days with adverse weather conditions. |
| Fire break notice | The fire break notice stands as a universal requirement across all shires and cities. Annual monitoring of the terminology used in such notices by neighbouring shires and cities, updating when necessary, is highly recommended. This practice facilitates ease of understanding, particularly for new or temporary residents, ensuring clarity and adherence to the fire break notice. |
| Fire break notice | Expressed profusely throughout this BRMP, a vast majority of the land is used for agricultural purposes. Consider an addition to the firebreak order for management of crop fuel loads during harvest, crops located on the border of a farm to cut the crop lower to 100mm, at a width of 15m from the fence. This will help reduce the risk of fires escaping properties during harvest and the bushfire season. |

# Chapter 9: Monitoring and Review

Monitoring and review processes are in place to ensure that the BRM Plan remains current and based on the best available information.

## 7.1. Monitoring and review

Shire of Broomehill-Tambellup will monitor the BRM Plan BRMS data to identify any need for change. The Plan and BRMS data will be reviewed at least every two years to ensure it continues to reflect the local context, assets at risk, level of risk and treatment priorities.

## 7.2. Reporting

The Shire of Broomehill-Tambellup CEO or their delegate will provide to OBRM the outcomes of biennial reviews of the BRM Plan. This is required to maintain OBRM endorsement of the Plan.

The Shire of Broomehill-Tambellup will contribute information about their BRM Program to the annual OBRM *Fuel Management Activity Report*.

# 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 risk register** | A component within the Bushfire Risk Management System (BRMS) used to record 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** | 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 risk** | The chance of a bushfire igniting, spreading and causing damage to the community or the assets they value. |
| **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 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. |
| **Treatment objective** | The aim to be achieved by the treatment. Treatment objectives should be specific and measurable. |
| **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 general approach that will be taken to managing bushfire risk, in consideration of the local government context and objectives. |
| **Treatment type** | The specific treatment activity that will be implemented to modify risk, for example a planned burn. |

# 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 |
| LEMC | Local Emergency Management Committee |
| OBRM | Office of Bushfire Risk Management (DFES) |
| SEMC | State Emergency Management Committee |
| TEC | Threatened Ecological Community |
| UCL | Unallocated Crown Land |
| UMR | Unmanaged Reserve |
| WA | Western Australia |

# Appendices

| | |
|---|---|
| Appendix A | Local government wide controls |
| Appendix B | Communication Plan |
| Appendix C | Annual review checklist |

## Appendix A – Local government wide controls

| | Control | Action or activity description | Lead agency | Other stakeholder(s) | Notes and comments |
|---|---|---|---|---|---|
| 1 | Firebreak Notice (Bush Fires Act 1954) | Annual LG Firebreak Notice | Shire of Broomehill-Tambellup | Landowners Land Managers Shire of Broomehill-Tambellup Ranger | Published Annually. Inspect local properties. 'Fire Access Track' has the same meaning as 'Fire Break', in the Bush Fires Act 1954. |
| 2 | Prohibited, Restricted Burning Times and Total Fire Bans. Bush Fire Control (Bush Fires Act 1954) | | | | |
| 3 | Total Fire Ban Declaration | Restriction of activities that may cause or contribute to the spread of a bushfire | DFES | Shire of Broomehill-Tambellup Western Power Water Corporation Local Residents | A Total Fire Ban (TFB) is declared because of extreme weather conditions or when current operational commitments have reduced statewide resources / capabilities. A TFB is declared by DFES following consultation with the LG. |
| 4 | Harvest and Vehicle Movement Bans | Restricting the movement of vehicles during harvesting in the Bushfire Season. | Shire of Broomehill-Tambellup | Shire of Broomehill-Tambellup Western Power Local Residents | A Harvest and Vehicle Movement Ban may be imposed for any length of time but is generally imposed for the 'heat of the day' periods and may be extended or revoked by the local government should weather conditions change. |
| 5 | Townsite UCL/UMR land management | Preparedness, mitigation work conducted on lands owned by Department of Planning, Lands and Heritage (DPLH) | DFES | Bushfire Brigades DPLH | Annual funding is allocated to UCL/UMR land within gazetted boundary with priorities identified in consultation with stakeholders and managed through DFES. |

*Appendix A*

| Control | | Action or activity description | Lead agency | Other stakeholder(s) | Notes and comments |
|---|---|---|---|---|---|
| | | and managed by DFES. | | | |
| 6 | Rural UCL/UMR land management | DBCA's indicative burn program, conduct mulching and other mechanical treatments to reduce fuel load or provide fire access. | DBCA | | Plans can be accessed via the DBCA website. |
| 7 | Shire land management | Shire program to maintain access tracks, reduce fuel load and remove hazards as required. | Shire of Broomehill-Tambellup | Broomehill-Tambellup Bushfire Brigades | Fuel reduction program on all SoBT reserves. This includes access track installation and maintenance, weed reduction (slashing, spraying), vegetation thinning and removal and prescribed burning. |
| 8 | State planning framework and local planning schemes | Implementation and compliance with SPP3.7 and the Bushfire Protection Criteria of the Guidelines for Planning in Bushfire Prone Areas where required | Shire of Broomehill-Tambellup DPLH | WAPC Landowners | State planning framework and local planning schemes, implementation of appropriate subdivision and building standards in line with DFES, WAPC and Building Commission policies, guidelines and standards |
| 9 | State-wide arson prevention programs | Police infringement and reward schemes to prevent arson. various awareness campaigns and information packages | DFES WAPOL | Shire of Broomehill-Tambellup General Public | Participation as required. The Shire participates in campaigns for arson prevention. The LG assists in the promotion of Arson prevention campaigns |
| 10 | Public School Bushfire Management | A plan designed to assist staff to prepare for a total fire ban, catastrophic fire danger rating, or a bushfire. | Dept of Education | DFES Shire of Broomehill-Tambellup | This plan was developed in accordance with the Emergency and Critical Incident Management Policy |

# Appendix B – Communication Plan

This Communication Plan supports the development, implementation and review of the Shire of Broomehill-Tambellup Bushfire Risk Management (BRM) Plan. It should document the:

- Communication objectives.
- Roles and responsibilities.
- Key stakeholders engaged in the development of the BRM Plan and Treatment Schedule.
- 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.

## Communication objectives

The communication objectives for the development, implementation and review of the BRM Plan for the Shire of Broomehill-Tambellup 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.

## Roles and responsibilities

Shire of Broomehill-Tambellup is responsible for the development, implementation and review of the Communication Plan. Key stakeholders support the local government by participating the Communication Plan as appropriate. An overview of communication roles and responsibilities follows:

- Chief Executive Officer of Shire of Broomehill-Tambellup, is responsible for requesting OBRM endorse the BRM Plan.
- Chief Executive Officer or Community Emergency Services Manager of Shire of Broomehill-Tambellup is responsible for communication of the BRM Plan to the community.
- Chief Executive Officer or Community Emergency Services Manager of Shire of Broomehill-Tambellup is responsible for communication between the Shire and the Department of Fire and Emergency Services.

## 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.

| Stakeholder | Role or interest | Level of impact of outcomes | Level of engagement |
|---|---|---|---|
| Shire of Broomehill-Tambellup (Inc BFB, BFAC & LEMC) | • Asset owner & vested Reserves<br>• Bushfire Risk Management Plan Custodian<br>• Responsible for development, implementation and review of treatments as a proprietor and land manager. | High | Inform, Educate, Collaborate, Empower |
| Local Governments bordering the Shire of Broomehill-Tambellup | • Shared Experience | Low | Inform |
| Department of Fire and Emergency Services (Inc Brigades, OBRM & BMB) | • Asset Owner & Land Manager<br>• Bushfire Risk Management Plan Governance and Advice<br>• Support role in treatment implementation<br>• Responsible for development, implementation and review of treatments as a Land Manager. | High | Inform, consult, involve, collaborate |
| Department of Biodiversity, Conservation and Attractions | • Vested Reserves & Land Manager<br>• Bushfire Risk Management Plan Consultation and Advice<br>• Responsible for development, implementation and review of treatments as a Land Manager. | High | Inform, consult, involve, collaborate |

*Appendix B*

| Stakeholder | Role or interest | Level of impact of outcomes | Level of engagement |
|---|---|---|---|
| Department of Planning, Lands and Heritage | • Vested Reserves<br>• Land Management Governance and Advice | Low | Inform & consult |
| Department of Water and Environmental Regulations | • Land Management Governance and Advice | Low | Inform & consult |
| Water Corporation | • Asset Owner, Vested Reserves & Land Manager<br>• Bushfire Risk Management Plan Consultation and Advice | Medium | Inform, consult, involve, collaborate |
| Main Roads | • Asset Owner, Vested Reserves & Land Manager<br>• Bushfire Risk Management Plan Consultation and Advice<br>• Critical Infrastructure Owner | Medium | Inform, consult, involve, collaborate |
| Western Power | • Asset Owner, Vested Reserves & Land Manager<br>• Bushfire Risk Management Plan Consultation and Advice<br>• Critical Infrastructure Owner | Medium | Inform, consult, involve, collaborate |
| Public Transport Authority | • Asset Owner, Vested Reserves & Land Manager | Medium | Inform, consult, involve, collaborate |
| Telstra | • Asset Owner, Land Manager | Medium | Inform & consult |
| Asset Owners, Business Owners, Private Land Owners & Broomehill-Tambellup Community | • Asset Owner, Land Manager | High | Inform, consult, involve, collaborate, empower |

*Appendix B*

## Contact Information for Key Stakeholders

In the context of BRM planning, this table provides contact details for key stakeholders who have a significant role in planning, implementation, and review, or who will be greatly affected by the outcomes.

| stakeholder | Point of Contact/Position | Contact Email | Contact Number |
|---|---|---|---|
| CBH | Timothy Roberts<br>Lead - Planning and Approvals | Timothy.Roberts@cbh.com.au | (08) 9216 6061 |
| Department of Biodiversity, Conservation & Attractions | Mitch Davies<br>Regional Operations Manager | mitchell.davies@dbca.wa.gov.au | 0427 193 556 |
| Forest Products Commission | Greg Hodgson<br>Manager Fire Protection | greg.hodgson@fpc.wa.gov.au | 0429 206 600 |
| Main Roads | Cameron Linton<br>Vegetation Manager – Great Southern Region | cameron.linton@mainroads.wa.gov.au | 0467 784 037 |
| Public Transport Authorities | Mudji Nielsen<br>Land & Property Administrator | mudjijono.nielsen@pta.wa.gov.au | 0477 927 461 |
| Telstra | Andy Boutell<br>Emergency Services Liaison Officer | andrew.boutell@team.telstra.com | N/A |
| Water Corporation | Natalie Nazzari<br>Senior Advisor Customer and Stakeholder - Great Southern Region | Natalie.Nazzari@watercorporation.com.au | 0436 933 609 |
| Western Power | Natashya Cox<br>Senior Project Delivery Specialist - Network Maintenance Planning & Delivery | natashya.cox@westernpower.com.au | 08 9326 4077 |

| stakeholder | Point of Contact/Position | Contact Email | Contact Number |
|---|---|---|---|
| Wind Farm | Olivia Thorn<br>Community Liaison Officer FRWF S1 | olivia.thorn@enel.com | 0459 359 399 |

## Communications log

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. Record any significant conversations, community engagement events, emails, meetings, presentations, workshops and other communication initiatives.

| Timing of communication | Stakeholders | Purpose | Summary | Communication method | Lesson Identified | Follow up |
|---|---|---|---|---|---|---|
| Development of the BRM Plan | | | | | | |
| When did this communication occur? | Who was the stakeholder or target audience? | What was the purpose of the communication? | What topics were discussed? | What communication method did you use? | Were there any issues or lessons identified? | Was there any follow up required? |
| Oct 2022 - Current | DFES/OBRM/BRMB | BRMP Development | Development of BRMP | Email/Teams Meetings/Phone call | N/A | Ongoing for support and advice |
| Oct 2022 - Current | Shire of Broomehill-Tambellup (inc BFB/BFAC) | BRMP Development | Development of BRMP | Email/Teams Meetings/In person Meetings/Phone call | N/A | Ongoing for support, feedback and advice |
| Jan 2023 | Mainroads | Identify point of communication | Contribution to BF risk within SoBT | Email | N/A | Yearly follow up |
| Mar 2023 | Dept of Biodiversity, Conservation and Attractions | Identify point of communication | Contribution to BF risk within SoBT | Email<br>Phone call<br>In person Meeting | N/A | Yearly follow up |

| | | | | | | |
|---|---|---|---|---|---|---|
| Dec 2022 | Forest Product Commission | Identify point of communication | Contribution to BF risk within SoBT | Email<br>Phone call | N/A | Yearly follow up |
| Jan 2023 | Water Corporation | Identify point of communication | Contribution to BF risk within SoBT | Email | N/A | Yearly follow up |
| Jan 2023 | Western Power | Identify point of communication | Contribution to BF risk within SoBT | Email<br>Phone call<br>Teams meeting | N/A | Yearly follow up |
| Dec 2022 | Enel Green Power (Wind Farm) | Identify point of communication | Contribution to BF risk within SoBT | Email<br>Phone call<br>In person meeting | N/A | Yearly follow up |

*Appendix B*

## Communication Plan

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

| Timing of communication | Stakeholders | Communication Objective(s) | Communication Method | Key Message or Purpose | Responsibility | Identified Risks to Communication | Strategy to Manage Risks | Monitoring and Evaluation Method |
|---|---|---|---|---|---|---|---|---|
| What is the timeframe or date for this communication? | Who is the stakeholder(s) or target audience? | Which communication objective(s) does this activity support or achieve? | How are you communicating (e.g. email, meetings) and how often? What resources are required? | What is the key message or purpose that needs to be understood? | Who is responsible for planning and undertaking the communication activity? | What could reduce the effectiveness of the communication? | What will be done to reduce the likelihood of this happening? | How will you know if your communication was successful? |
| Life of Plan | DFES/OBRM/BRMB | ALL | Email<br>Teams Meetings<br>Phone call | Inform<br>Consult<br>Progress update<br>Issues identification and action planning | CEO or Delegate | • Time constraints<br>• No clear message<br>• Incorrect audience<br>• Conflicting priorities | • Careful planning<br>• Time management | Feedback, questions and level of support received |
| Life of Plan | Shire of Broomehill-Tambellup (inc BFB/BFAC) | ALL | Email<br>In Person Meetings<br>Phone call | Inform<br>Consult<br>Progress update<br>Issues identification and action planning | CEO or Delegate | • Time constraints<br>• Availability<br>• Lack of understanding<br>• Budget (for LG mitigation)<br>• Resource constraints<br>• Stakeholder's willingness to participate | • Preparation<br>• Time management<br>• Clarify misunderstandings and intentions of plan | Feedback, questions and level of support received |

*Appendix B*

| Timing of communication | Stakeholders | Communication Objective(s) | Communication Method | Key Message or Purpose | Responsibility | Identified Risks to Communication | Strategy to Manage Risks | Monitoring and Evaluation Method |
|---|---|---|---|---|---|---|---|---|
| Life of Plan | Other significant Stakeholders | 1-3 & 5 | Email<br>In Person Meetings<br>Phone call<br>Presentations<br>Community engagement | Inform<br>Consult<br>Progress update | CEO or Delegate | • Time constraints<br>• Availability<br>• Lack of understanding<br>• Resource constraints<br>• Stakeholder's willingness to participate | • Preparation<br>• Time management<br>• Clarify misunderstandings and intentions of plan | Feedback, questions and level of support received |

# Appendix C – Annual review checklist

## Correspondence

| | |
|---|---|
| ☐ | Cover letter from local government Chief Executive Officer or delegate to Director OBRM with this form completed and attached. |

## Bushfire Risk Management Plan

| | | |
|---|---|---|
| Chapter 1 | ☐ | BRM Plan objectives are still relevant. |
| Chapter 3 | ☐ | Content of 'Local government and community context' reflects current bushfire risk to community and local economy. |
| | ☐ | Content of 'Environmental and bushfire context' reflects current factors of bushfire hazard and describes environmental values within local government area. |
| Chapter 4-7 | ☐ | Figures and tables have been updated to reflect current data in Bushfire Risk Management System (BRMS). |
| Chapter 6 | ☐ | Treatment Strategy informed by community values and local strategic priorities. |
| Appendix A | ☐ | Local government wide controls includes current non-asset specific treatment programs in local government area. |
| Appendix B | ☐ | Communication Plan has been updated to include planned stakeholder engagement and communication activities for the next planning period. |

## Bushfire Risk Management System

| | |
|---|---|
| ☐ | Significant assets are accurately mapped in BRMS. |
| ☐ | Risk assessment data is current and accurate. |
| ☐ | Post treatment risk assessments have been completed. |
| ☐ | The Treatment Schedule includes planned treatments for at least the next 12 months. |