Bushfire Risk Management Plan

2025 - 2027

CITY OF Armadale

Office of Bushfire Risk Management Bushfire Risk Management (BRM Plan) endorsed 13 October 2025.

Local Government Council BRM Plan approval 10 November 2025.

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Document endorsements

This Bushfire Risk Management Plan has been endorsed by the Office of Bushfire Risk Management as consistent with the standards detailed in the *Guidelines for Preparing a Bushfire Risk Management Plan 2024*.

The approval of the Bushfire Risk Management Plan by City of Armadale 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 City of Armadale.

Local Government	Representative	Signature	Date
City of Armadale	CEO City of Armadale		27/11/2025

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 BRM Plan has been prepared by City of Armadale, encompasses all land within the City of Armadale and has been written on behalf of all stakeholders within that area. The BRM 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 managing bushfire risk.

The BRM plan has been prepared with due consideration of the requirements stated in the *Guidelines for Preparing a Bushfire Risk Management Plan* (the Guidelines) published by the Office of Bushfire Risk Management (OBRM) including the principles described in *ISO 31000:2018 Risk Management*.

1.2 Objective of the Bushfire Risk Management planning program

The BRM planning program supports local governments to reduce the threat posed by bushfire. The City of Armadale BRM Plan will contribute to achieving the objective of the BRM program by:

- **Coordinating a cross-tenure, multi-stakeholder approach** that brings together government agencies, landowners, community groups, and emergency services to collaboratively manage bushfire risk.

- **Optimising the use of available resources**; financial, physical, and human to ensure bushfire mitigation activities are targeted, efficient, and sustainable.

- **Aligning bushfire risk treatments with strategic objectives and operational outcomes** by facilitating a seamless connection between identified risks and responsible parties, with overarching goals and practical outcomes.

- **Establishing robust monitoring and review processes** to evaluate the effectiveness of treatments and adapt strategies to maintain risk at acceptable levels.

- **Embedding bushfire risk management into the City's core business processes**, including land use planning, environmental management, and community engagement, supported by clear communication such as resident advisories, Landcare groups, collaboration with Bushfire Brigades, and seasonal preparedness campaigns.

- **Strengthening integration between landowners and bushfire mitigation programs** that promote culturally respected ecological fire management practices, such as initiatives like Burn Smart and Cultural Burning, that balance risk reduction with environmental sustainability, habitat conservation, and biodiversity protection**.**

- **Promoting community awareness and preparedness** through platforms like Engage Armadale, workshops, and educational resources that empower residents to take proactive steps in safeguarding their properties.

- **Protect and enhance environmental assets** by **i**mplementing bushfire mitigation treatments that minimise adverse impacts on flora, fauna, water quality, and soil stability. Ensure that ecological values identified in the Local Biodiversity Strategy 2024–2029 and other environmental management plans are considered in planning and treatment prioritisation.

- **Support landscape resilience** via integrating fire management strategies that maintain ecosystem function, reduce soil erosion, and preserve ecological corridors, while reducing bushfire risk to the community and property.

- **Respecting and incorporating Traditional Owner knowledge** in fire management planning, recognising the cultural significance of land and the value of Indigenous fire practices in reducing bushfire risk.

Monitor and review the implementation of treatments to ensure treatment plans are adaptable and risk is managed at an acceptable level.

This BRMP will also satisfy parts 2 and 3 of the State Hazard Plan – Fire

• Part Two: Prevention and Mitigation
• Part Three: Preparedness

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***.

Local inclusions:

- City of Armadale Environmental Land Use Planning Strategy 2019
- City of Armadale Erosion Prevention and Sediment Control Policy PLN 2.5
- City of Armadale Firebreak Hazard Reduction Notice 2025/2026
- City of Armadale Local Biodiversity Strategy 2024-2029
- City of Armadale Strategic Community Plan 2020-2030
- City of Armadale Community Health and Wellbeing Plan 2025-2030
- City of Armadale Reconciliation Action Plan 2023-2026
- City of Armadale Tourism Strategy 2023-2028
- City of Armadale Local Emergency Management Arrangements 2021-2026
- City of Armadale Local Planning Strategy 2024
- City of Armadale Policy FIRE 1 - Firebreaks
- City of Armadale Town Planning Scheme No.4 2005 (under review)

Chapter 2 The risk management process

The BRM planning process is a cycle of understanding the context and assessing and treating risks. 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 (Fig. 1)

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

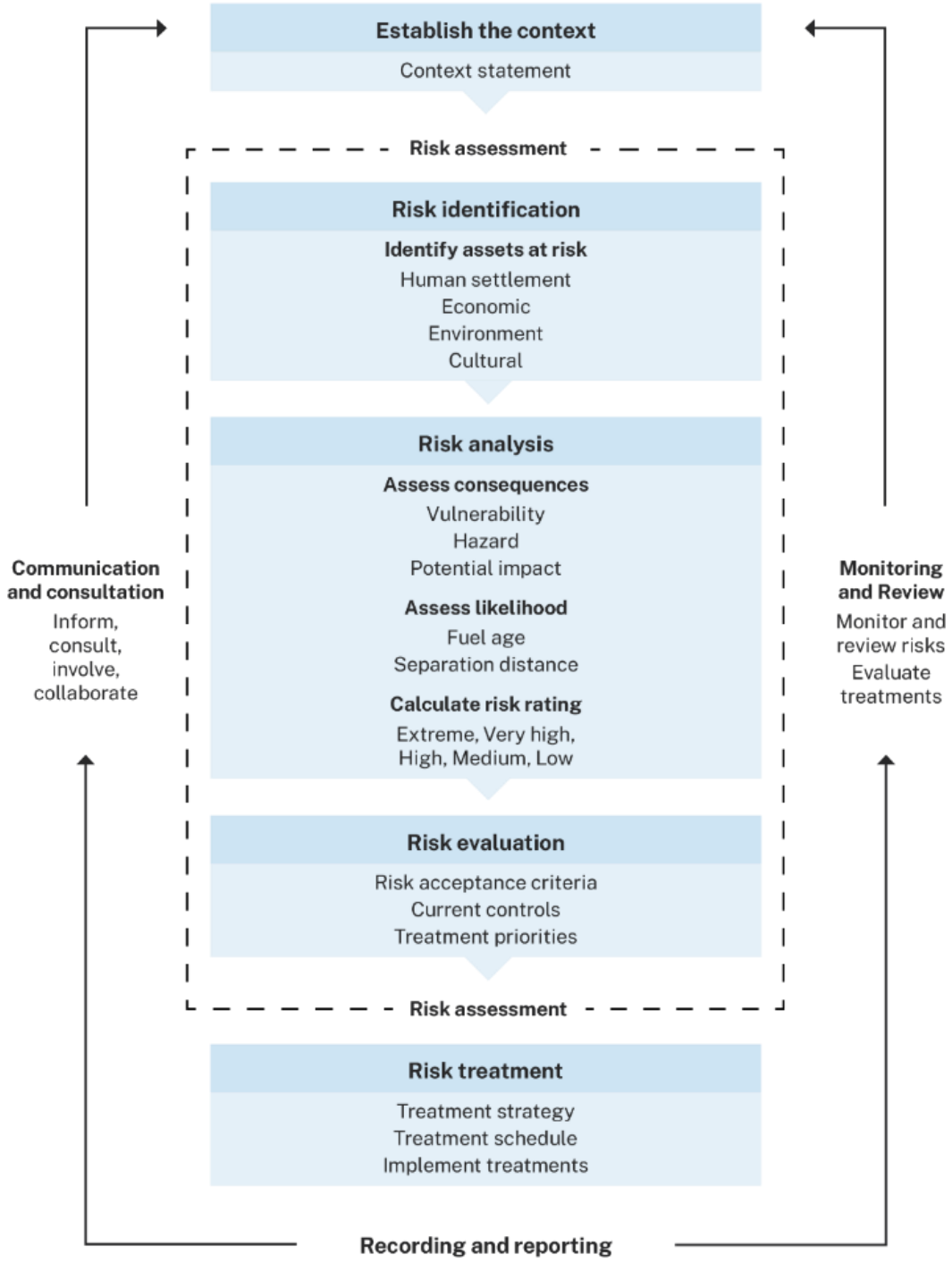


Figure 1. The Bushfire Risk Management planning process

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.

Stakeholder*	Roles and responsibilities
City of Armadale	• Custodian of the BRM Plan • Coordinate the development and ongoing review of the BRM Plan • Undertake bushfire risk assessment of local government area • Submit the draft BRM Plan to OBRM for review and endorsement • Develop and implement a Treatment Schedule for local government managed land • Encourage risk owners to treat identified risks • Communicate the plan to the community • Submission of the final BRM Plan to Council for their endorsement and adoption.
Department of Fire and Emergency Services (DFES)	• Contribute to the development and implementation of the BRM Plan • Facilitate involvement of state and federal government agencies in the BRM planning process • Undertake treatments on unmanaged reserves and unallocated Crown land within gazetted town sites • By agreement, implement treatment strategies for other land managers. • Endorse BRM Plans consistent with the Guidelines, BRM Program and dynamic risk environment • Administer the Mitigation Activity Fund Grants Program.
Department of Biodiversity, Conservation and Attractions (DBCA)	• Contribute to the development of the BRM Plan • Implement their treatment program on DBCA managed land • Provide advice on environmental assets and appropriate treatment strategies for their protection • In accordance with Memorandums of Understanding and other agreements, implement treatment strategies for other landholders.
Department of Planning, Lands and Heritage	• Identify managed assets • Evaluate and provide input on bushfire risks for new assets through Structure Planning and Subdivision approval processes, ensuring risks and mitigation requirements are communicated to the City and private landowners • Provide advice on management of Aboriginal Cultural Heritage.
Other State and Commonwealth Government agencies and public utilities	• Identify managed assets • Provide advice on current risk treatment programs • Contribute to the development of BRM Plans • Undertake treatments on lands they manage.
Corporations and private landowners	• Identify managed assets • Undertake treatments on lands they manage.

Stakeholder*	Roles and responsibilities
Other – Local knowledge, technical advice and interested parties	• Participation in and contribution to the development and implementation of BRM plans and treatment schedules • Providing advice for the identification of assets that are vulnerable to fire • Providing advice on appropriate treatment strategies for asset protection.

Table 1: Roles and responsibilities in the Bushfire Risk Management (BRM) planning process.

2.2 Stakeholder engagement

Engagement with stakeholders is ongoing throughout the development, implementation and review of the BRM Plan, and ensures planning is based on comprehensive information and considers the values and objectives of the entire community.

Stakeholder and community engagement within the Bushfire Risk Management Plan (BRMP) for the City of Armadale is underpinned by the principles of transparency, inclusivity, and shared responsibility. While enhancing community resilience may at times involve inconvenience or change, it is through inclusive and collaborative engagement that communities can achieve a safer, more prepared future, one that supports the shared lifestyle and values of those living in bushfire-prone areas.

Through the Engage Armadale platform, the City fosters meaningful dialogue with residents, businesses, and local organisations, inviting them to contribute insights and feedback on projects that shape the region's resilience to bushfire risk. This online hub empowers the community to participate in feedback processes, ensuring that diverse perspectives are considered in the development of risk mitigation strategies. By leveraging this collaborative space, the City strengthens trust, enhances local knowledge integration, and builds a more connected and prepared community.

To further support these efforts, a Community Education Officer has been appointed to deliver targeted bushfire education and engagement initiatives across the City. This role focuses on raising awareness of bushfire risk, promoting household preparedness, and reinforcing community-wide understanding of fire safety measures. The Community Education Officer works closely with stakeholders and local groups to facilitate workshops, develop tailored resources, and coordinate outreach activities, ensuring emergency preparedness messaging is culturally sensitive, accessible, and aligned with local risk profiles.

A Communication Table describing communication with relevant stakeholders at each stage of the BRM planning process is in Appendix A. A record of engagement with stakeholders is maintained.

Chapter 3 Establishing the context

3.1 Strategic and corporate framework

The BRM Plan has been developed to document and establish strategies to assist in effectively undertaking risk assessments and planning and implementing mitigation treatments within the City of Armadale.

The City recognises that effective bushfire risk management is a shared responsibility between local government, partner agencies, and the broader community. Building resilience to bushfire risk requires collective action and, at times, a willingness to adapt to ensure long-term safety, sustainability, and liveability.

The City of Armadale Strategic Community Plan (SCP) 2020–2030 serves as a blueprint for the City's future direction and represents a shared vision developed through community engagement. It outlines long-term strategies that build upon the City's unique assets and identifies community objectives in response to social, environmental, and economic change. The values and aspirations outlined in the SCP are central to the development and implementation of this Bushfire Risk Management Plan

(BRMP), which supports the City's commitment to protecting life, property, and the natural environment.

Following endorsement, the City will retain responsibility for coordinating the implementation of the BRMP. Bushfire risk treatment actions will be integrated into the City's operational plans, and clear lines of accountability will be maintained within relevant business units. The City will monitor progress, report outcomes, and review the BRMP as part of its ongoing corporate planning cycle.

The BRMP is to be implemented in accordance with relevant City of Armadale policies, including PLN 2.5 – Erosion Prevention and Sediment Control. All bushfire risk management activities, including firebreak construction, fuel reduction, and access track development, must be planned, designed, and executed to prevent soil degradation, protect waterways, maintain long-term land stability, and avoid adverse erosion or sedimentation impacts. The integration of this policy into the BRMP strengthens the City's commitment to sustainable land management by aligning fire protection with environmental protection outcomes.

The BRMP is also aligned with the City's existing emergency management arrangements. It supports and is supported by the Local Emergency Management Committee (LEMC) and Department of Fire and Emergency Services (DFES) which provide critical advice, local intelligence, and a collaborative platform for stakeholders. These structures ensure the BRMP is consistent with broader preparedness, response, and recovery efforts across the municipality.

Community
The City of Armadale remains committed to fostering and strengthening the community spirit that has defined the region since its early settlement. This enduring sense of connection and vitality continues to make Armadale a welcoming and desirable place to live. As the population grows and diversifies, the City will work to ensure that community cohesion, inclusion, and well-being remain central to local development and planning initiatives.

Environment
The City of Armadale takes great pride in its diverse and ecologically significant natural environment. The area is home to a range of valued bushland, wetland, and waterway ecosystems, including the Wungong and Canning River systems. The internationally recognised Forrestdale Lake RAMSAR site, which supports four species of Declared Rare Flora, exemplifies the City's environmental significance. Protecting and enhancing these natural assets remains a key priority in shaping a sustainable and resilient future.

Economy
By 2030, Armadale will be home to a dynamic and resilient local economy, underpinned by a diverse range of employment opportunities and strategic service sectors including health, education, and training. The City's strong transport connections to the broader Perth metropolitan area will continue to support economic integration and regional competitiveness, contributing to long-term prosperity for residents and businesses.

Leadership
To enable the continued development of Armadale as a Strategic Metropolitan Centre, the City recognises the need for strong advocacy and collaborative leadership. Attracting and sustaining private sector investment requires proactive engagement with State and Federal governments, as well as industry stakeholders. Through effective partnerships and long-term planning, the City aims to secure the infrastructure, jobs, and services necessary to support the community's future needs.

3.2 Land use and tenure

The City of Armadale is located in the south-eastern metropolitan region of Perth and features a variety of land uses and tenures that reflect its diverse landscape with a mix of natural and developed environments. Key components of the land use and tenure include:

Residential and Lifestyle Properties: There is a mix of suburban housing, lifestyle blocks, and rural properties that cater to both permanent residents and those seeking semi-rural lifestyles.

Aged Care, Healthcare, and Community Facilities: Armadale has several key healthcare facilities, including Armadale Health Service and multiple Aged Care Residences, which provide essential medical and aged care services. The area also has several retirement villages, that cater to the needs

of the local community, especially the elderly and vulnerable populations. Additionally, Armadale has schools located in bushfire-prone areas, each with individual bushfire plans. These plans ensure preparedness and safety for students and staff in case of a fire emergency.

Industrial and Commercial Areas: Designated zones for industrial and commercial activities provide economic opportunities and services for residents.

Agricultural and Horticultural Land: Many orchards, vineyards, and hobby farms operate in the area, reflecting Armadale's historical and current ties to agriculture.

National Parks and Recreational Reserves: The City's landscape includes popular natural areas like the Darling Scarp and Jarrah Forest, which are valuable for conservation, recreation, and tourism.

Approximately 70% of the City retains natural vegetation. These areas are largely comprised of remnant native vegetation and include sites of ecological significance, such as Bush Forever sites, Regional Parks, Undeveloped bushland and State Forests. Managed by the Department of Biodiversity, Conservation and Attractions (DBCA), these areas pose management challenges for the city, as they fall outside direct municipal control. These diverse land uses and tenures contribute to the City's unique character and present a complex management landscape for the local government, especially in balancing development needs with conservation efforts.

Land Manager	Local Government Area (%)
Department of Biodiversity, Conservation and Attractions – Outside Native Title	60.00
Department of Biodiversity, Conservation and Attractions	0.04
Department of Fire and Emergency Services	2.39
Department of Planning, Lands and Heritage	2.85
Department of Water and Environmental Regulation	2.86
Local Government	3.34
Main Roads Western Australia	0.70
Other State Government	2.98
Private and Other	17.67
Water Corporation	2.33
Western Australia Planning Commission	4.82

Table 2 – Summary of land management responsibilities within the City of Armadale.
Source: DFES Spatial Services

The City of Armadale is bordered by the Cities of Gosnells and Kalamunda to the north, the Shires of York and Beverley to the east, the Shires of Serpentine-Jarrahdale and Wandering to the south and the Cities of Cockburn and Kwinana to the west.

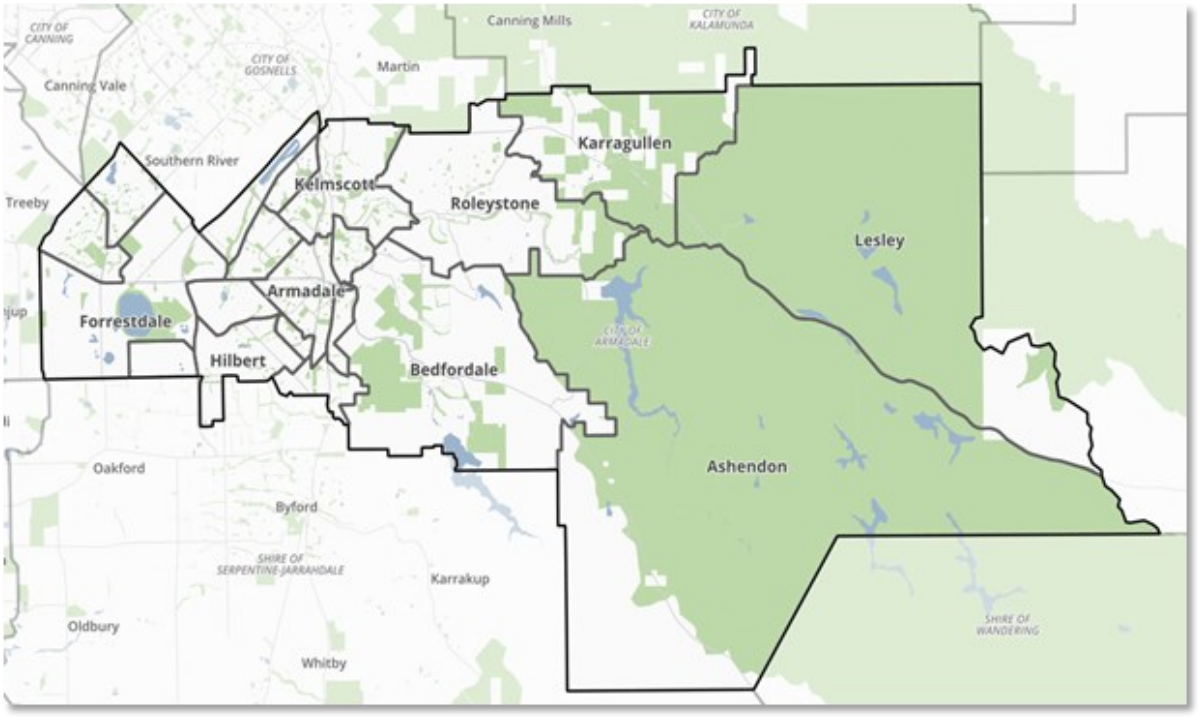


Figure 2: Map of the City of Armadale

The City of Armadale includes 20 suburbs and localities, being:

Armadale	Forrestdale	Mt Nasura
Ashendon	Harrisdale	Mt Richon
Bedfordale	Haynes	Piara Waters
Brookdale	Hilbert	Roleystone
Camillio	Karragullen	Seville Grove
Champion Lakes	Kelmscott	Wungong
Doobarda	Lesley	

3.3 Community demographics and values

The City of Armadale, situated at the intersection of the Swan Coastal Plain and the Darling Scarp, is recognised as a high bushfire-risk area due to its extensive bushland interface, undulating terrain, and hot, dry summers. This risk is a concern for the community, shaping both individual preparedness and shared emergency planning. According to the 2021 Census, the City had a resident population of 97,568 across 36,296 dwellings. The City of Armadale is experiencing sustained population growth, with the population forecast to increase from approximately 109,554 in 2025 to 145,843 by 2046, a projected growth of over 33% *(forecast.id.com.au)*. This expansion is largely driven by residential development in growth suburbs such as Hilbert, Haynes, and Piara Waters.

Several demographic characteristics influence the community's resilience and vulnerability to bushfire. While English is the primary language spoken, the City is culturally diverse, with a growing number of residents speaking languages other than English at home. This highlights the importance of multilingual communication strategies for bushfire awareness. At Risk groups include older adults, people with disabilities, young families, and residents in socioeconomically disadvantaged areas, particularly in bushfire-prone suburbs like Roleystone, Bedfordale, and Karragullen. These peri-urban areas are particularly exposed to bushfire risk due to their relative geographic isolation, proximity to natural vegetation and topographical features, which can complicate evacuation, emergency response and recovery. Seasonal visitors to natural attractions such as Wungong Regional Park and the Roleystone Hills may be unfamiliar with local fire risks and protocols, adding to the complexity of community preparedness.

As the community grows, so too does the diversity of values and expectations around bushfire risk management. Many residents are drawn to the area for its natural beauty, semi-rural lifestyle, and access to green spaces, values that can sometimes be at odds with mitigation measures. Balancing these environmental and lifestyle priorities with the need for safety and resilience is a key consideration in the City's bushfire planning and community engagement strategies.

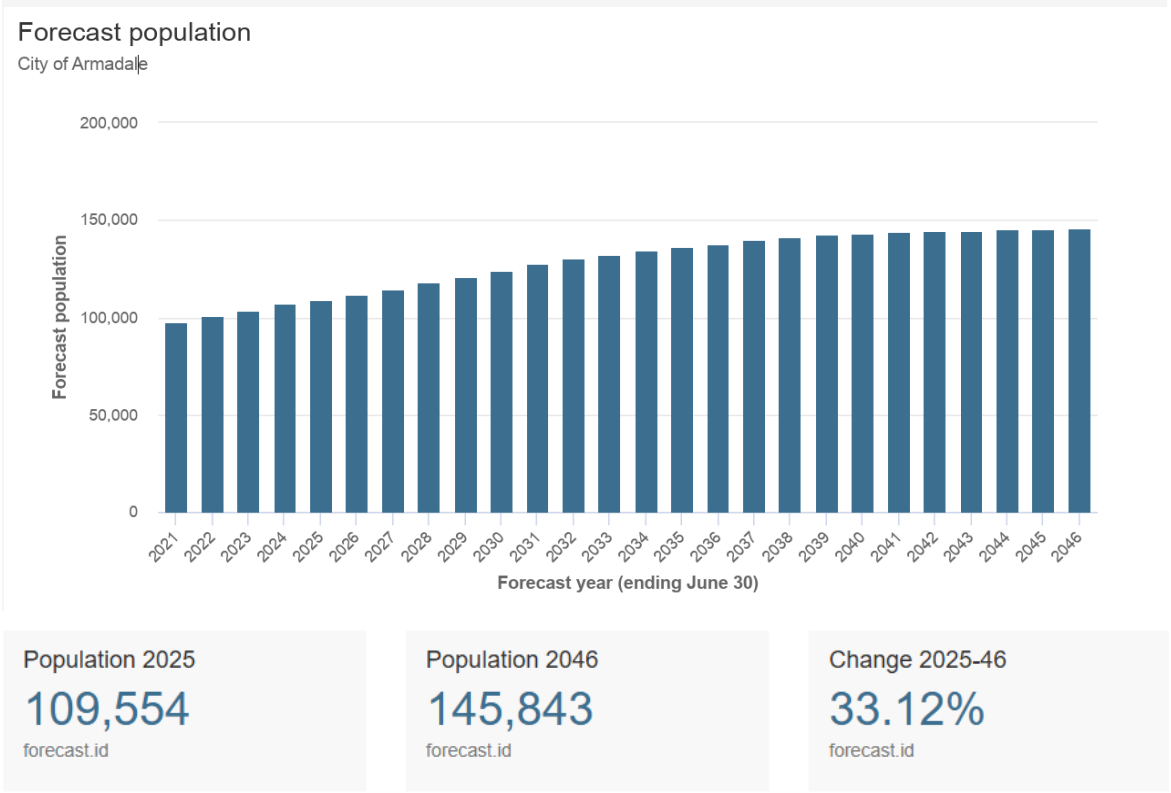


Figure 3: City of Armadale Forecasted Population
Source: https://profile.id.com.au/armadale/

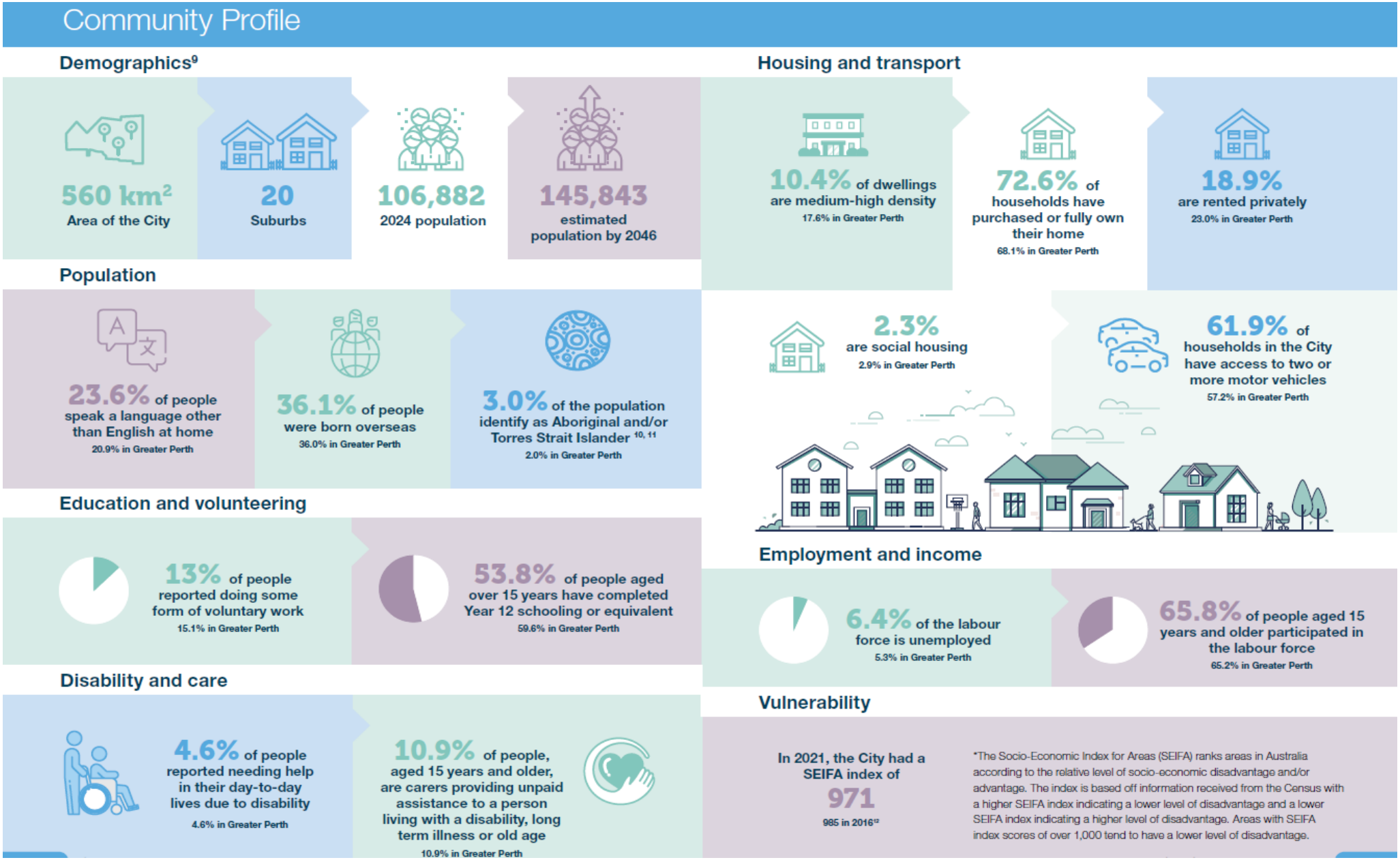


Figure 4: City of Armadale Forecasted Population
Source: https://profile.id.com.au/armadale/

3.4 At Risk Communities and Facilities

The Community Asset "At Risk" table below provides a list of local communities and facilities potentially needing additional support during a bushfire. This includes schools, education facilities, daycares, retirement villages, aged care facilities, group homes, community halls, recreation centres, water storage facilities (such as treatment plants, pumping stations, and pipelines), power substations, and limited egress streets.

While these locations may have additional needs in emergencies, we recognise that what can present challenges can also foster resilience. Our approach is informed by Person-Centred Emergency Preparedness (P-CEP*), emphasising strengths and community capacities. Co-designed and tested with people with disability P-CEP enables people to self-assess their preparedness, capabilities and support needs and develop a personal emergency plan for how they will:

(a) manage their support needs in emergencies
(b) act together with their support network before, during, and after a disaster.

P-CEP focuses on function (not impairments), local community assets, and cross-sector collaboration as the basis for removing barriers that increase risk for people with disability and other groups at greater risk in emergencies. All assets within Bushfire Risk Management System (BRMS) that contain an "At Risk" community or facility are marked as high vulnerability.

To further strengthen this inclusive approach, the Disability Inclusive Emergency Planning (DIEP) Forum will be held in September 2025, bringing together stakeholders, service providers, and community advocates to explore inclusive strategies and validate priorities outlined in the BRMP. The forum offers an important opportunity to co-design meaningful actions and ensure that people with disability are actively represented in resilience planning efforts.

Priority Level	Facility/Community Types	Key Examples
▲ Extreme	Schools, Aged care & retirement living, Community halls, Vulnerable people, Limited egress communities, Power/water infrastructure	Southern Hills Christian College, Amana Living Hillandale Village, Roleystone Theatre, NDIS residences, Leworthy Loop Karragullen, Churchman Brook Dam
● Very High	Schools, Aged care & retirement living, Child Care, Health Facilities, Limited egress communities, Vulnerable people, Power/water infrastructure	St John Bosco College, MercyCare Residential Age Care Kelmscott, Roleystone Child Health Centre, Araluen Estate Roleystone, NDIS residences, Wungong Dam
◆ High	Schools, Aged care & retirement living, Child Care, Health Facilities, Limited egress communities, Vulnerable people, Power/water infrastructure	Armadale Senior High School, Dale Cottages, Djinda Dreaming Childcare Bedfordale, Cross Road Bedfordale, Armadale Memorial Hospital, NDIS residences, substations
● Medium	Schools, Aged care & retirement living, Libraries, Heritage Gardens, community halls, aquatic/recreation centres	Harrisdale Primary School, Juniper Aged Care, Seville Grove Library, Wirra Willa Gardens/House, Roleystone Hall, Armadale Fitness & Aquatic Centre (AFAC)
○ Low	Not applicable in this matrix (all listed categories are Medium–Very High risk)	—

Table 3: Community Asset "At Risk" Table
Source: *DFES Bushfire Risk Management System (BRMS)* & CoA Intranet

3.5 Cultural heritage

The City of Armadale acknowledges the Whadjuk Noongar people as the Traditional Owners of the land and recognises their enduring connection to Country. Aboriginal heritage, culture, and identity are deeply embedded in the local landscape and play a vital role in shaping the City's character and values.

Aboriginal stakeholders with an interest in bushfire risk management include Native Title Holders, Traditional Owners, the Whadjuk Aboriginal Corporation and Aboriginal knowledge holders. The City engages with Aboriginal Elders and community members through culturally appropriate consultation processes that prioritise respect, transparency, and inclusivity. Guided by the principles outlined in the City's policy, this engagement is facilitated through mechanisms such as the Aboriginal Elders Reference Group, regular meetings at the Champion Centre, and support from the Aboriginal Development Team. Collaboration with the Whadjuk Aboriginal Corporation further ensures that consultation reflects both cultural authority and governance structures, strengthening opportunities for joint decision-making and partnership.

These processes ensure that Elders are recognised as custodians of cultural knowledge and are actively involved in shaping initiatives, including bushfire risk management, land use planning, and community development. By embedding cultural protocols, the City fosters genuine collaboration and empowers Aboriginal voices in decision-making that affects Country, culture, and community wellbeing.
Numerous locations within the City hold profound cultural and spiritual significance, including natural features such as waterways, hills, and rock formations. Notable examples include Wungong Gorge and sections of the Darling Scarp, which are recognised for both their ecological and spiritual importance. These areas are protected under the *Aboriginal Heritage Act 1972*, which provides legal safeguards for Aboriginal heritage across Western Australia.

The City of Armadale recognises and values the enduring cultural and spiritual connections of the Whadjuk Noongar people to the land, embedding Aboriginal heritage into its identity and governance. Through respectful consultation and collaboration with Elders, the Whadjuk Aboriginal Corporation, and other stakeholders, Aboriginal voices actively inform planning and bushfire risk management initiatives. Culturally significant sites across the region are protected and integrated into broader environmental and risk reduction strategies, reflecting the City's commitment to safeguarding both heritage and Country for future generations.

The Aboriginal Cultural Heritage Inquiry System (ACHIS) is routinely consulted to identify registered heritage sites and areas requiring protection.

1. SOUTHERN RIVER - Camp; Creation / Dreaming Narrative; Hunting Place
2. NEERIGEN BROOK 2 - Camp; Water Source

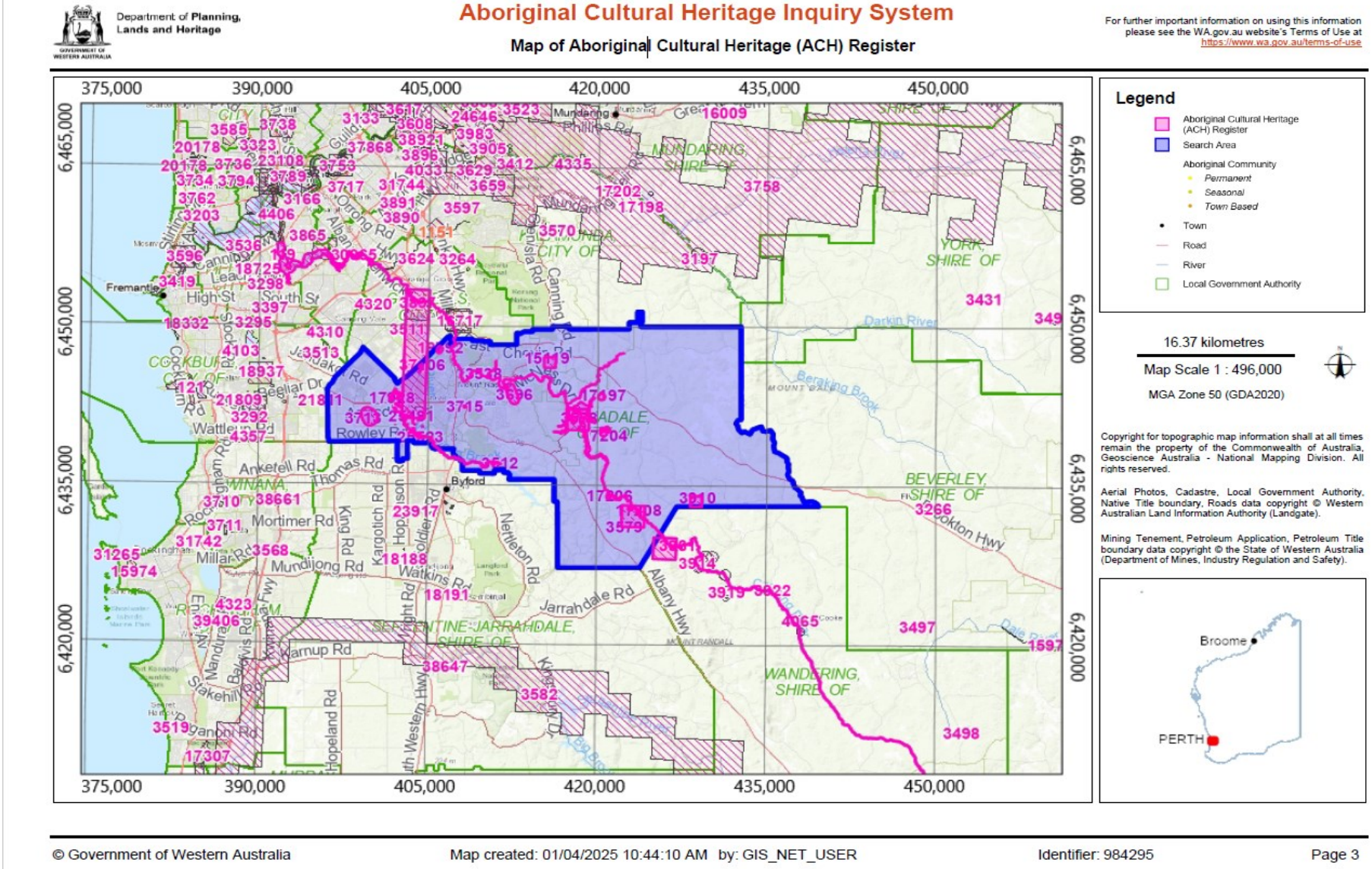
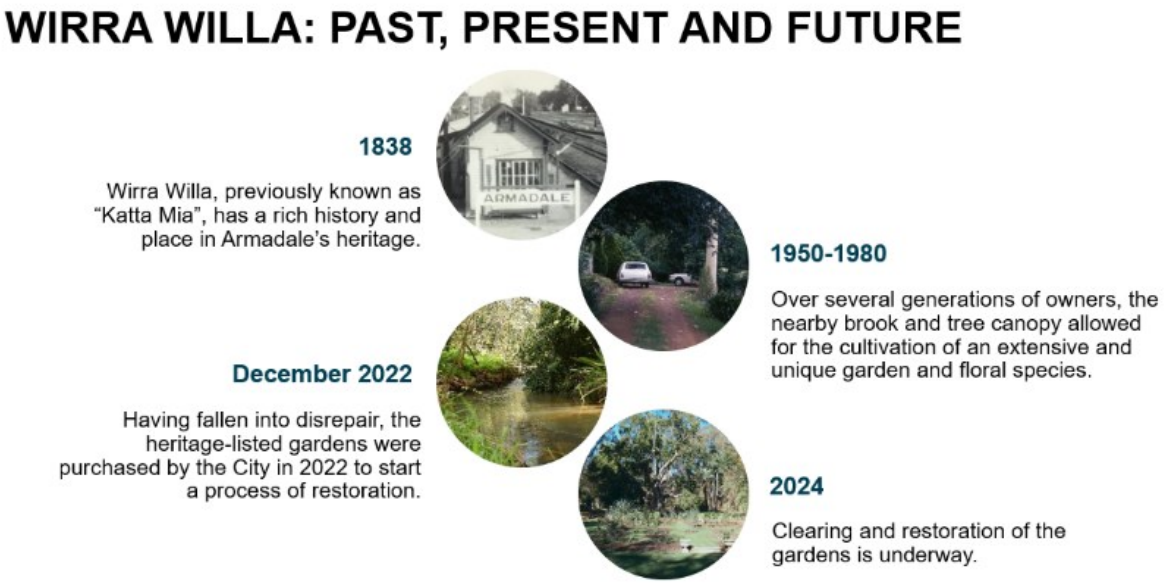


Figure 5: Map of the Aboriginal Cultural Heritage Register
Source: ACHIS Website

In 2022, the City of Armadale acquired the historically and environmentally significant Wirra Willa Gardens to ensure the long-term protection of this unique four-acre property. The site holds cultural, botanical, and heritage value, representing an important element of the State's built and social history, as well as the City's local identity.

The acquisition and revitalisation of Wirra Willa Gardens provides an opportunity to safeguard its rare and distinctive tree and plant species, while also preserving a culturally significant landscape for future generations. As part of the City's broader approach to bushfire risk management, protective measures and mitigation planning for the site will be undertaken in a way that respects both its environmental sensitivity and heritage status.



3.6 Economic activities and industry

The City of Armadale features a diverse natural and cultural landscape that supports a range of tourism and recreational activities. Popular destinations such as Araluen Botanic Park, Minnawarra Park, Armadale Reptile & Wildlife Centre, and Wungong Regional Park attract both residents and visitors throughout the year. The Heritage Country Tourist Drive and Armadale Hills Scenic Drive provide access to the City's picturesque valleys, forested areas, and orchards, while local markets, festivals, and arts events contribute to the area's vibrant tourism offering.

Bushland reserves across Roleystone, Bedfordale, Karragullen, and the Darling Range are also popular for hiking, cycling, horse riding, and nature observation. Trails such as the Wungong Gorge Walk Trail, Churchman Brook Trail, and Pelican Trail draw outdoor enthusiasts, many of whom may be unfamiliar with local bushfire risks or regulations, particularly during high fire danger periods. Key reserves that experience high visitation during these times include Bungendore Park, Settlers Common, and Roley Pools. Fire management planning in these reserves is carefully tailored to protect the flora and fauna, ensuring that the bushland's high biodiversity is maintained, and environmental values of the reserves are aligned with the City of Armadale's Tourism Strategy.

Recreational and visitor-related activities, including off-road vehicle use, camping, unauthorised campfires, and negligent disposal of cigarettes, can significantly increase the risk of bushfire ignitions. Deliberate acts of arson in remote or vegetated areas further compound the risk to people, property, and the environment. These activities can also exacerbate erosion, particularly along trails and fragile slopes, impacting soil stability and water quality.

Smoke associated with bushfires, can also impact the City's agricultural sector, particularly in Karragullen and Roleystone, where fruit orchards and vineyards contribute to the region's economy and identity. Such hazards can damage fruit crops, disrupt harvests, and reduce visitation to roadside stalls and wineries. In response, the City collaborates with orchardists and landholders to schedule

hazard reduction activities, such as prescribed burns, at times that minimise the likelihood of adverse effects on agricultural operations.

Significant bushfire events can deter tourism and disrupt economic activity in affected areas, particularly in industries that rely on open space access, local trade, and visitor engagement. To enhance both community safety and economic resilience, bushfire risk mitigation strategies will include the option to issue warnings, or advisories and strategically place signage during catastrophic fire weather. These alerts can inform bushwalkers and hikers to avoid reserves such as Bungendore Park and Settlers Common, reducing the risk to both visitors and emergency services.

According to the 2021 Australian Bureau of Statistics Census, the top employment sectors in the City of Armadale are:

- Construction (13.7%)
- Retail Trade (11.5%)
- Health Care and Social Assistance (11.1%)
- Manufacturing (9.6%

Industry Sector	Short-Term Effects (0–6 months)	Long-Term Effects (6 months – 2+ years)
Construction	1. Project delays due to access restrictions 2. Material supply chain issues. 3. Workforce disruption and stand-downs.	1. Reduced investor confidence in fire-prone areas 2. Stricter building regulations 3. Higher insurance costs.
Retail Trade	1. Loss of foot traffic 2. Stock damage from smoke or power outages 3. Temporary closures.	1. Permanent closures of small businesses 2. Shift in consumer behaviour 3. Increased operational costs.
Health Care & Support Assistance	1. Surge in emergency and mental health demand 2. Staff shortages 3. Service disruptions for vulnerable clients.	1. Sustained pressure on health and support services 2. Ongoing trauma and recovery needs 3. Preparedness system reform.
Manufacturing	1. Production and logistics delays 2. Power interruptions 3. Staff unavailability.	1. Relocation of facilities 2. Loss of clients/contracts 3. Higher risk mitigation and operational costs.

Table 4*:* City of Armadale - Potential Impacts of Bushfire Disruption on Key Industry Sectors
Source: : *https://profile.id.com.au/armadale/*

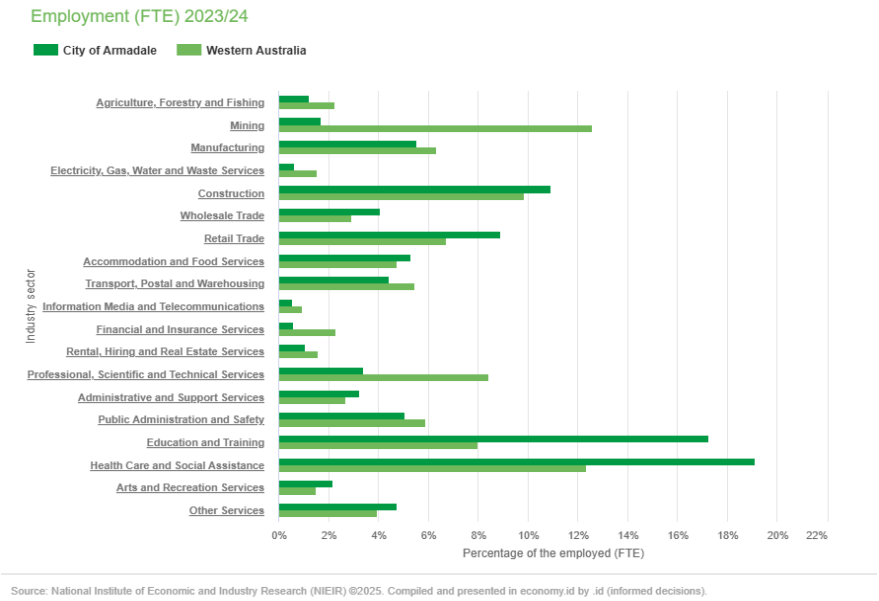


Figure 6 – City of Armadale Employment by industry (FTE)
Source: https://profile.id.com.au/armadale/

An analysis of the jobs held by the full-time equivalent local workers in the City of Armadale in 2023/2024 shows the three largest industries were:

- Health Care and Social Assistance (4,225 people or 19.1%)
- Education and Training (3,819 people or 17.3%)
- Construction (2,414 people or 10.9%)

In combination these three fields accounted for 10,459 people in total or 47.3% of the local workers.

The City is also home to a wide range of public and private education facilities, including early childhood centres, primary and secondary schools, and adult learning institutions. Several of these facilities are located in or near bushfire-prone areas, particularly in suburbs such as Roleystone, Bedfordale, and Karragullen, where dense vegetation and rugged terrain elevate the risk of bushfire impact.

As such, bushfire preparedness planning for educational institutions is a critical priority, with emphasis placed on evacuation procedures, communication protocols, and coordination with emergency services to ensure the safety of all occupants.

3.7 Topography and landscape features

The City of Armadale spans two major landform regions: the Swan Coastal Plain and the Darling Scarp (also known as the Darling Range). These contrasting landscapes present a range of topographic and geographic influences that significantly affect bushfire behaviour, suppression efforts, and risk management strategies across the municipality.

Swan Coastal Plain
The western portion of the City lies on the relatively flat and low-lying Swan Coastal Plain, which includes key urban and peri-urban areas such as Armadale, Seville Grove, Kelmscott, Harrisdale, and Piara Waters. While generally more accessible for emergency vehicles and fire suppression, this area includes large tracts of vegetated reserves, wetlands, and parklands, such as Champion Lakes, Anstey-Keane Dampland, and Forrestdale Lake (RAMSAR site), which present their own management complexities. Peat soils and dense vegetation in wetlands can sustain underground smouldering fires and generate significant smoke over long durations.

Darling Scarp and Foothills
The eastern portion of the City includes the Darling Scarp, a prominent escarpment emerging from the coastal plain, and the adjacent foothills of the Darling Range. Areas such as Roleystone, Bedfordale, Karragullen, and parts of Mount Richon are characterised by:

1. Steep slopes, narrow valleys, and ridgelines that promote rapid uphill fire spread due to convective heat transfer.
2. Dense remnant vegetation, particularly eucalypt forests and jarrah-marri woodlands, which are highly flammable under dry conditions.
3. Fragmented rural residential development in forested landscapes, creating a complex wildland-urban interface, wild land-urban interface often with increased grasslands, which are highly flammable under dry conditions.
4. Limited road access and constrained egress routes, which pose significant challenges for both community evacuation and response operations.

These terrain and access limitations necessitate highly tailored bushfire mitigation strategies, including:

- Strategically placed firebreaks and access tracks, with consideration for gradient and erosion control.
- Aerial suppression support, particularly in inaccessible gullies and escarpment zones.
- Asset Protection Zones (APZs) around critical infrastructure and isolated dwellings.

Watercourses and Geological Features
Key watercourses such as the Canning River, Southern River, and Wungong Brook run through the City, forming natural breaks that can assist in suppression but may also limit access during fire events. Geological formations such as the Wungong Gorge, Churchman Brook, and Bedfordale Hill are both ecological assets and bushfire-prone areas due to rugged topography and vegetative fuel loads.

The diversity of the landscape across the City results in varying bushfire risk profiles:

- In steep escarpment areas, direct attack and ground-based suppression may be unsafe or unfeasible, requiring early detection, rapid response, and air-based operations.
- In urban-fringe and wetland areas, fuel accumulation and long-smouldering fires may require frequent monitoring, community education, and sensitive ecological burn regimes.
- Isolated heritage assets, orchards, and community facilities in rural zones face elevated risks and may need bespoke bushfire protection planning.

Influence on Bushfire Risk and Response
The City of Armadale's diverse topography, ranging from the steep slopes of the Darling Scarp to densely vegetated bushland reserves, significantly heightens bushfire risk across the region. These landscape features not only contribute to the intensity and speed of fire spread but also present logistical challenges for mitigation and emergency response.

Residential communities in Roleystone, Bedfordale, and Karragullen, along with key recreational areas and critical infrastructure, are embedded within or adjacent to these high-risk environments. This underscores the importance of coordinated bushfire preparedness, targeted risk reduction strategies, and sustained community engagement to protect lives, property, and natural assets.

3.8 Climate and weather

The City of Armadale experiences a Mediterranean climate, characterised by hot, dry summers and cool, wet winters. These seasonal patterns have a direct and significant impact on bushfire risk, influencing fire behaviour, fuel moisture levels, and the operational capacity for both planned and reactive fire management.

The bushfire season typically extends from November through to April, with the highest fire danger observed in January and February. During this period, fire agencies and local government maintain heightened operational readiness due to an increased likelihood of ignition and the potential for rapid fire escalation.

Severe bushfire scenarios in the City of Armadale are generally driven by the following climatic conditions:

- High temperatures exceeding 40°C, which pre-heat vegetation and increase fuel volatility.
- Low relative humidity, promoting the drying of fine fuels and increasing flammability.

- Strong, dry easterly winds, particularly in the early morning, which drive fire downhill from the Darling Scarp toward the Swan Coastal Plain, placing densely populated areas at heightened risk.

These conditions significantly limit the window for safe and effective prescribed burning, as fire behaviour can become unpredictable and hazardous during elevated Fire Danger Ratings. As a result, planned burns are typically undertaken in autumn and early spring.

Even during these transitional periods, prescribed burns are highly contingent upon short-term weather patterns, fuel moisture content, and resourcing. Factors such as unseasonal heatwaves, unexpected wind shifts, or prolonged dry spells may delay or cancel scheduled mitigation efforts, thereby increasing residual fuel levels heading into the high-risk summer months.

In response, the City of Armadale works in close coordination with the Department of Fire and Emergency Services (DFES), the Department of Biodiversity, Conservation and Attractions (DBCA), and local volunteer bushfire brigades to monitor fire weather conditions and adjust operations accordingly.

Climate change projections indicate a rising frequency and intensity of extreme fire weather conditions across southern Western Australia. This reinforces the need for flexible, adaptive fire management strategies tailored to the City's unique geographic and climatic profile.

Wind Direction
Understanding wind patterns is essential for effective fire risk assessment and mitigation. Wind plays a critical role in fire behaviour by accelerating the rate of spread, influencing the direction and intensity of flames, and complicating firefighting efforts.

City of Armadale, wind direction can shift significantly during a cold front. While the average monthly changes are usually moderate (around 10–20°), a cold front can cause a rapid and dramatic shift, sometimes approaching or exceeding 180° within hours.

This is especially relevant in the City of Armadale due to its proximity to the Darling Scarp and open bushland areas, where wind shifts can strongly influence fire behaviour.

During the summer months, prevailing easterly winds are a significant concern for the City of Armadale. These hot, dry winds travel across the Darling Scarp and into the metropolitan fringe, rapidly lowering humidity levels and increasing fuel dryness. Combined with extreme temperatures, they heighten the potential for fast-moving and intense bushfires that threaten both the natural environment and nearby communities. The strength and persistence of these winds can push fires quickly towards residential areas, reducing the effectiveness of suppression efforts and increasing the need for proactive planning and community preparedness.

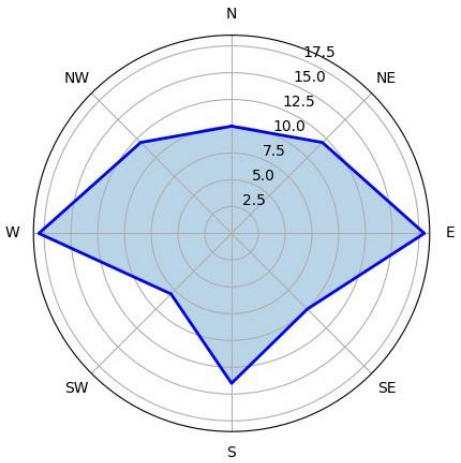


Figure 7: Average yearly wind direction distribution – Armadale, WA
Source: Bureau of Meteorology https://www.bom.gov.au/

This chart highlights how often winds come from each compass direction, which is valuable for planning firebreaks, positioning monitoring equipment, and understanding fire spread potential.

Rainfall
The City of Armadale receives an average annual rainfall of approximately 595 mm, with the bulk of precipitation occurring during the winter months. The wettest period spans June to August, contributing nearly half of the yearly total. In contrast, the summer months December to February are significantly drier, with minimal rainfall.

This seasonal pattern reflects the region's Mediterranean climate, characterized by wet winters and dry summers.

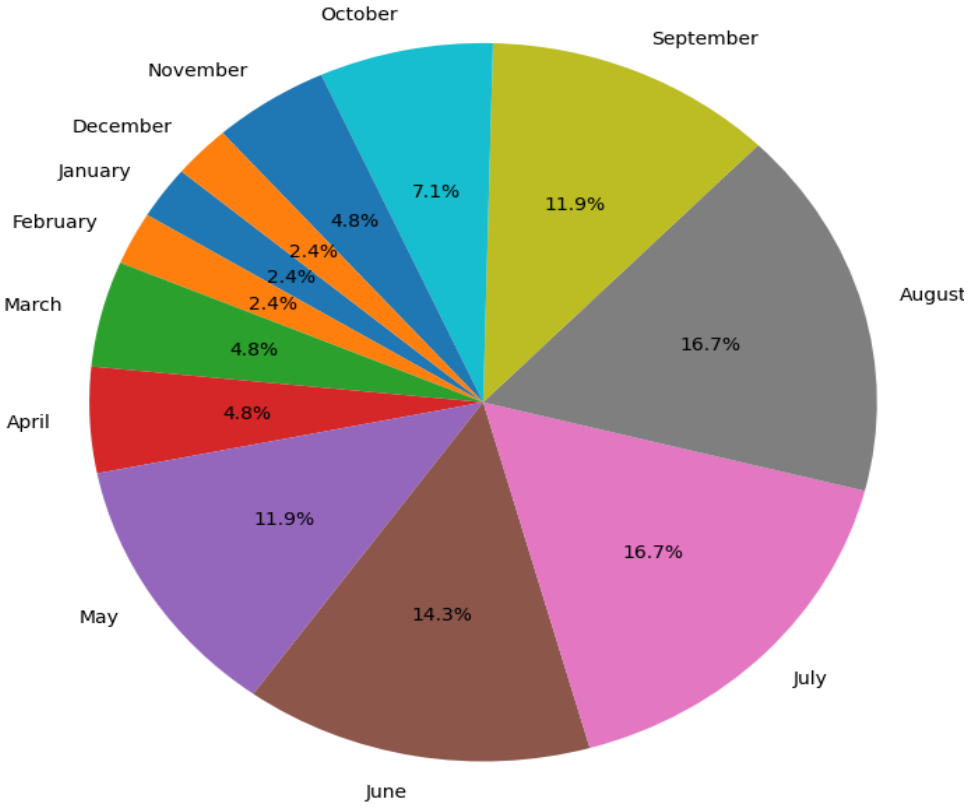


Figure 8: Historic yearly rainfall distribution – Armadale, WA
Source: *Bureau of Meteorology* https://www.bom.gov.au/

3.9 Vegetation and fuel

The City of Armadale encompasses a broad range of vegetation types across its landscape, from the flat coastal plain to the forested hills of the Darling Scarp. These vegetation communities play a critical role in determining bushfire risk and influence the selection of appropriate mitigation techniques.

Many areas within the City also contain significant environmental and conservation values, requiring careful balancing of ecological management with bushfire risk reduction.

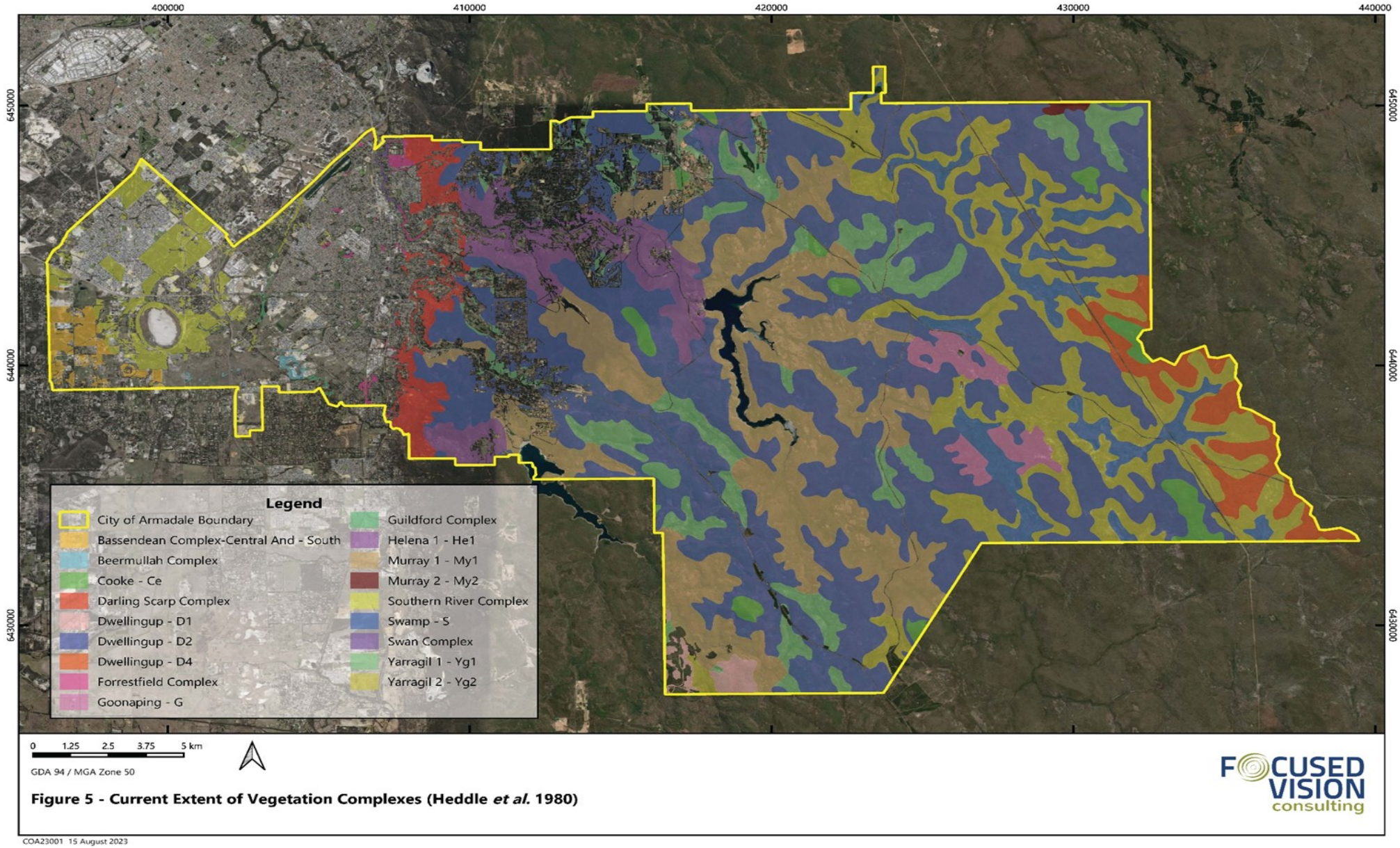


Figure 9: Complex vegetation map – City of Armadale
Source: Biodiversity Strategy 2024 - 2029

Important Species and Communities
Within the City of Armadale, several threatened flora and fauna species are at risk of significant impact in the event of a bushfire. These species are protected under State and Federal legislation due to their identifiable threat of extinction. As of the latest assessments, 14 species are listed under the *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999* and the *Biodiversity Conservation Act 2016 (WA).*

The trees of the Jarrah-Marri forest in the City of Armadale are also an important flora community. The Jarrah-Marri forest provides the upper storey to protect important flora and provides the habitat and food for important fauna, such as the Carnaby's, Baudin's and Forest Red Tailed black cockatoos,

In addition to individual species, the City also contains Threatened Ecological Communities (TECs) that have been formally assessed and assigned a conservation status by relevant government authorities. These ecological communities are recognised for their environmental significance and sensitivity to disturbance. Examples include Banksia Woodlands on the Swan Coastal Plain and seasonal clay-based wetlands, both of which are vulnerable to high-intensity fire and subsequent changes to hydrology or invasive species incursion.

The City's fire mitigation practices, including prescribed ecological burns, weed control, and mechanical fuel reduction, are implemented with environmental oversight and informed by best-practice ecological fire management principles. The City's Fire Mitigation team and Parks and Environment team do conduct annual inspections and coordinate works based on risk prioritisation and ecological sensitivity.

On City-managed lands, fire mitigation works are undertaken through a variety of methods including:

- Scheduled inspections of high-risk reserves and natural areas
- Prescribed ecological burns, conducted under controlled conditions with environmental oversight
- Invasive weed control to reduce flammable fuel loads
- Mulching and mechanical slashing to maintain accessible firebreaks and manage understorey vegetation.

These activities are coordinated as part of a risk-based mitigation program, focused on protecting life, property, and key ecological assets.

Maintaining a balance between bushfire risk reduction and biodiversity conservation is essential and must be considered on a case-by-case basis. In some instances, strict interpretations of bushfire legislation have resulted in the unnecessary clearing of native vegetation, particularly on private land. The City recognises that alternate, less destructive management approaches can often meet bushfire safety requirements while preserving environmental values, noting that excessive burning may be detrimental.

To address this, the City of Armadale is actively working to educate and support landowners by providing resources and guidance on managing vegetation in line with bushfire regulations, while also maintaining ecological integrity.

A list of significant flora, fauna, and ecological communities within the City of Armadale is provided in Appendix B.

Important species and communities are listed on the Department of Biodiversity, Conservation and Attractions (DBCA) website. This website will be consulted with due diligence practiced to protect identified species and communities when planning and conducting appropriate bushfire mitigation activities.

3.10 Historical bushfire occurrence

The City of Armadale has a long history of bushfire activity, particularly in the foothills and escarpment areas of the Darling Range. Localities such as Bedfordale, Roleystone, Karragullen, and Ashendon have been most frequently impacted, with fires occasionally threatening more urban areas such as Mount Nasura, Kelmscott, and Armadale town centre.

Some key historical fires and the lessons learned include:

Pickering Brook (2005)

Overview: A significant bushfire ignited in Pickering Brook during the 2005 summer fire season, burning approximately 27,700 hectares across the Darling Range and threatening residential areas near Karragullen and Roleystone. The fire was driven by strong easterly winds and extreme temperatures, complicating suppression efforts. The fire moved rapidly through jarrah forest and older fuel loads, placing critical pressure on response teams and threatening peri-urban communities, State Forest, and proposed conservation areas. Aerial support and fire behaviour modeling were essential to guide ground crews and protect life and property.

Lessons Learned:

- Reinforced the value of prescribed burning, with recently treated areas significantly reducing fire intensity and spread.
- Highlighted the limitations of standard fire behaviour models and the need for locally calibrated tools to support decision-making.
- Emphasised the importance of strategic fuel management near urban interfaces to create suppression opportunities and reduce risk.

2011 Roleystone–Kelmscott Bushfire

Overview: On 6 February 2011, a devasting bushfire ignited in the hills suburb of Roleystone, driven by extreme fire weather conditions, including temperatures exceeding 40°C, low humidity, and strong easterly winds. The fire originated from an angle grinder used on private property and what started as a grass fire, according to the Keelty Report, rapidly spread downhill through the area's dense native bushland and steep terrain, quickly entering adjacent suburbs including Kelmscott. The fire destroyed 71 homes, damaged a further 39, and triggered widespread evacuations. It also led to the loss of Buckingham Bridge.

The fire was intensified by heavy fuel loads, proximity of vegetation to homes, and limited access for firefighting resources due to narrow roads and rugged terrain. Emergency response was further complicated by embers spotting ahead of the fire front.

Lessons Learned:

- Highlighted the need for defensible space and Asset Protection Zones in rural-residential areas.
- Led to the strengthening of community education programs on safe equipment use, particularly during Total Fire Bans.
- Resulted in enhanced planning regulations, including tighter restrictions on activities during high fire danger periods.
- Underscored the importance of multi-agency coordination and early warnings, prompting improved communication protocols and the development of the Emergency WA warning system.

	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25
Total Number of Bushfires:	***146***	***155***	***161***	***144***	***150***	***87***	***88***	***132***	***137***	***119***
Suspicious/Deliberate	59	75	94	58	73	44	40	60	54	44
Cigarette	26	28	26	30	19	13	11	25	18	16
Burn off fires	7	13	14	16	15	11	16	8	7	10
Reignition of previous fire	11	5	9	12	5	0	4	7	18	13
Other open flames or fire	1	3	2	1	2	2	0	6	2	3
Unreported	1	2	1	2	3	0	4	4	10	6
Weather Conditions - Lightning	8	3	1	4	1	2	1	4	3	1
Weather Conditions (High winds, natural combustion etc. Excludes Lightning)	2	3	0	1	1	2	1	0	1	0
Power lines	4	3	7	2	5	2	2	2	1	0
Human Error (Left on, knock over, unattended etc.)	0	2	0	0	2	1	1	1	1	1
Campfires/bonfires/outdoor cooking	2	5	1	1	5	0	1	4	6	4
Hot works (grinding, cutting, drilling etc..)	2	3	0	2	5	2	0	6	2	3
Undetermined	11	5	4	6	3	1	2	3	6	4
Sleeping/Alcohol/Drugs/ Physical-Mental impairment	2	1	1	2	1	0	1	0	0	0
Vehicles (incl. Farming Equipment/Activities)	5	1	0	1	5	2	1	4	3	1
Improper Fuelling/Cleaning/Storage/Use of material ignited	2	1	1	0	2	1	0	1	2	3
Equipment - Operational deficiency	0	0	0	1	1	0	0	1	1	2
Electrical distribution (excl. power lines)	1	0	0	4	0	0	0	0	1	0
Equipment - Mechanical or electrical fault	0	0	0	0	0	0	1	0	1	0
Children misadventure	0	0	0	1	0	1	0	0	0	1
Yard maintenance, handheld equipment	1	1	0	0	2	0	0	0	0	0
Fireworks/flares	1	1	0	0	0	3	0	0	0	0

Table 5: The DFES determined cause of bushfires from 2015 – 2025
Source: Department of Fire Emergency Services - Office of Bushfire Management

Common Causes and Locations of Ignition
Analysis of bushfire incident data within the City of Armadale (sourced from DFES Operational Information System Branch) reveals the following high-risk ignition sources:

- Arson and suspicious ignitions near reserves, road verges, and utility corridors, particularly in Bedfordale, Seville Grove, and Champion Lakes.
- Equipment use, including angle grinders and welding tools during restricted periods.
- Discarded cigarettes and campfires in public access areas such as Wungong Gorge, Roley Pools, and Bungendore Park.
- Powerline faults, especially in older infrastructure corridors in rural and hills suburbs.

Between 2015 and 2025, there were a total of 1319 landscape fire ignitions recorded within the City of Armadale, averaging approximately 131 fires per year. While year-to-year variations have occurred, overall data trends suggest a gradual decline in the number of annual ignitions.

Despite this positive trajectory, the City acknowledges that a reduction in ignition numbers does not eliminate risk, particularly under extreme fire weather conditions or in areas with high fuel loads and limited access.

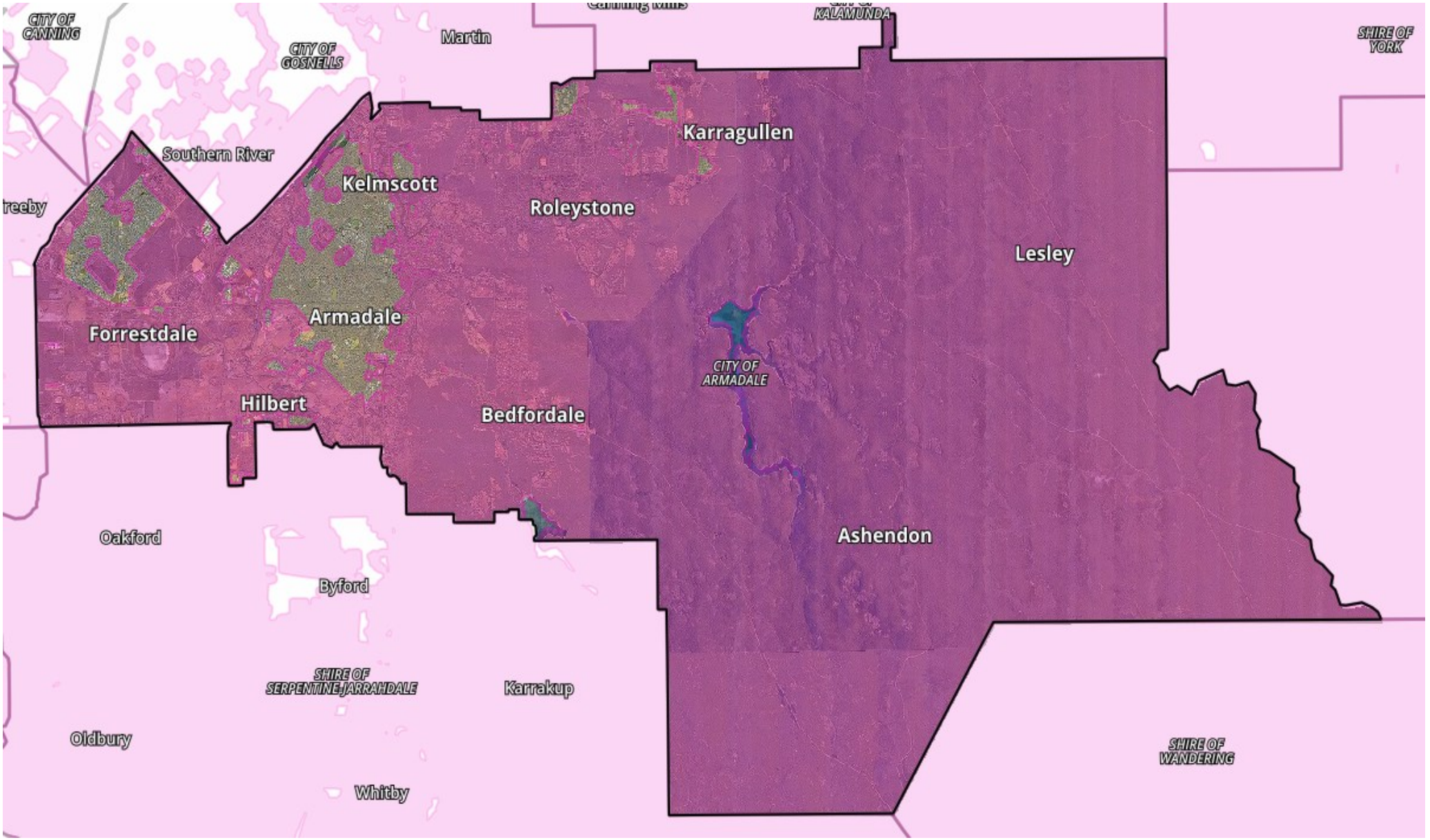


Figure 10: The City of Armadale bushfire prone areas.
Source: City of Armadale Intramaps

Bushfire Risk Controls
The community's approach to bushfire risk management is shaped by past events, most notably the 2011 Roleystone-Kelmscott bushfire and a strong connection to the natural environment. While this environmental stewardship can sometimes lead to resistance toward mitigation measures like prescribed burning or vegetation clearing, the City actively promotes resilience through education and engagement. programs such as Bushfire Preparedness Groups, in partnership with local volunteer brigades, encourage residents to develop evacuation plans and maintain defendable spaces.

The City also enforces property preparedness through its annual Firebreak and Hazard Reduction Notice under Section 33 of the Bush Fires Act 1954. Regular workshops, community forums and presentations within the community services network to ensure residents remain informed and empowered throughout the fire season, balancing environmental values with public safety.

3.11 Volunteer Bushfire Brigades

The City of Armadale is supported by a coordinated network of emergency response services, comprising two City of Armadale Volunteer Bush Fire Brigades (VBFBs), two DFES managed Volunteer Fire and Rescue Service (VFRS) brigades, and a DFES managed Career Fire Station. These services work collaboratively to deliver bushfire prevention, preparedness, and response capabilities across the municipality, with coverage extending to both urban and rural communities.

Bedfordale Volunteer Bush Fire Brigade (VBFB)
Located at 40 Admiral Road, Bedfordale, this brigade plays a critical role in bushfire mitigation and response across the eastern hills. The team includes 64 senior active members, 3 support and 16 cadets engaged in a structured junior development program. The brigade is equipped with a 3.4 Urban appliance and a Light Tanker, enabling flexible deployment across varied terrain and incident types. The station, upgraded in 2021, also serves as a training and coordination hub for local volunteers.

Roleystone Karragullen Volunteer Bush Fire Brigade (VBFB)
A new purpose-built facility at Springdale Road was funded jointly by the Australian Government and the City of Armadale and is designed to enhance operational effectiveness and community engagement. The brigade comprises 39 active members, 18 support and is developing 12 cadets to foster youth involvement. Like Bedfordale, it operates a 3.4 Urban appliance and a Light Tanker, supporting bushfire response across high-risk zones in Roleystone and Karragullen.

Additional DFES Fire and Emergency Services
Roleystone Volunteer Fire and Rescue Service (VFRS) A DFES-operated urban fire unit located at 48 Jarrah Road, Roleystone. It functions independently from the VBFB and responds to structural fires, vehicle incidents, and hazardous materials emergencies.

Armadale Fire Station, a DFES facility that houses both Armadale 1st (career firefighters) and the Armadale Volunteer Fire and Rescue Service (VFRS). This station provides comprehensive coverage for urban fire emergencies, rescue operations, and support across the wider metropolitan area.

3.12 Current bushfire risk management controls

The City of Armadale adopts a comprehensive and structured approach to bushfire risk management, combining legislative frameworks, proactive community engagement, and close collaboration with regional and state agencies. The following outline highlights the key elements of this approach.

Control	Action or activity description	Lead agency	Notes and comments
City of Armadale Bushfire Risk Management Plan	BRM Plan prioritises treatment of extreme and very high-risk assets	City of Armadale & DFES	Risk mitigation treatments implemented across tenure. BRM Plan endorsed by Council and OBRM
	Maintain and refine BRMP	City of Armadale	Ongoing BRMS updates, performance monitoring, and Council/OBRM reporting.
Bush Fires Act 1954	Annual Firebreak and Hazard Reduction Notice published	City of Armadale	Compliance enforcement through inspections, infringement notices, work orders, abatement notices, and education letters.
	Review of Annual Firebreak Notice	City of Armadale	Annual review for effectiveness and feedback integration.
	Annual inspection target	City of Armadale	Seasonal inspection program conducted Dec–Mar.
	Burning on Crown Land	DFES, DPLH, Land Managers	Ongoing liaison for coordinated mitigation treatments.
SPP 3.7 & Planning Regulations	Compliance with bushfire planning frameworks.	City of Armadale & DFES, DPLH	Applied via subdivision approvals, building standards, and local scheme policies.
Parks & Environment Compliance	Management of public open space and City-owned land.	City of Armadale	Fuel reduction via slashing, mulching, spraying, prescribed burning, and firebreak maintenance.
UCL/UMR Land Management	Mitigation on unmanaged Crown land	DFES & VBFB's	Treatments coordinated with DBCA and DPLH.
DBCA Burn Program	3-year indicative burn schedule on the Darling Scarp	DBCA	Ecological burns targeting fuel reduction and habitat protection.
Water Corporation BRM Program	Risk-based treatments on water infrastructure assets	Water Corporation	High-risk assets identified through Water Corp assessments; local coordination required
Western Power Inspection Program	Vegetation management around power infrastructure	Western Power	Annual inspections and clearance works in identified risk zones
Main Roads WA	Landscaping/fire control in road reserves	Main Roads WA	Objectives include hazard removal, weed control, and utility clearance.
Statewide Arson Prevention Programs	Penalties, awareness campaigns, and resource distribution	DFES and Police	Includes "Are You Ready?" campaign, Bushfire Action Month, and Prepare Act Survive toolkit.
Bushfire Ready & Community Education	Workshops, community engagement, and resident preparedness	City of Armadale, DFES and VBFB's.	Delivered via City employees, volunteers and officers through workshops, cadet programs, and local events.

Table 6: Current bushfire risk controls in the City of Armadale.

Chapter 4 Asset identification and risk assessment

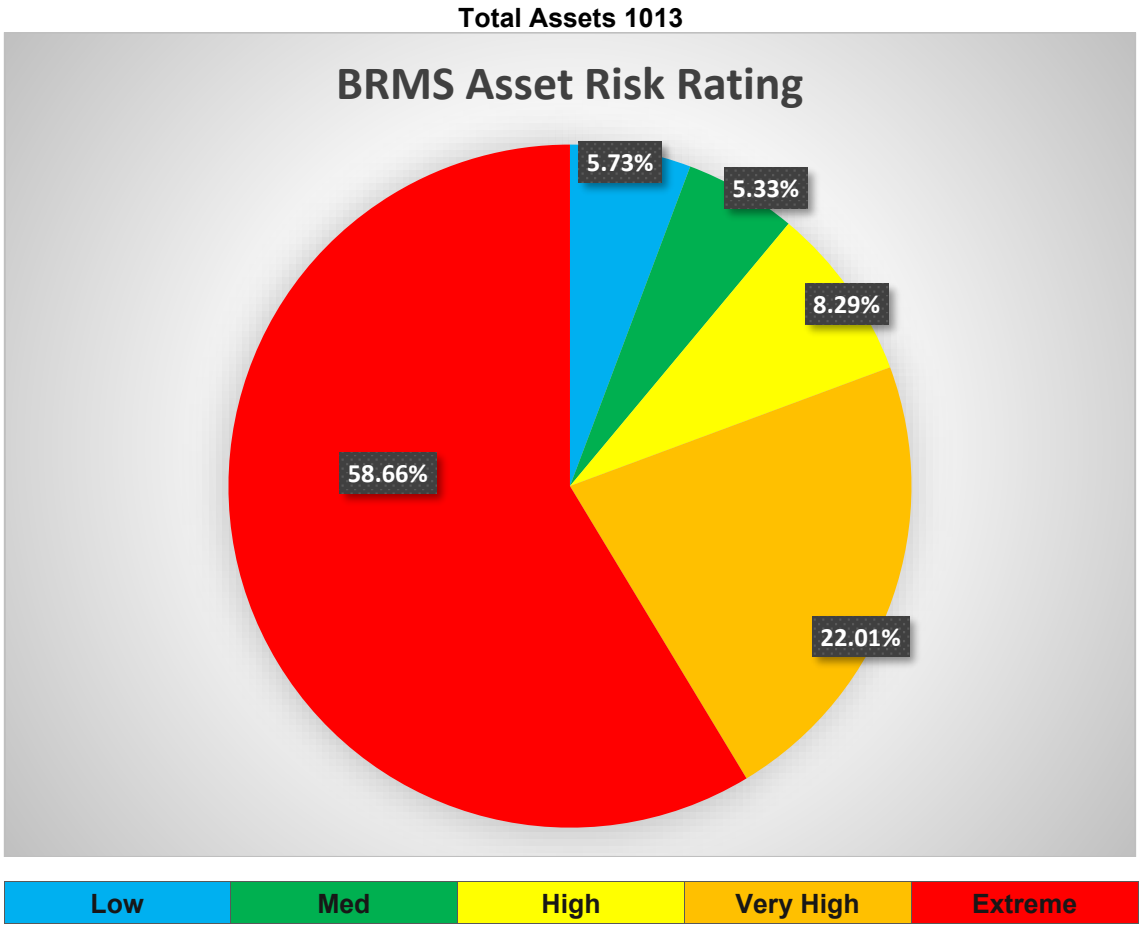
Assets at risk from bushfire in City of Armadale are recorded in the *Asset Risk Register* in the BRMS. Assets are divided into four categories: human settlement, economic, climate, and cultural. Each asset has been assigned a bushfire risk rating between low and extreme based on the risk assessment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

4.1 Local government asset risk profile

A summary of the risks assessed in City of Armadale is shown in Table 7. 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.

Asset Category		Risk Rating				
		Low	Med	High	Very High	Extreme
	Human Settlement	44	40	74	213	568
	Economic	10	9	8	8	22
	Environmental	3	5	2	2	0
	Cultural	1	0	0	0	4
	TOTAL:	**58**	**54**	**84**	**223**	**594**
	1013	**5.73%**	**5.33%**	**8.29%**	**22.01%**	**58.66%**

Table 7 & 8: Local Government Asset Risk Summary
Source: DFES Bushfire Risk Management System (BRMS)



4.2 City of Armadale Main Roads

The Role of Roads and Terrain in Fire Response

Main roads and elevation profiles are critical components in bushfire planning because they influence how fires behave, how people evacuate, and how emergency services respond.

1. **Brookton Highway**

    - Steepest ascent among major arterial roads.
    - Elevation rises from 200 m to 500 m, reflecting its passage through the Darling Range.
    - It is important for fire mitigation and road maintenance planning due to slope and vegetation density.

2. **Albany & Southwestern Highways**

    - Moderate elevation changes (50 m to 150 m).
    - These roads traverse more urban and semi-rural areas, with less dramatic terrain.

3. **Tonkin & Armadale Roads**

    - Gentle elevation profiles (30 m to 100 m).
    - Suitable for high traffic volumes and emergency access routes.

4. **Nicholson, Rowley, and Forrestdale Lake Roads**

    - Lower elevation ranges (15 m to 65 m).
    - Mostly flat, supporting industrial and residential connectivity.

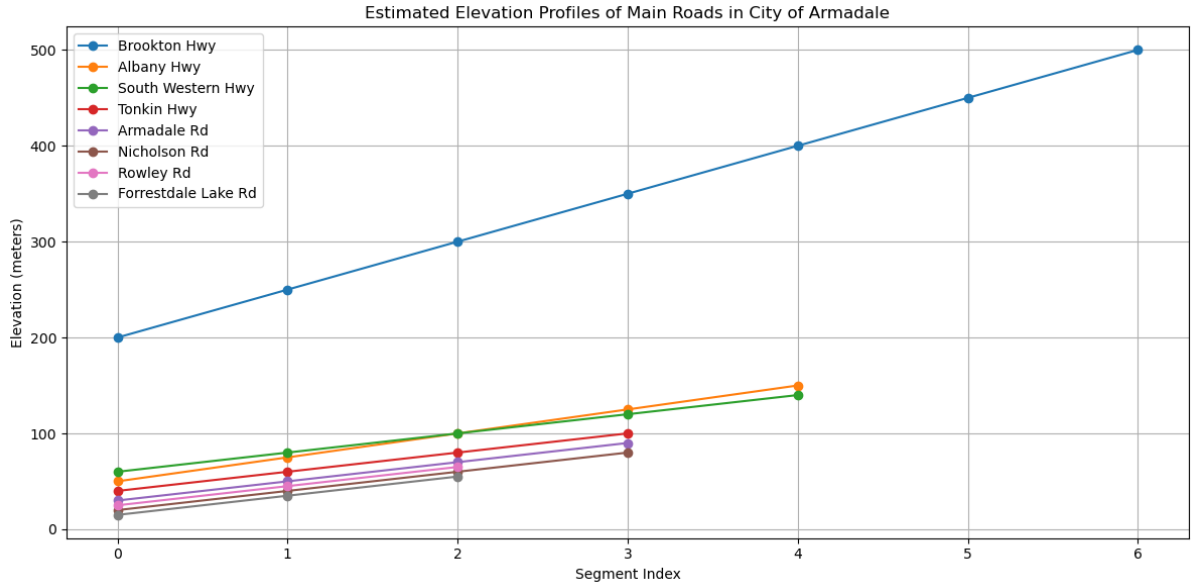


Figure 11: Elevation profiles of Main Roads, Armadale WA
Source: CoA Intramaps

Chapter 5 Risk evaluation

5.1 Risk acceptance criteria

The acceptable level of risk for each asset category is shown in Table 8. A risk that is assessed as exceeding these limits will be considered for treatment.

	Asset category			
	Human settlement	**Economic**	**Environmental**	**Cultural**
Acceptable risk level	Medium	Medium	Medium	Medium
Notes regarding non-acceptable risks	High, Very High or Extreme risk acceptable only with excellent controls. Treatment action is required.	High, Very High or Extreme risk acceptable only with excellent controls. Treatment action is required.	High, Very High or Extreme risk acceptable only with excellent controls. Treatment action is required.	High, Very High or Extreme risk acceptable only with excellent controls. Treatment action is required.

Table 8: Risk acceptance criteria for bushfire risk in City of Armadale

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

The table below shows the likelihood and consequence combined to give the risk rating and subsequent treatment priority for an asset with rating 1A being the highest and 5C the lowest.

A risk that is assessed as exceeding these limits will be considered for treatment.

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

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

Table 9: BRMS Asset's Risk Rating

Chapter 6 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 describes the overall approach to managing bushfire risk in the medium to long term in City of Armadale. The Strategy is shaped by factors such as the distribution of risk in the landscape, the community's values and objectives, stakeholders' mitigation programs and constraints on treatment options. The Treatment Strategy helps guide the development of integrated annual treatment schedules.

The City has adopted a balanced approach to mitigation treatments that prioritises community safety while also considering environmental, social, and aesthetic values. As part of this approach, selective removal of non-native species and dead vegetation is carried out to further reduce risk without compromising the natural environment.

A key component of any Council endorsed prescribed burning program, as part of the broader fuel reduction strategy, is the implementation of a long-term, locality-specific follow-up treatment schedule. This ensures the objectives of the balanced approach are sustained over time.

In determining the sequence and timing of mitigation works, the City of Armadale prioritises treatments using a risk-based framework that considers multiple factors. These include the assessed level of bushfire risk, proximity and significance of assets such as residential areas, critical infrastructure, and community facilities, as well as the asset's vulnerability and potential impact of loss. Cost-effectiveness is also a key consideration, ensuring that available resources are directed to treatments that provide the highest reduction in risk for the investment. This approach enables the City to deliver targeted, efficient, and defensible mitigation outcomes across the municipality.

Core Treatment Types

Treatment Type	Purpose	Application Areas	Rationale
Prescribed Burning	Reduce fuel loads and interrupt fire spread.	Bushland reserves, strategic corridors	Cost-effective and widely applicable
Grass Tree Burning	Targeted fuel reduction and ecological maintenance.	Areas with dense grass tree populations	Supports native species and reduces invasive Weeds
Cultural Burning	Revitalise country, maintain biodiversity, and support Indigenous land management practices.	Sacred sites, traditional lands, bushland areas	Respects cultural protocols, promotes ecological healing, supports collaboration between Aboriginal communities, land managers, and emergency services and improves fire management outcomes.
Mechanical Clearing	Remove vegetation where burning is unsuitable.	Urban interfaces, sensitive ecological zones, Road verges	Effective in areas were fire is not safe or Feasible
Firebreaks	Create physical barriers to slow or stop fire spread and provide access to firefighting crews.	Perimeter of properties, CoA reserves and strategic internal tracks.	Provides clear containment lines and access routes

	Also offers a safe platform from which to undertake mitigation works.		
Asset Protection Zones	A buffer zone to protect critical infrastructure and homes.	Around schools, hospitals, residential areas	Reduces fire intensity near vulnerable assets
Emergency Access Routes	Ensure safe access/ egress for firefighting and community evacuation.	Rural and semi-rural developments	Improves emergency response and community safety.
Vegetation Management	Maintain low-flammability landscaping and reduce ladder fuels through strategic planting and tree pruning.	Parks, Road verges, urban green spaces	Enhances fire resilience and aesthetic value
Chemical Treatment	Apply herbicides to reduce regrowth and suppress flammable vegetation.	Road verges, CoA Reserves, Property fence lines, inaccessible terrain	Useful in hard-to-reach areas and for long-term Control
Restrictive Access	To limit public entry into high risk bushfire areas during elevated fire danger periods or active incidents.	Bushland reserves, unmanaged Crown land, water catchments, steep terrain zones and areas with limited egress (Roleystone Hills, Bedfordale escarpment).	Restricting access reduces ignition risk from human activity, protects At Risk populations and supports emergency operations. It also aligns with DFES and DBCA protocols for managing public safety in bushfire prone areas.

Table 10: Core treatments and strategy
Source: CoA Bushfire Mitigation Planning Strategy

Firebreaks
The City of Armadale actively maintains a network of firebreaks across its bushland reserves and high-risk areas to reduce the risk of bushfires and support emergency access. These firebreaks are cleared to bare mineral earth and kept free of all flammable material, including overhanging vegetation.

They are made trafficable for firefighting vehicles; these treatments are scheduled and maintained throughout the fire season to support bushfire mitigation and community safety.

In maintaining firebreaks, the City also adheres to the *Erosion Prevention and Sediment Control Policy (PLN 2.5)* to minimise soil disturbance, prevent sediment runoff, and protect waterways and sensitive ecological areas. All mechanical and chemical treatments, including grading, cultivating, scarifying, slashing, pruning, mowing, and targeted herbicide application, are conducted in line with this policy to ensure protection of natural resources while maintaining bushfire safety standards.

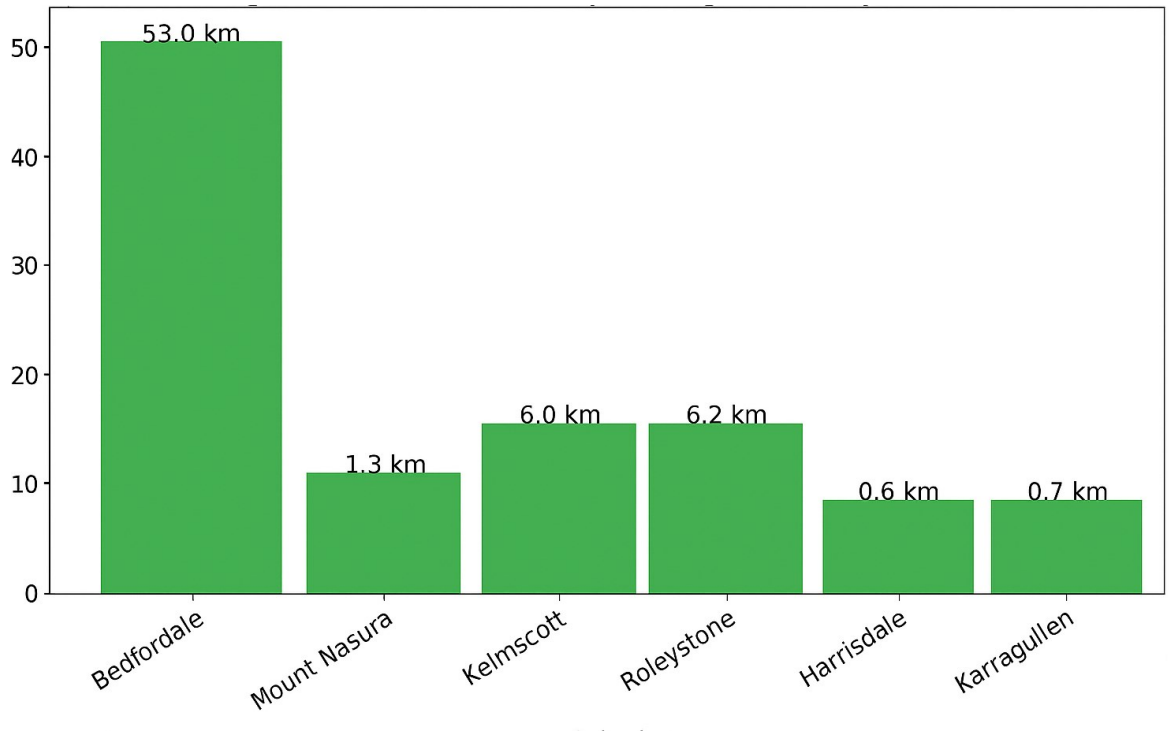


Figure 12: Length of firebreaks on City-managed land, Armadale WA
Source: City of Armadale Intramaps

Bushland Reserves

The City of Armadale manages over 1,079 hectares of bushland across multiple suburbs, ranging from large semi-rural reserves to smaller urban remnants. Effective fire mitigation in these areas is crucial not only to safeguard nearby communities and property but also to preserve valuable natural ecosystems, protect native flora and fauna, maintain biodiversity, and sustain the environmental and recreational benefits these bushlands provide to the wider community.

Suburbs like Bedfordale (751 hectares) and Roleystone (70.86 hectares) have extensive bushland, making them priority zones for fuel load reduction and firebreak maintenance. These bushlands have an ecological significance by providing habitats for diverse native flora and fauna, and contribute to the City's natural heritage and environmental health.

Smaller reserves in urban areas (e.g., Harrisdale, Brookdale) require a tailored approach to balance ecological preservation with urban interface safety. While these areas are smaller than the bushland in suburbs like Bedfordale and Roleystone, they still provide critical habitat for native species, support local biodiversity, serve as green corridors, and contribute to the City's overall environmental health, making careful fuel management and fire mitigation essential to protect both people and natural values.

Unclaimed Land (UCL-UMR) (51.56 ha) is mitigated by regular monitoring and integration of this land into fire management strategies, essential to prevent unmanaged fuel buildup, and reduce bushfire risk to surrounding communities.

Bushland reserves are managed using a strategic combination of prescribed burns, mosaic burning, hand pruning and targeted mechanical clearing to reduce fuel loads, implemented in a manner that safeguards native vegetation, protects wildlife habitats, and preserves the ecological integrity of these areas, through consultation with internal environmental departments and local Landcare groups.

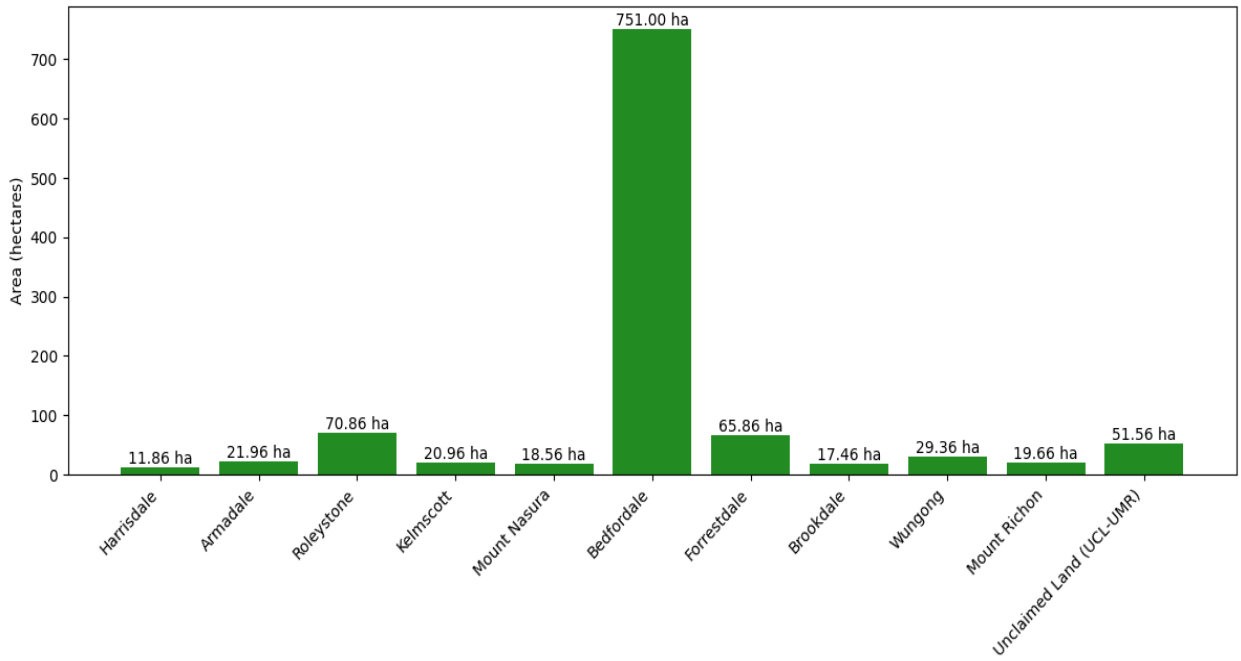


Figure 13: City of Armadale managed Bushland Reserves by suburb
Source: City of Armadale Intramaps

6.2 Treatment Schedule

The Treatment Schedule is a list of bushfire risk treatments recorded in the BRMS. It is developed regarding the outcome of the risk assessment process and Treatment Strategy and in consultation with stakeholders.

A treatment schedule for the City of Armadale covering the City of Armadale has been entered into the BRMS. This is a live document and will be regularly updated throughout the life of the BRM Plan.

Land managers are responsible for implementing agreed treatments on their own land. This includes 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 manager. However, the onus is still on the landowner to ensure treatments detailed in this BRM Plan's Treatment Schedule are completed.

Chapter 7 Monitoring and review

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

7.1 Monitoring and review

City of Armadale will monitor the BRM Plan and BRMS data to identify any need for change. The Plan and BRMS data will be reviewed at least every two years to ensure they continue to reflect the local context, assets at risk, level of risk and treatment priorities.

It is the intention of the City to continue to positively build on these observations in relation to mitigation activities within the local government area and to ensure that environmental monitoring is integrated into all such activities, in alignment with relevant policies and strategic objectives, thereby safeguarding natural resources, maintaining ecosystem health, and supporting sustainable land management practices.

7.2 Reporting

The City of Armadale CEO or their delegate will provide to the OBRM the outcomes of the two-year review of the BRM Plan. This is required to maintain OBRM endorsement of the Plan.

The City of Armadale will contribute information about their BRM Program to the annual OBRM *Fuel Management Activity Report.*

Glossary

Asset	Something 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.
Landowner	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 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.
Systemic risk	The impacts of bushfire on the interconnected systems and networks that support community function. It is a product of the disruption caused by fire to the community and its effects may be felt far from the direct impacts of the fire in both time and space.
Treatment objective	The aim to be achieved by the treatment. Treatment objectives should be specific, measurable and a balanced approach.
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
FCO	Fire Control Officer
LEMC	Local Emergency Management Committee
MAF	Mitigation Activity Fund
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
VBFB	Volunteer Bushfire Brigade

Appendix A – Communications Table

Timing of Communication	Stakeholder(s)	Communication Objective(s)	Communication Method	Key Message or Purpose	Responsibility	Identified Risks to Communication	Strategy to Manage Risks	Monitoring and Evaluation Method
Development of the BRM Plan								
Life of plan	City of Armadale CEO, Executive Leadership Team (ELT) and Staff	All (1-5)	Emails Meetings Intranet	Informed and consulted - Clear roles and responsibilities of officers to provide input into, review and progression of plan.	Emergency Management Lead, Bushfire Mitigation Advisor, Community Education Officer, Emergency Services Advisor (CBCO), Manager Ranger & Emergency Services	Time constraints Conflicting priorities No clear message	Regular planning meetings Time management Clear concise messaging	Staff engagement and feedback Milestones and outcomes met
Life of plan	City of Armadale Elected Members, Local Emergency Management Committee (LEMC) and other key stakeholders	All (1-5)	Workshops Presentation at LEMC meeting Annual Reporting	Informed and consulted - Knowledge of the BRMP process Identify assets at risk Identify existing controls/programs	Emergency Management Lead, Bushfire Mitigation Advisor, Emergency Services Advisor (CBCO), Manager Ranger & Emergency Services	Attendance of members at the scheduled meeting Time constraints	Set clear objectives Prepare succinct clear messaging and presentations	Feedback Sign off on strategic milestones Meeting minutes

Life of plan	Bushfire Control Officers and Brigade Captains	All (1-5)	Brigade meetings Emails	Consulted - Contribute to identifying risks	Emergency Management Lead, Bushfire Mitigation Advisor, Emergency Services Advisor (CBCO)	Time issues Availability of volunteers	Flexible meeting options Express importance of plan	Feedback Support for the BRMP Meeting minutes
Life of plan	City of Armadale residents and landowners	1 & 2	Social media Local Newspaper City Website Community Engagement	Informed – Knowledge of the BRMP process	Emergency Management Lead, Bushfire Mitigation Advisor, Community Education Officer, Ranger Services Lead.	Media not reaching property owners Low community engagement	Use various messaging platforms to disseminate message	Engagement and feedback
Implementation of the BRM Plan								
Life of plan	City of Armadale CEO, Elected Members, Executive Leadership Team (ELT) and Staff	All (1-5)	Emails Meetings Intranet	Informed and consulted – Engaged in process and provided input	Emergency Management Lead, Bushfire Mitigation Advisor, Community Education Officer, Emergency Services Advisor (CBCO), Manager Ranger & Emergency Services	Time constraints Availability Budget	Careful planning and time management Clear purpose Clear communication and updates as required	Feedback Level of support received, and budget maintained

Life of plan	Stakeholder groups	All (1-5)	Emails / Correspondence Meetings Website Telephone	Informed and consulted – Engaged in process and provided input	Emergency Management Lead, Bushfire Mitigation Advisor, Emergency Services Advisor (CBCO)	Availability Located out of local/district area Commitment lost	Maintain regular contact Well planned and executed sharing of information Clear expectations	Engagement and feedback
Review of the BRM Plan								
Life of Plan	City of Armadale CEO, Elected Members and Staff, Office of Bushfire Risk Management, Local Emergency Management Committee and key stakeholder groups	All (1-5)	Meetings Annual Reports Emails	Consultation – Review, monitor and report on plan Uphold compliance with the plan and the acceptance of identified risks Endorse plan	Emergency Management Lead, Bushfire Mitigation Advisor, Emergency Services Advisor (CBCO), Manager Ranger & Emergency Management	Poor reporting and recording of information Review not completed	Maintain accurate records Submit timely updates	Plan endorsed

Appendix B – Table of conservation fauna in the City

(Source City's Biodiversity Strategy 2024 – 2029)

Name	Common Name	EPBC Act Cons. Code	WA Cons. Code
Calidris ferruginea	Curlew Sandpiper	Critically Endangered	Critically Endangered
Leioproctus douglasiellus	short-tongued bee	Critically Endangered	Endangered
Neopasiphae simplicior	short-tongued bee	Critically Endangered	Endangered
Bettongia penicillata ogilbyi	Woylie, Brush-tailed Bettong	Endangered	Critically Endangered
Botaurus poiciloptilus	Australasian Bittern	Endangered	Endangered
Calyptorhynchus baudinii	Baudin's Black-Cockatoo	Endangered	Endangered
Calyptorhynchus latirostris	Carnaby's Black-Cockatoo	Endangered	Endangered
Thalassarche chrysostoma	Grey-headed Albatross	Endangered	Vulnerable
Calyptorhynchus banksii naso	Forest Red-tailed Black-Cockatoo	Vulnerable	Vulnerable
Dasyurus geoffroii	Chuditch, Western Quoll	Vulnerable	Vulnerable
Leipoa ocellata	Malleefowl	Vulnerable	Vulnerable
Setonix brachyurus	Quokka	Vulnerable	Vulnerable
Westralunio carteri	Carter's Freshwater Mussel	Vulnerable	Vulnerable
Calyptorhynchus sp. 'white-tailed black cockatoo'	White-tailed Black-Cockatoo	Endangered	Endangered
Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover	Migratory	Vulnerable
Apus pacificus	Fork-tailed Swift	Migratory	Migratory
Arenaria interpres	Ruddy Turnstone	Migratory	Migratory
Calidris acuminata	Sharp-tailed Sandpiper	Migratory	Migratory
Calidris melanotos	Pectoral Sandpiper	Migratory	Migratory
Calidris ruficollis	Red-necked Stint	Migratory	Migratory
Calidris subminuta	Long-toed Stint	Migratory	Migratory
Limosa limosa	Black-tailed Godwit	Migratory	Migratory
Pandion cristatus	Osprey, Eastern Osprey	Migratory	Migratory
Plegadis falcinellus	Glossy Ibis	Migratory	Migratory
Pluvialis fulva	Pacific Golden Plover	Migratory	Migratory
Pluvialis squatarola	Grey Plover	Migratory	Migratory
Stercorarius longicaudus	Long-tailed Jaeger, Long-tailed Skua	Migratory	Migratory
Tringa glareola	Wood Sandpiper	Migratory	Migratory
Tringa nebularia	Common Greenshank, Greenshank	Migratory	Migratory
Tringa stagnatilis	Marsh Sandpiper, Little Greenshank	Migratory	Migratory
Falco peregrinus	Peregrine Falcon		Other Specially Protected Fauna
Phascogale tapoatafa wambenger	South-western Brush-tailed Phascogale, Wambenger		Conservation Dependent
Austroconops mcmillani	McMillan's Biting Midge (Swan Coastal Plain)		Priority 2
Acanthophis antarcticus	Southern Death Adder		Priority 3
Geotria australis	Pouched Lamprey		Priority 3
Glacidorbis occidentalis	Jarrah Forest Freshwater Snail		Priority 3
Idiosoma sigillatum	Swan Coastal Plain Shield-backed Trapdoor Spider		Priority 3

Name	Common Name	EPBC Act Cons. Code	WA Cons. Code
Leioproctus contrarius	short-tongued bee		Priority 3
Lerista lineata	Perth Slider, Lined Skink		Priority 3
Neelaps calonotos	Black-striped Snake, Black-striped Burrowing Snake		Priority 3
Ctenotus delli	Dell's Skink, Darling Range Southwest Ctenotus		Priority 4
Falsistrellus mackenziei	Western False Pipistrelle, Western Falsistrelle		Priority 4
Hydromys chrysogaster	Water-rat, Rakali		Priority 4
Isoodon fusciventer	Quenda, Southwestern Brown Bandicoot		Priority 4
Notamacropus irma	Western Brush Wallaby		Priority 4
Oxyura australis	Blue-billed Duck		Priority 4

Abbreviated Identifier	Community Name	Commonwealth Category	State Category	Presence within the City	Source
Clay Pans of the SCP	Clay Pans of the Swan Coastal Plain	Critically Endangered	-	Part SCP08/10a	EPBC PMST
SCP 08	Herb rich shrublands in clay pans (Floristic Community Type 8 as originally described in Gibson *et al*. (1994))	Critically Endangered	Vulnerable	Yes	DBCA
SCP 10a	Shrublands on dry clay flats (floristic community type 10a as originally described in Gibson *et al*. (1994))	Critically Endangered	Endangered	Yes	DBCA
Banksia WL SCP	Banksia Woodlands of the Swan Coastal Plain Ecological Community	Endangered	Priority 3	Yes	EPBC PMST DBCA
SCP 20b	*Banksia attenuata* and/or *Eucalyptus marginata* woodlands of the eastern side of the Swan Coastal Plain (floristic community type 20b as originally described in Gibson *et al.* (1994))	Endangered	Endangered	Yes	DBCA
SCP 3a	*Corymbia calophylla – Kingia australis* woodlands on heavy soils of the Swan Coastal Plain	Endangered	Critically Endangered	Yes	EPBC PMST DBCA
SCP 3b	*Corymbia calophylla - Eucalyptus marginata* woodlands on sandy clay soils of the southern Swan Coastal Plain (Floristic Community Type 3b as originally described in Gibson *et al.* (1994))	-	Vulnerable	Yes	EPBC PMST DBCA

Appendix C – DBCA Threatened and Priority Flora

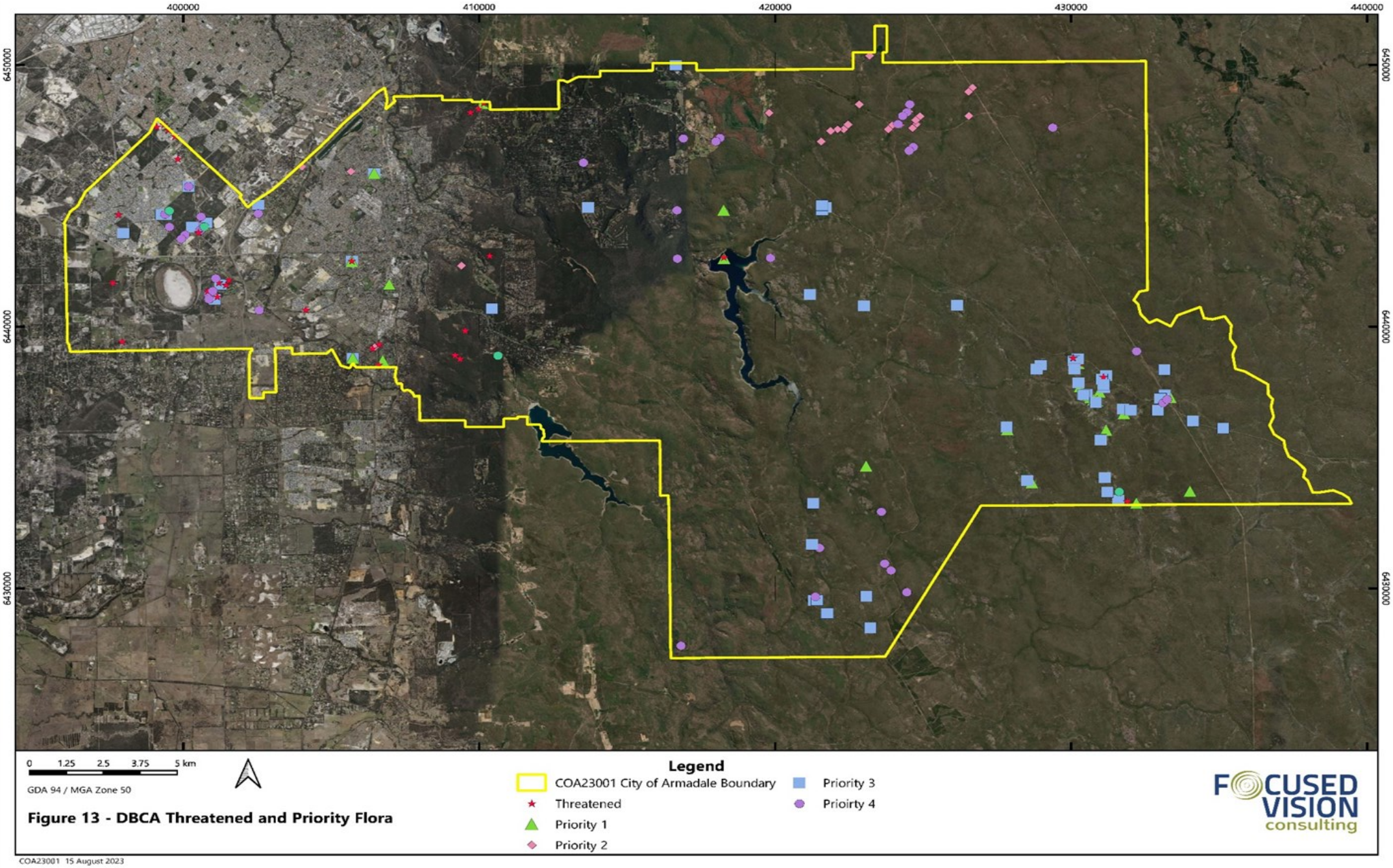


Figure 13 - DBCA Threatened and Priority Flora

Appendix D – Mapped potential black cockatoo breeding habitat trees in Bungendore Park and Armadale Settlers Common