



08 December 2023

NOTICE OF MEETING

Dear Committee Member,

The next Local Emergency Management Committee meeting will be held at 10:00am on Friday, 15 December 2023 in the Committee Room, 7000 Great Eastern Highway, Mundaring.

The attached agenda is presented for your consideration.

Yours sincerely

Jason Whiteaker
CHIEF EXECUTIVE OFFICER

Please Note

If a Council Member has a query regarding a report item or requires additional information in relation to a report item, please contact the senior employee (noted in the report) prior to the meeting.



AGENDA
LOCAL EMERGENCY MANAGEMENT COMMITTEE MEETING
15 DECEMBER 2023

ATTENTION/DISCLAIMER

The purpose of this Committee Meeting is to discuss and make recommendations to Council about items appearing on the agenda and other matters for which the Committee is responsible. The Committee has no power to make any decisions which are binding on the Council or the Shire of Mundaring unless specific delegation of authority has been granted by Council. No person should rely on or act on the basis of any advice or information provided by a Member or Employee, or on the content of any discussion occurring, during the course of the Committee Meeting.

The Shire of Mundaring expressly disclaims liability for any loss or damage suffered by any person as a result of relying on or acting on the basis of any advice or information provided by a Member or Employee, or the content of any discussion occurring during the course of the Committee Meeting.

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**LOCAL EMERGENCY MANAGEMENT COMMITTEE MEETING
COMMITTEE ROOM, 7000 GREAT EASTERN HIGHWAY, MUNDARING – 10:00AM**

1.0 OPENING PROCEDURES

Acknowledgement of Country

Shire of Mundaring respectfully acknowledges the Whadjuk people of the Noongar Nation, who are the traditional custodians of this land. We acknowledge Elders past, present and emerging and respect their continuing culture and the contribution they make to the region.

Recording of Meeting

Members of Council and guests are advised that this meeting will be audio-recorded.

1.1 Announcement of Visitors

1.2 Attendance/Apologies

Members	Cr. Neridah Zlatnik	Chairperson / East Ward
	Tania MacKenzie	Deputy Chairperson / Mundaring Officer In Charge
	Cr. Trish Cook	South Ward
	Murray McBride	Department Fire Emergency Services
	Jamie O'Neill	Department Fire Emergency Services
	Ryan Hamblion	Department of Communities
	Jo Spadaccini	Department of Communities
	Jordan Cantelo	Department of Biodiversity, Conservation and Attractions
Rod Potter	State Emergency Services Mundaring	
Staff	Craig Cuthbert	Coordinator Community Safety and Emergency Management
	Kare Dore	Bushfire Risk Management Officer
	Shekofeh Elhani	Coordinator Health Services
	Charlotte Jones	Emergency Management Secretary
Apologies	Adrian Dyson	Executive Officer / Manager Emergency Management and Community Safety

Guests

2.0 ANNOUNCEMENTS BY PRESIDING MEMBER WITHOUT DISCUSSION

3.0 DECLARATION OF INTEREST

3.1 Declaration of Financial Interest and Proximity Interests

Council Members must disclose the nature of their interest in matters to be discussed at the meeting (*Part 5 Division 6 of the Local Government Act 1995*).

Employees must disclose the nature of their interest in reports or advice when giving the report or advice to the meeting (*Sections 5.70 and 5.71 of the Local Government Act 1995*).

3.2 Declaration of Interest Affecting Impartiality

A Council Member or an employee who has an interest in a matter to be discussed at the meeting must disclose that interest (*Shire of Mundaring Code of Conduct, Local Government (Admin) Reg. 34C*).

4.0 CONFIRMATION OF MINUTES OF PREVIOUS MEETINGS

RECOMMENDATION

That the Minutes of the Local Emergency Management Committee Meeting held 15 September 2023 be confirmed.

5.0 PRESENTATIONS

6.0 REPORTS OF EMPLOYEES

6.1 Local Emergency Management Committee - Draft Terms of Reference

File Code	GV.MTG 6.6
Author	Adrian Dyson, Manager Community Safety & Emergency Management
Senior Employee	Mark Luzi, Director Statutory Services
Disclosure of Any Interest	Nil
Attachments	1. Draft LEMC ToR

PURPOSE

Terms of Reference (ToR) have been drafted for the Local Emergency Management Committee (**Attachment 1**) and are presented to Council for consideration.

BACKGROUND

With the coming into effect of the *Emergency Management Act 2005* (the EM Act) in December 2005, Shire of Mundaring established a Local Emergency Management Committee (LEMC) in accordance with the provisions of that act.

To date the LEMC meetings have been run in accordance with guidelines and procedures contained within the State framework for emergency management as established under the EM Act. While those guidelines and procedures were in effect terms of reference for an LEMC they did not contain a template or “model” ToR for LEMCs.

In October 2023 the State Emergency Management Committee published a document entitled the *Local Emergency Management Handbook* (the SEMC handbook) containing a template for LEMC ToR.

The SEMC handbook introduction states:

“This document provides local governments with a summary of the actions and best practice principles required under section 38 of the Emergency Management Act 2005 (EM Act), the State Emergency Management Policy, procedures and guidelines”.

The draft ToR for the LEMC have been developed noting the SEMC handbook template and noting the relevant Council Policy, *2.8 Committees, Advisory Groups, Representatives Meetings And Working Groups* (Policy 2.8).

With regard to Policy 2.8 the provisions in relation to scope should be noted, as follows:

Committees established under an alternative head of power and administered by the Shire are to follow the general principles of this policy if the head of power is silent. Other committees, management boards and groups formed and operated by organisations external to the Shire are not subject to the requirements of this policy even if they have as members, council members or employees appointed to represent the interests of the Shire.

STATUTORY / LEGAL IMPLICATIONS

Section 38 of the *Emergency Management Act 2005 Local emergency management committees*, states:

- (1) A local government is to establish one or more local emergency management committees for the local government's district., and;
- (4) Subject to this section, the constitution and procedures of a local emergency management committee, and the terms of appointment of members, are to be determined by the SEMC. (State Emergency Management Committee).

POLICY IMPLICATIONS

Code of Conduct for Council Members, Committee Members and Candidates

The "Code of Conduct for Council Members, Committee Members and Candidates" (1.1) provides an expected standard of conduct for council members and committee members appointed to the Committee.

Committees, Advisory Groups, Representatives Meeting and Working Groups Policy

The "Committees, Advisory Groups, Representatives Meeting and Working Groups Policy" (2.8) relates.

FINANCIAL IMPLICATIONS

Nil

STRATEGIC IMPLICATIONS

Mundaring Strategic Community Plan 2020 - 2030

Priority 1 - Community

Objective 1.1 – Healthy, safe, sustainable and resilient community

Strategy 1.1.7 – Provide emergency management planning, disaster management and disaster recovery, and associated community liaison and education

SUSTAINABILITY IMPLICATIONS

Nil

RISK IMPLICATIONS

Risk: Compliance: Shire of Mundaring may be considered to be non-compliant with State legislation if it fails to act on guidance documents that are subsidiary to such State legislation		
Likelihood	Consequence	Rating
Possible	Minor	Moderate
Action / Strategy		
Adopt newly published Terms of Reference for the Local Emergency Management Committee		

EXTERNAL CONSULTATION

This report forms consultation with the Local Emergency Management Committee membership.

COMMENT

Given the publishing of the *Local Emergency Management Handbook* (SEMC, October 2023) containing a template for LEMC ToRs and noting the provisions of Council Policy 2.8 it is prudent to adopt LEMC ToRs.

VOTING REQUIREMENT

Simple Majority

RECOMMENDATION
That Council adopts the LEMC Terms of Reference (Attachment 1).

Terms of Reference

LOCAL EMERGENCY MANAGEMENT COMMITTEE

These Terms of Reference are to be read in conjunction with the “Committees, Advisory Groups, Representative Meetings and Working Groups Policy”.

1. Name

The name of the committee is Shire of Mundaring Local Emergency Management Committee (LEMC).

2. Head of Power

The LEMC is established by Council under the provisions of section 38 of the *Emergency Management Act 2005*.

3. Definitions

Act	the <i>Local Government Act 1995</i> .
EM Act	The <i>Emergency Management Act 2005</i> .
Chief Executive Officer	the Chief Executive Officer (CEO) of Shire of Mundaring.
committee	the Shire of Mundaring Local Emergency Management Committee
Council	the body consisting of all council members sitting formally as the Council of the Shire of Mundaring.
council member	a person elected under the Act as a member of Council. The Shire's council members includes the Shire President, Deputy Shire President and Councillors (as defined by the Act).
member	a person appointed to this committee.

4. Aim

The aim of the committee is to collaborate with local support organisations, hazard management agencies, and industry representatives, to collectively build a resilient community that is prepared to respond and recover from an emergency.

5. Objectives

The primary objective is as a forum for discussion on, and to advise Council on, matters relating to:

- Development of local emergency management arrangements (LEMA) covering emergency planning prevention, preparedness, response and recovery that are practical to all stakeholders and service agencies.
- Ensuring that that LEMA are contemporary and relevant to the community and addresses all known risks and scenarios.
- Participation in inter-local government relations to further emergency management cooperation within the emergency management district.
- Building resilience and engagement with the community through safety and awareness campaigns, and the dissemination of information through social media, media outlets, and public events.
- Participation in interagency training exercises that improve the capabilities and knowledge of the committee, local stakeholders, and hazard management agencies.
- The planning and running of exercises to test the effectiveness in practical applications, and continuous improvement of the LEMA.

6. Duties and Responsibilities

Advise and assist Shire of Mundaring in ensuring that LEMA are established and reviewed, for its district

- Liaise with public authorities and other persons in the development, review and testing of local emergency management arrangements.
- Carry out other emergency management activities as directed by the State Emergency Management Committee or prescribed by the Act or subsidiary legislation.
- Perform at least one emergency training exercise a year to assist improve the capabilities of relevant agencies and community to prepare for, respond to and recover from emergencies.
- Assist Shire of Mundaring in the preparation of an annual report on activities undertaken by the LEMC during the financial year to the District Emergency Management Committee for the district.

7. Powers

The committee is to report to Council and provide appropriate advice and recommendations on matters relevant to its term of reference. This is in order to facilitate informed decision-making by Council in relation to the legislative functions and duties of the local government that have not been delegated to the CEO.

The committee has no delegated authority.

The committee does not have executive powers or authority to implement actions in areas over which the CEO has legislative responsibility and does not have any delegated financial responsibility.

The committee does not have any management functions and cannot involve itself in management processes or procedures.

Committee recommendations must be adopted by Council during a formal Council meeting before they can be implemented.

Members of the committee are not permitted to speak to the media as representatives of the committee unless approved by Council.

7.1. Subcommittees

The committee may establish and appoint members from within its number to subcommittees to consider any specified matter or matters within the general remit of the committee objectives.

The committee shall determine the terms of reference for any subcommittee it so establishes.

A subcommittee so appointed shall report to the committee in a frequency and manner determined by the committee.

8. Membership

The committee shall consist of the following members:

- a. two council members
 - b. CEO or their delegate
 - c. Manager Community Safety and Emergency Management – Shire of Mundaring
 - d. Coordinator Community Safety & Emergency Management – Shire of Mundaring
 - e. Bush Fire Risk Management Officer – Shire of Mundaring
 - f. Coordinator Health Services – Shire of Mundaring
 - g. Chief Bush Fire Control Officer/Community Emergency Services Manager
 - h. Officer in Charge (OIC) – Mundaring Police Station
 - i. Officer in Charge – Midland Police Station
- One representative from:
- j. Department of Communities
 - k. Department of Biodiversity Conservation and Attractions
 - l. Department of Fire and Emergency Services
 - m. Water Corporation
 - n. St John Ambulance
 - o. Department of Justice – Wooroloo Prison Farm
 - p. State Emergency Service – Mundaring
 - q. SERCO – Acacia Prison
 - r. Mundaring School Principals Networking Forum
 - s. Australian Red Cross

Council members are appointed to the committee by Council (one of which will be appointed as the Presiding Member/Chairperson) for a term to expire on the date of the subsequent ordinary local government elections in accordance with section 5.10 of the Act.

If for any reason, a council member is unable to hold office for the full period of their appointment, Council shall fill that vacancy. The council member appointed shall hold office for the balance of the term of the member originally elected.

9. Meeting Management

Meetings shall be held in accordance with the provisions of the Act, the *Local Government (Administration) Regulations 1996* and the *Meeting Procedures Local Law 2015*. Due consideration is to be given to the "Committees, Advisory Groups, Representative Meetings and Working Groups Policy".

Ordinary meetings will be held at least four times per year during the months of March, June, September and December. The details of the specific dates, times and venue of meetings for the following calendar year will be advised to members as part of business in the December meeting of any calendar year.

Special meetings may be held:

- a. if called for by either the presiding member or at least two members in a notice to the CEO setting out the date and purpose of the proposed meeting; or
- b. if so decided by the Committee; or
- c. if called for by Council.

Meetings are to be generally open to the public with public participation in accordance with the *Meeting Procedures Local Law 2015*. Each member of the committee at a meeting will have one vote. In the event of a tied vote the matter will be determined in the negative.

If a member is unable to attend a meeting, they should advise the presiding member as soon as reasonably practicable.

9.1 Presiding Member (Chairperson)

- The Chairperson shall be a Council member

9.2 Deputy Chair

- The Local Emergency Coordinator (OIC Mundaring Police Station) shall be appointed as Deputy Chair.

9.3 Executive Officer

- The LEMC Executive Officer is the Manager Community Safety and Emergency Management

9.4 Quorum

- A quorum for the committee will be at least 50% of its voting membership.

9.5 Minutes/Agendas

- The Executive Officer is responsible for preparing agendas and minutes of all business transacted at each meeting.
- A draft agenda will be emailed to members three weeks prior to the meeting. Members have two weeks to include agenda items and/or comments. The final agenda will be issued to members one week prior to the scheduled meeting.
- Meeting minutes will be forwarded to Committee members two weeks post the meeting

9.6 Quorum

- A quorum for the committee will be at least 50% of its voting membership.

9.7 Minutes/Agendas

- The Executive Officer is responsible for preparing agendas and minutes of all business transacted at each meeting.
- A draft agenda will be emailed to members three (3) weeks prior to the meeting. Members have two weeks to include agenda items and/or comments. The final agenda will be issued to members one week prior to the scheduled meeting.
- Copies of the meeting minutes will be made available to Council by way of information at least one month after the committee meeting. Meeting minutes will be forwarded to Committee members two (2) weeks post the meeting.

10. Roles and Responsibilities

Each member is expected behave in keeping with the principles of the Shire's "Code of Conduct for Council Members, Committee Members and Candidates" (Code of Conduct), to have open and honest discussions and to treat each member and employees with due courtesy and respect.

Council members and employees are to disclose financial, proximity and impartiality interests in accordance with the Act. External members are to be aware that any conflict of interest needs to be recognised to ensure that probity is maintained at all times.

Each member is responsible for attending meetings, reviewing relevant material to enable informed discussion and making timely decisions/actions to progress the objectives of the committee.

In addition to the above, the specific roles for each membership type are as follows:

- Council members are responsible for ensuring that the committee adheres to the direction set by Council, contributing from a Shire-wide perspective, and ensures the delivery of the committees objective. All members are responsible for contributing to the delivery of the committees objectives within the scope of their skills, knowledge, experience and capabilities.
- The Presiding Member is responsible for ensuring all members have an

opportunity to participate in discussions in an open and encouraging manner and ensuring the timely consideration of items. Where the presiding member is unable or unwilling to chair the meeting, the deputy presiding member will chair the meeting. Deputy committee members are to act in the capacity of a committee member unable to attend a meeting and shall exercise all rights of the absent committee member

- Employees are responsible for conducting necessary research as required by the committee, providing professional advice, and for administering its meetings.

11. Recording and Reporting

The contents of the minutes are to be in accordance with the Act and the *Meeting Procedures Local Law 2015*.

Where a committee does not have a delegation/ authorisation, if a decision is the duty or function of the Council, it must be referred to Council.

Recommendations of the committee to be included in a Council meeting agenda to obtain a formal Council decision, where applicable. Committee recommendations are advisory only and shall not be binding on Council.

12. Changes to Terms of Reference

This Terms of Reference is to be reviewed prior to each ordinary local government election. These Terms of Reference may be amended by the committee when required with Council to endorse any changes.

Document Control

Item	Date	Resolution #
Initial Terms of Reference	December 2023	

6.2 Shire of Mundaring LEMC Exercise Update

File Code	EM.PLN 3
Author	Adrian Dyson, Manager Community Safety & Emergency Management
Senior Employee	Mark Luzi, Director Statutory Services
Disclosure of Any Interest	Nil
Attachments	1. Exercise Zeus report 2. Exercise Terra Motus

PURPOSE

To provide a report in relation to the following exercises

- Exercise Zeus: Shire of Mundaring LEMC Exercise held 20 October 2023
- Exercise Terra Motus; North and Central DEMCs held 21 November 2023

A copy of the Exercise Zeus Exercise Report as forwarded to the DEMC for noting is attached

A copy of the Exercise Terra Motus general and special ideas, and syndicate group questions are attached.

OUTCOMES SOUGHT

Committee members receive reports in relation to exercises either held by Shire of Mundaring LEMC or other exercise in which Shire of Mundaring LEMC members participated

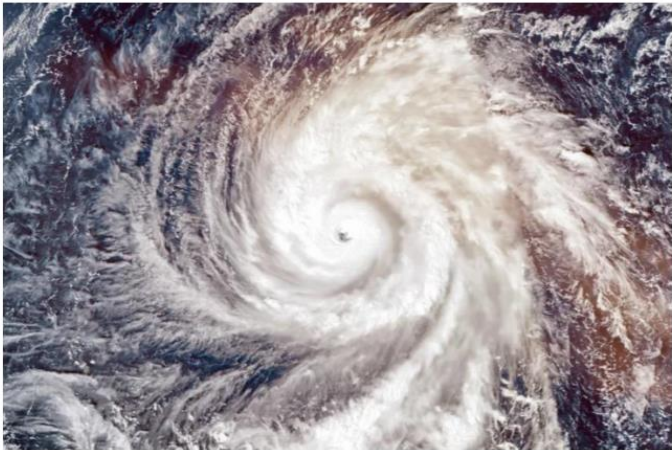
ACTION

That the Committee notes the information provided in relation to Exercise Zeus and Exercise Terra Motus.



EXERCISE ZEUS

POST EXERCISE REPORT



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1.0 Executive Summary

“Exercise Zeus” was held by the Shire of Mundaring at Mundaring Arena on Friday 20 October 2023 with attendees/participants including members of the Local Emergency Management Committee, Shire Staff, Councillors and representatives of other organisations relevant to the exercise scenario.

The exercise was designed to:

- Explore the inter-operability of the Shire of Mundaring's Local Emergency Management Arrangements, Business Continuity Plans;
- Identify arrangements or actions to enhance the ability of persons/agencies with roles under the above plans and arrangements to effectively fulfil those roles, and to,
- Facilitate an understanding of multi-agency emergency management, coordination and cooperation arrangements for the Shire of Mundaring and the emergency management district.

The scenario for “Exercise Zeus” was a localised approach to the scenario examined in *Exercise Climate Mutatio* as conducted by the Metropolitan District Emergency Management Committee on 18 and 20 October 2022. In that regard Shire of Mundaring LEMC acknowledges the *Exercise Climate Mutatio* planning and control teams.

Specifically the scenario was built on a credible Cyclone event (Zeus) with “Extra Tropical” reach and impacts over the Southwest of WA similar to Cyclone Alby that occurred on 27 March to 4 April 1978.

The Cyclone Zeus scenario also included (as Cyclone Alby did) the impact of a large number of bushfires caused by dry lightning.

The exercise was a syndicate progressive discussion exercise where participants were provided with injects into a range of situations and were required to formulate and present a response on behalf of their agency or local government.

The capability areas from the State Emergency Management Committee (SEMC) Emergency Management Capability Framework were used as a measure for evaluation for the exercise. Qualitative information was collected during the exercise from participants and the exercise evaluator.

The exercise provided an excellent opportunity for multi-agency networking and relationship building, with many participants sharing their processes, capabilities, and limitations during discussions. This exercise report outlines some of the discussion and outcomes from the exercise.

2.0 Introduction

2.1 Exercise Aim

The overarching aim is to prepare and execute an exercise that allows members of the Shire of Mundaring and its LEMC to assess the State Emergency Management Framework Core Capabilities. This includes:

- Horizon Scanning
- Emergency Response - Command Control and Coordination
- Public Information
- Agency Interoperability
- Recovery Coordination

Additionally, the aim is to explore the interoperability of various emergency management-related arrangements/plans within the Shire of Mundaring, such as:

- Local Emergency Management Arrangements (LEMA) and associated sub-plans.
- Business Continuity Plan (BCP)
- Shire of Mundaring Response Procedures

The exercise should facilitate a deeper understanding of multi-agency emergency management, coordination, and cooperation arrangements specific to the Shire of Mundaring and the relevant Emergency Management district.

2.2 Exercise Objectives

1. Investigate the Emergency Management and Business Continuity Planning structures necessary for responding to a Cyclone and resultant Bushfires affecting multiple locations throughout the Shire of Mundaring.
2. Examine the application of local (and district) multi-agency emergency incident response and recovery arrangements in the context of a Level 2-3 incident.
3. Identify a Recovery Management structure required to manage recovery based on the presented damage assessment reports and noting that adjoining Local Government districts are also likely to be severely impacted.

2.3 Capability Areas of Focus

Exercise Zeus" explored capability areas of the *Western Australian Emergency Management Capability Framework*, (DFES/SEMC October 2023) (the EM Capability Framework) relevant to the exercise as per the table below and provided opportunities for discussion around preparation, initial response, coordination, evacuation, public information, and recovery coordination.

Note: Exercise Zeus was in the main planned and developed prior to the publishing of the EM Capability Framework.

Core Capability	Description
<p>4.1 Prevention – The mitigation or prevention of the probability of the occurrence of, and the potential adverse effects of, an emergency</p>	
<p><i>Climate Adaptation</i></p>	<p><i>Climate Adaptation Anticipate and pre-emptively manage climate-related risks and adapt the emergency management sector to support climate-resilient development. Includes identification of climate risks and adaptation opportunities, investment in climate-resilience and low-carbon development, and alignment with relevant policy instruments (e.g., Western Australian Climate Policy).</i></p>
<p>4.2 Preparedness – Preparation for response to an emergency</p>	
<p><i>Planning and Arrangements</i></p>	<p><i>Undertake a systematic process for engaging stakeholders in the development of useable and scalable strategic, operational, and/or tactical level approaches for managing emergencies. Includes arrangements for interagency and interjurisdictional resource sharing and assistance.</i></p>
<p><i>Community Preparedness and Resilience</i></p>	<p><i>Empower community leaders and stakeholders to enhance local-level emergency management preparedness and resilience. Includes partnering with communities to build local emergency management skills, knowledge and ability to take action; provision of program support and funding for planning and resilience-building initiatives; preparing relevant engagement plans to reach groups within the community whose circumstances may create barriers to obtaining information, understanding instructions, or reacting to an emergency; and provision of insurance information</i></p>
<p><i>Risk Research and Analysis</i></p>	<p><i>Undertake or review research to inform planning for immediate and long-term risks and their management that threaten to impact the WA community, economy and environment to inform strategic decision-making. Includes analysis of risks associated with specific hazards, systemic disaster risks, and credible future conditions (including climate change), encompassing all components of risk (i.e., hazards, exposure, and vulnerabilities, including physical and social dimensions).</i></p>
<p><i>Hazard Detection and Monitoring</i></p>	<p><i>Detect and monitor threats within and beyond WA to inform pre-emptive action. Examples include public hotlines, remote sensing, and modelling and forecasting.</i></p>

<i>Training and Exercising</i>	<i>Provide appropriate training for personnel with emergency management roles and responsibilities. Includes the exercising of pre-established systems, plans and arrangements to ensure their functionality, as well as the skills and capability of relevant personnel.</i>
4.3 Response – <i>The combating of the effects of an emergency, provision of emergency assistance for casualties, reduction of further damage, and help to speed recovery</i>	
<i>Command, Control and Coordination</i>	<i>Establish and maintain command, control and coordination structures and required resources that appropriately integrate emergency responders and critical stakeholders and support the execution of core capabilities, including operational communications.</i>
<i>Evacuation and Relief Assistance</i>	<i>Coordinate the evacuation of displaced or higher risk people to appropriate evacuation centres. Includes community liaison and provision of incident-specific information to impacted community members, the provision of essential services that meet physical, psychosocial and cultural needs of affected people, financial hardship assistance, and the reunification of family separated by an emergency. Provisions to support the evacuation of animals are also considered.</i>
<i>Public Order and Community Safety</i>	<i>Undertake activities that provide for the safety and security of affected persons and first responders. Includes restricting access to affected locations, managing traffic flow, provision of security personnel and/or services.</i>
4.4 Recovery – <i>The support of emergency- affected communities in the reconstruction and restoration of physical infrastructure, the environment and community, and psycho-social and economic wellbeing.</i>	
<i>Recovery Coordination</i>	<i>Develop and coordinate activities that build systems and structures to prepare agencies and communities for future disaster recovery events. Coordinate activities across the sector that assist communities to re-establish a sustainable and resilient level of functioning after an emergency over the short, medium, and long-term. Recovery coordination is underpinned by the principles of community-led recovery and disaster risk reduction. Includes assessing community needs; community and stakeholder engagement; coordination of services, resources, and works; management of spontaneous volunteers and donations.</i>
<i>Recovery Program Management</i>	<i>Manage a program of works to assist the restoration of the social, economic, environmental and built environments after an emergency. Includes the development, delivery, evaluation, and adaptation of interconnected projects in consultation with affected communities and relevant stakeholders.</i>

<i>Social Recovery</i>	<i>Respond to the needs of the community through the provision of services that enable individuals, families and communities to re-establish a sustainable and resilient level of functioning after an emergency event. This includes services that promote or provide safety, security, shelter, health, and psychosocial wellbeing, as well as the re-establishment of those elements of society necessary for wellbeing.</i>
<i>Economic Recovery</i>	<i>Support the return of economic and business activities (including food and agriculture) that restore individual livelihoods and the economic sustainability of impacted communities.</i>
<i>Environmental Recovery</i>	<i>Undertake works that return the natural environment (e.g., water, air, land, soil, plants, and animals) to an acceptable condition and that restore environmental values</i>
<i>Built Recovery</i>	<i>Undertake works that restore and stabilise parts of the built environment affected by an emergency. Includes the reconstruction or repair of residential and rural properties, maintaining activities in non-affected areas, works that enable effective response and recovery efforts (including waste management), and restoring services to affected areas.</i>
4.5 Cross-cutting – These core capabilities sit across prevention, preparedness, response, and recovery	
<i>Essential Services and Critical Infrastructure Resilience</i>	<i>Ensure the provision and/or restoration of essential services and critical infrastructure before, during and after an emergency. Includes compliance with relevant regulatory frameworks; planning, risk assessment, and implementation of controls; monitoring and response functions; information sharing and communication; investment and other activities that contribute to sector resilience; restoration of impacted services.</i>
<i>Learning and Assurance</i>	<i>Support continuous improvement through the collection, analysis, application and review of learning experiences from events (including response and recovery), exercises, programs and reviews. Includes application of lessons management and assurance functions to support institutional and sector-wide learning.</i>
<i>Public Information and Warnings</i>	<i>Provide timely, targeted, and tailored information and warnings that enable individuals, communities and businesses to make informed decisions, take protective action, and reduce the potential impacts and consequences of an emergency before, during and after an event.</i>

3.0 Exercise Summary

3.1 Participants

The participants in the exercise were members of the Shire of Mundaring Local Emergency Management Committee and other key agencies as shown at Appendix A.

All participants were given notice of the exercise and were required to be prepared to respond upon activation with relevant materials, plans and procedures that would be enacted in such a scenario.

3.2 Date and duration

- 20 October 2023 from 0900 - 1300hrs.

3.3 Exercise Format

The exercise was facilitated by the Shire of Community Safety and Emergency Management team and the DFES/Shire of Mundaring Community Emergency Services Manager as a syndicate progressive discussion exercise.

3.4 Exercise Scenario

As of February 19, 2024, Western Australia has experienced weeks of dry and scorching weather. A cyclone has formed off the west coast of Australia, and its forecasted path indicates it will make landfall across the Perth Metropolitan area starting around 09:30 hrs on February 21 2024.

The cyclone is expected to bring strong winds with sustained gusts and electrical storm activity, however with minimal rainfall. This, combined with the previously forecasted high temperatures in the region, has elevated the Fire Danger Rating (FDR) to severe levels for the Swan Inland North region.

At 09:30 hrs, February 21 2024 a high number of emergency calls (000) have been received, reporting fallen trees and damage to private properties and infrastructure caused by Cyclone Zeus. Additionally, 000 calls have begun reporting fires ignited by increased lightning activity across the Shire of Mundaring district. These fires are accompanied by sustained winds of 30-40 km/h, gusting up to 80-100 km/h, which have rapidly spread the fires and placed lives, as well as numerous properties and infrastructure, in immediate danger.

By 10:30 hrs, the following observations have been made:

- A large number of residential dwellings have been impacted or are under threat;
- Several Commercial, Emergency Services and Government Uses buildings have been impacted rendering many uninhabitable;
- Multiple roads are blocked by fallen debris and powerlines, severely limiting access for emergency services;

- Critical infrastructure sites and equipment have suffered significant damage;
- Several roads, including the Great Eastern Highway, have been closed to traffic. (Please note that Scott Street Bridge in Helena Valley will be restricted to one lane only due to upgrade works);
- A large number of motor vehicle accidents have occurred requiring emergency services intervention;
- Schools in the affected areas have also been impacted;
- An Emergency Warning has been issued for the immediate vicinity;
- A Watch and Act alert has been issued for areas beyond the Emergency Warning Area;
- Mobile phone and radio telecommunications are down across most of the Shire district.

4.0 Table of Lessons Identified

A summary of outcomes is provided in the table below. These have been deduced from the insights observed during the exercise, and feedback provided by participants during the “hot debrief” conducted as part of the exercise format.

For a full description of each core capability listed below refer to 2.3 Capability Areas of Focus

Core Capability	Outcomes/Lessons identified
4.1 Prevention – <i>The mitigation or prevention of the probability of the occurrence of , and the potential adverse effects of, an emergency</i>	
<i>Climate Adaptation</i>	<ul style="list-style-type: none"> Shire of Mundaring has an established program in relation Climate Change Adaptation. A part of this suite of activities includes consideration of probable future disasters/incidents arising from extreme weather events. It was noted that the Shire’s Climate Change Adaptation Strategy is to be reviewed in the near future.
4.2 Preparedness – <i>Preparation for response to an emergency</i>	
<i>Planning and Arrangements</i>	<ul style="list-style-type: none"> All agencies participating in the exercise made reference to their respective plans and arrangements and the relevance of those plans and arrangements in relation to the exercise scenario
<i>Community Preparedness and Resilience</i>	<ul style="list-style-type: none"> The exercise include focus on immediate preparedness for the actual cyclone event noting that the passage of the cyclone is monitored and forecasts as to the time, and scale of the expected impacts is available.
<i>Risk Research and Analysis</i>	<ul style="list-style-type: none"> The development and running of this exercise is a product of basic Risk Research and Analysis in considering a scenario that (for this geographic area) is infrequent however still plausible and probable particularly given climate change scenarios.
<i>Hazard Detection and Monitoring</i>	<ul style="list-style-type: none"> Discussion of pre-emptive actions in relation to the extreme weather, fire danger rating/weather aspects were discussed as part of the exercise
<i>Training and Exercising</i>	<ul style="list-style-type: none"> The planning and conduct of this exercise as part of an annual exercise program is evidence of capability in a Training and Exercising capability

4.3 Response – The combating of the effects of an emergency, provision of emergency assistance for casualties, reduction of further damage, and help to speed recovery	
<i>Command, Control and Coordination</i>	<ul style="list-style-type: none"> The exercise include discussion in relation to Command, Control and Coordination of an incident scenario that would have impacts across several local government districts. Expected difficulties arising from extensive damage to communications infrastructure and possible future work-arounds in that regard were also discussed.
<i>Evacuation and Relief Assistance</i>	<ul style="list-style-type: none"> Discussion of the estimated number of displaced persons concluded that individual local government evacuation centres could not accommodate such numbers of persons, noting also that local evacuation centres had been impacted by the incident. In that regard Dept of Communities advised possible activation of State centres. In addition arrangements in relation to vulnerable persons groups were also discussed (aged person, People with disabilities, Prison populations)
<i>Public Order and Community Safety</i>	<ul style="list-style-type: none"> These matters were discussed as part of incident control arrangements around providing for the safety of responders and consideration of assessing incident areas as to when residents/occupiers may be allowed back in to affected areas.
4.4 Recovery – The support of emergency- affected communities in the reconstruction and restoration of physical infrastructure, the environment and community, and psycho-social and economic wellbeing.	
<i>Recovery Coordination</i>	<ul style="list-style-type: none"> Given that the incident scenario includes significant impacts across multiple local governments models for a State coordinated recovery program were discussed. This included consideration of the format for the Wooroloo bushfire and that used for Cyclone Seroja.
<i>Recovery Program Management</i>	<ul style="list-style-type: none"> As above
<i>Social Recovery</i>	<ul style="list-style-type: none"> Exercise discussions noted that the 4 key recovery domains would all be impacted as a result of the exercise scenario. Learnings from the Parkerville bushfire 2014 and the Wooroloo bushfire of 2021 see Shire of Mundaring with significant capability in recovery program management
<i>Economic Recovery</i>	<ul style="list-style-type: none"> As above
<i>Environmental Recovery</i>	<ul style="list-style-type: none"> As above
<i>Built Recovery</i>	<ul style="list-style-type: none"> As above

4.5 Cross-cutting – <i>These core capabilities sit across prevention, preparedness, response, and recovery</i>	
<i>Essential Services and Critical Infrastructure Resilience</i>	<ul style="list-style-type: none"> Discussions around the impacts to critical infrastructure notably, power distribution and telecommunications were discussed. In that regard it was noted that Shire of Mundaring Administration and Operations centre backup generator fuel capacity would be examined to determine total runtime available before fuel replenishment was required noting that fuel deliveries may be restricted in an emergency situation
<i>Learning and Assurance</i>	<ul style="list-style-type: none"> The planning and conduct of this exercise and follow up of any matters arising from the exercise are a key element of this capability
<i>Public Information and Warnings</i>	<ul style="list-style-type: none"> A significant part of the matters that the exercise syndicate groups were required to examine included both pre-emptive and post incident information and warnings

5.0 Hot Debrief

At the end of the exercise participants were asked four questions about 'Exercise Zeus' as part of an immediate debrief of the day, known as a 'hot debrief'.

5.1 What went well?

- Learned something about other agencies
- All open to ideas, listened and collaborated
- Highlighted the capacities of other agencies
- Interagency acknowledgement
- Shows the big picture to [Shire] staff
- Opportunity to network, put faces to names

5.2 What didn't go well?

- Lack of scenario details, but very detailed questions
- More people need to be in attendance to gain insights

5.3 Suggestions for improvement and actions?

- Each SoM department could have a Continuity Checklist
- Councillors could have a "how to" checklist, with a script for direction on how to handle public queries, an "FAQ"
- Start with introductions of all participants
- Cheat sheet for those not in an EM role showing where agencies and groups / committees sit ← *this could be loaded onto the "In Case of Emergency" Engage Mundaring page and QR coded, public might be interested!*
- Acronym list ← *this could be loaded onto the "In Case of Emergency" Engage Mundaring page and QR coded, public might be interested!*

5.4 Other actions identified by the Exercise Planning/Control Team

- Investigate/test Administration and Operations Centres backup generator fuel capacity, fuel consumption at full load to inform emergency fuel supply arrangements
- Investigate backup core communications and internet connectivity backup measures such as Satellite phones and internet connectivity such as Starlink and grant opportunities in that regard
- Provide a good news story to Shire of Mundaring communications team for posting on Shire Facebook page – *We are exercising our plan/s, are you?*

6.0 Conclusion

“Exercise Zeus” was conducted to facilitate an understanding of multi-agency emergency management, coordination, and cooperation arrangements for the Shire of Mundaring and the emergency management district and explore the inter-operability of the Shire of Mundaring’s Local Emergency Management Arrangements, Business Continuity Plan.

The exercise provided an excellent opportunity for multi-agency networking and relationship building, with many participants sharing their processes, capabilities, and limitations during discussions.

The “Exercise Zeus” Post Exercise Report will be submitted to the Central Metropolitan District Emergency Management Committee for noting.

Appendix A. Exercise Participants

SHIRE OF MUNDARING LOCAL EMERGENCY MANAGEMENT COMMITTEE – 28 OCTOBER 2022

Agency/Local Government	Name of participant
Shire of Mundaring	Jason Whiteaker
	Adrian Dyson
	Jeannine Bryant
	Stan Kocian
	Lisa Joy
	Rene Baur
	Steve Trlin
	Megan Griffiths
	Mark Luzi
	Clinton Kleynhans
	Angus Money
	Natasha Turfrey
	Craig Cuthbert
	Jeannie Marlow
	Rhys Turner
	Karen Dore
	Carla Genovisi
	Michael Lenne
	Matthew Lowndes
	Allan Entwistle
Shannon Foster	
Charlotte Jones	
Cr Paige McNeil	
Cr Neridah Zlatnik	
Cr Trish Cook	
WA Police	James Parker
	Luke Collins
Dept of Biodiversity & Attractions	Katy Wishart
	Shaun Hodgson
Department of Communities	Jo Spadaccini
DFES	Jamie O'Neill
	Tom Belger
	Maxine Burrell
	Quinta LaRosa
SES Mundaring	Rod Potter
Dept of Justice/SERCO	Daniel Jones
	Marcus O'Leary
	Joshua Mulcahy

Exercise Terra Motus

NORTH (NORTH AND CENTRAL)

**METROPOLITAN DISTRICT EMERGENCY MANAGEMENT
COMMITTEE**

Date: 21 November 2023



1



Background Information

¹The Perth Metropolitan Region (PMR) has a population of approximately 2.2 million residents and covers a geography of 8060 km². It has a coastal strip to the west with coastal plains and dunes structures and Perth Hills to the east. The Swan and Canning Rivers are major landscape features. It has 34 local governments and is separated into four emergency management (EM) districts: South, East, Central and North. The region has high-density and rural living, a major port, highways, freight rail and passenger rail network, national parks, and most state government central office facilities. It also contains several hospitals, university campuses, cultural centres as well as domestic and international airports. The metropolitan region experiences a diverse range of hazard events across both man-made and natural hazards.

²**Western Australia is the most seismically active state in Australia.** Of the 20 major earthquakes in Australia since 1890, nine have occurred in WA. This activity has generally been concentrated east of the Darling Fault in the Yilgarn Craton. Another notable area of activity is offshore to the west of Perth on submarine faults. The Perth basin itself has been less active, but it can host significant earthquakes in the basement rocks. The PMR area is located west of the Darling Range and largely within a coastal plain known as the Perth Basin. The western margin of the Darling Range is bound by one of the more prominent geological boundaries in Australia, approximately 1000km long.

State Hazard Plan – Earthquake

Hazard Definition and Impact Earthquake

³An earthquake is a sudden release of energy and resulting ground shaking caused by movements within the earth's crust. This hazard is defined as the vibrations caused by rocks breaking under stress. The underground surface along which the rock breaks and moves is called a fault plane. Earthquakes in Australia are usually caused by movements along faults as a result of compression in the Earth's crust. Earthquakes can be caused by:

- underground volcanic forces
- the breaking of rock under the Earth's surface
- a sudden movement along an existing fault line.

Most earthquakes happen around the edge of tectonic plates. Despite sitting in the middle of the Australian tectonic plate, WA still experiences earthquakes due to forces exerted on the plate by the tectonic activity going on around its edges. The intraplate nature of WA's earthquakes present challenges for emergency planning, as they are less common and do not follow easily identifiable patterns.

Exercise Need

The State Emergency Management Committee (SEMC) is the peak emergency management body in Western Australia. The State Emergency Management Policy directs District Emergency Management Committees (DEMC) to:

¹ METROPOLITAN DISTRICT RISK REPORT

² EIRAPSI Project Final Report Page 3, 22

³ STATE HAZARD PLAN EARTHQUAKE page 6

EXERCISE ONLY

- identify which capabilities are required to enhance interagency coordination across their emergency management district during an emergency.
- ensure their emergency management district is incorporated into an annual exercise.
- report against their exercise schedule by submitting consolidated post-exercise reports.

Exercise Overview

The exercise will form part of the North and South DEMC meetings and engage the members of four metropolitan DEMCs (North, East, South and Central) with roles and responsibilities under the State Emergency Management Framework. The exercise will run for 120 minutes on 21 and 29 November 2023.

Exercise Aim

The exercise aim is to:

- explore the Perth Metropolitan emergency management districts' preparedness, co-ordination, and recovery arrangements for an extreme event (earthquake).

Exercise Objectives

The exercise objectives will address the following Core Capabilities of the State Emergency Management Capability Framework. Participants are encouraged to pre-determine their agency/local government capability and discuss these as part of the exercise.

Emergency Response & Evacuation

1. To facilitate a better understanding of pre-established structures that exist between agencies during and after an event to facilitate effective command, control, and co-ordination.

KPIs

- Identification and discussion of structures that facilitate command, control, and coordination.
- Identification and discussion of agency and local government capabilities and limitations.
- Identification of suitable sites and areas available that maintain the provision of relief and support.

Recovery Coordination

2. To raise awareness of recovery arrangements or partnering agreements in place following a major emergency.

KPIs

- Identification and discussion of arrangements or partnering agreements in place.
- Identification and discussion of any limitations with arrangements or partnering agreements.

Exercise Format

The exercise will be conducted as a hypothetical style discussion exercise as part of the joint District Emergency Management Committee meeting:

Venue: Mineral Resources Park, Lathlain

Time: 10.30am to 12.30pm on November 21, 2023

Participants will need to consider existing emergency management arrangements, plans, partnership agreements and agency Standard Operating Procedures. Participants will be asked to address relevant issues within the scenario as it develops. Due to the restricted time frame, not all issues will be discussed.

Exercise Briefings

- Exercise briefings will be provided by the exercise facilitator and occur immediately at the start of the exercise on the scheduled date and time.
- A hot debrief will be conducted between the facilitator and evaluator immediately following the exercise session.
- The exercise evaluators will meet for a cold debrief and finalise the exercise evaluation report.

Exercise Documentation

The following exercise documentation will be developed:

- Exercise plan (this document)
- Evaluation data collection
- Exercise report

Exercise Evaluation

The purpose of the evaluation will be to:

- Gauge the level of success in achieving the exercise objectives.
- Capture key issues and outcomes that can be actioned for further improvements.

The evaluation should be conducted in real time where possible, with forms being handed to the facilitator on the day. The nominated table facilitators are the primary data collectors and analysers of the collected evidence and will contribute their findings to the exercise report.

Evaluators are responsible for:

- observing participants' responses against key performance indicators, collecting information, and recording their observations
- assessing strengths and weaknesses against the exercise objectives
- evaluating and reporting on the achievement of the exercise objectives.

Post Exercise Report

A post-exercise report will be compiled to:

- Share lessons learnt with participating agencies.
- Identify areas for improvement and capability gaps.
- Verify the extent to which the exercise objectives were achieved.

'EXERCISE TERRA MOTUS'

EXERCISE SCENARIO

The following scenario was taken from the *Earthquake Impact and Risk Assessment for Perth and Supporting Infrastructure (EIRAPSI)- Final report on the backgrounds, collaboration structure, methods, and findings from the EIRAPSI project* (https://d28rz98at9fiks.cloudfront.net/145456/145456_00_1.pdf) Geoscience Australia.

This project was undertaken to develop a better understanding of the risk and impact posed by earthquake in the Perth region. The key project partners were:

- Department of Fire & Emergency Services, Western Australia (DFES)
- Electricity Networks Corporation trading as Western Power (Western Power)
- Water Corporation of Western Australia (Water Corp)
- Main Roads, Western Australia
- Global Earthquake Model Foundation (GEM)
- Geoscience Australia (GA)

⁴The study region covered the PMR extending from the suburb of Yanchep in the north, and Nambelup in the south, and east along the Great Eastern Highway as far as Mundaring. It encompassed an urban population of approximately 1.98 million people, 733,000 buildings and nearly 500 road bridges. It extended across the deep sedimentary basin beneath Perth and onto the shallow bedrock environment beyond the Darling Fault, a major North-South geological feature that runs for approximately 1,000 km and creates the major topographic relief to the immediate east of Perth.

KEY TERMINOLOGY

ARI - Annual Recurrence Interval. Measure to calculate the probability that a ground-rupturing earthquake will take place within a specific area of a fault within a certain number of years.

Mw - Moment magnitude is considered the authoritative magnitude scale for ranking earthquakes by size. It is more directly related to the energy of an earthquake.

Epicentre - The point on the earth's surface directly above the focus of an earthquake

Please familiarise yourself with the scenario before the conduct of the exercise.

⁴ EIRAPSI Project Final Report page 3

SCENARIO - 21 November 2023

Scenario Earthquake Magnitude, Depth, and Time of Day: **Mw 4.8, 8 km, at 2:00 am**

Epicentre: **Proximity of Mundaring Weir, WA**

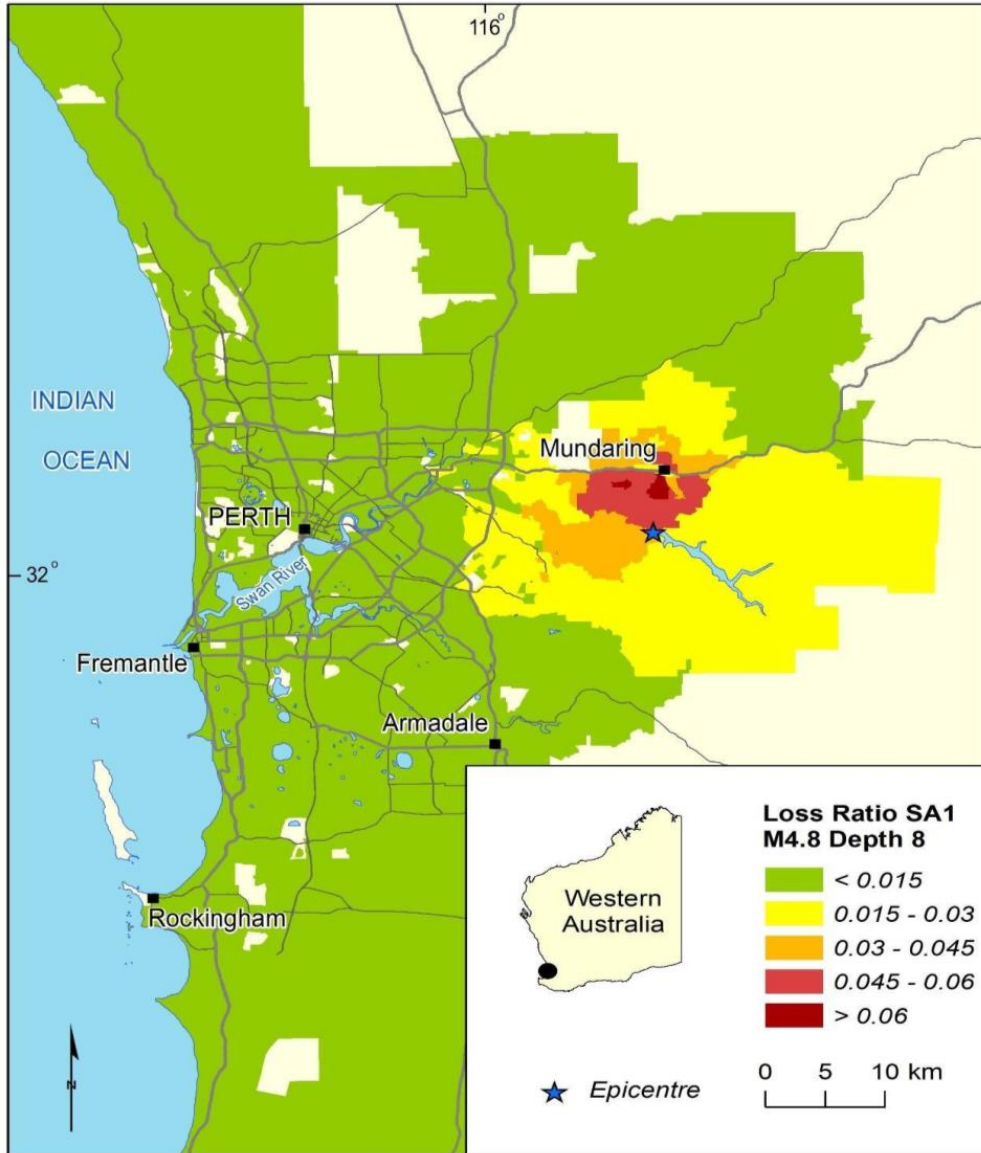
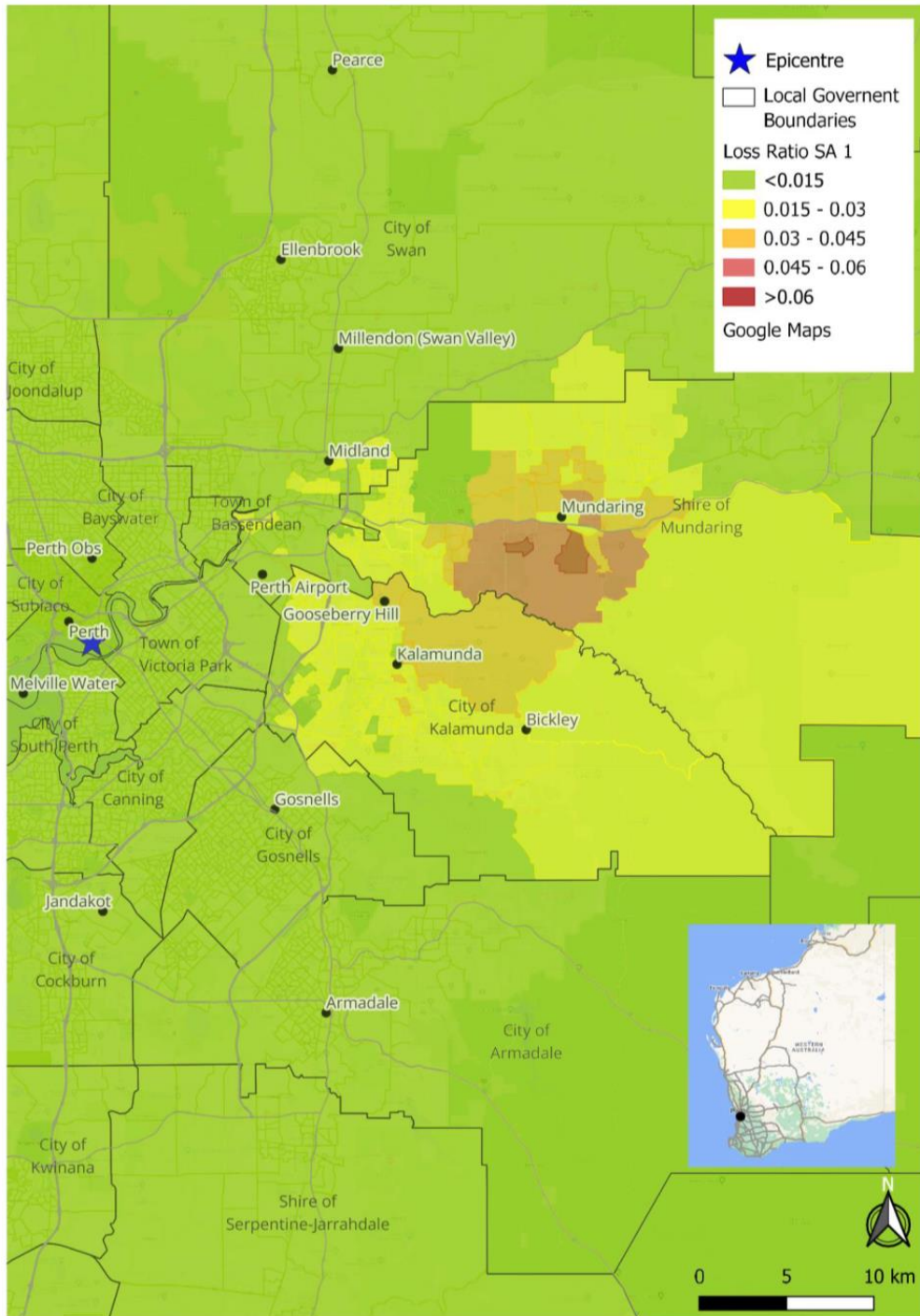


Fig.1 Average severity of building damage in terms of percentage of building reconstruction cost for the Mundaring Weir 2,500yr ARI scenario (MW 4.8, depth 8km).



IMPACTS

Participants should note that the information on the projected impacts and losses presented are based on simulations and expert opinion.

Table 1: Direct damage to buildings, direct damage to post-disaster functionality buildings and injuries to people for this scenario centred on Mundaring Weir.

Scenario	M3				
Magnitude and Depth	MW 4.8, 8km				
Average Recurrence Interval for Bedrock Hazard [years]	2,500				
Number of Buildings Damaged	64,300				
Residential Building Damage (Total, 701,500)	Slight	62,500	DFES Building Damage Severity (Total 65)		
	Moderate	1,400		Undamaged	64
	Extensive	5		Slight	1
	Complete	0		Moderate	0
Non-residential Building Damage (Total, 31,500)	Slight	340	Extensive	0	
	Moderate	20	Complete	0	
	Extensive	0	Hospital Building Damage Severity (Total 340)	Undamaged	337
	Complete	0		Slight	3
Casualties (Total, 1,976,500)	Slightly	105		Moderate	0
	Moderately	15		Extensive	0
	Severely	0	Complete	0	
	Dead	0	School Building Damage Severity (Total 7400)	Undamaged	7378
		Slight		20	
		Moderate		2	
		Extensive		0	
Building Triage Number	32,800		Complete	0	
Uninhabitable Buildings	880				
People requiring temporary Accommodation	2,450				

Table 2: Interdependency outcomes from the impact of Scenario centred at Mundaring Weir with a 2,500-year return period (Mw 4.8)

Sector	Implications, response, and initial recovery Scenario Earthquake Magnitude, Depth, and Time of Day: Mw 4.8, 8 km, at 2:00 am Epicentre: Proximity of Mundaring Weir, WA
DFES	<ul style="list-style-type: none"> • An Emergency Situation would be declared. • Initial triaging of the 32,800 buildings, which include several that are moderately damaged would take approximately one month. • Substantial number of people are in damaged homes and will initially need to be accommodated outside their homes. • 2,450 people unable to resume residence longer term will be more challenging to accommodate. • Approximately 33% will find accommodation with friends and family locally, • 33% will be cared for by their insurance companies, • 33% will need accommodation that may require moving out of the local area. Initial arrangements for this will take several days. • Call centres will be overwhelmed during this period with a greater need to expand
Water Corp	<ul style="list-style-type: none"> • Mundaring Water Treatment Plant and Pumping Station C sites are monitored 24/7 • Engineering teams from existing projects will be diverted to implement fixes to WTP issues. • Greater damage is anticipated to local municipal water supply with broken pipes etc, but resources are available to isolate these and quickly fix. • Damage also expected where bridge approach settlement affects major pipes. Damage isolated and repair coordinated with Main Roads. • Water supply not interrupted.
Western Power	<ul style="list-style-type: none"> • Visual inspection to be completed within a set period. • Power not expected to be interrupted. • As all distribution power supply is overhead, bridge approach settlement will not affect power assets. • Some issues with loss of pole transformers and tripping of distribution transformer relays. • Inspection capacity will be ramped up.
Main Roads	<ul style="list-style-type: none"> • Visual inspection of a large number of bridges in the epicentral area prioritised using a “watch list.” • Isolated problems with the lateral spreading and settlement of some bridge approaches made trafficable within the earliest practicable timeframe. • Bridges will remain operational.
Interdependencies	<ul style="list-style-type: none"> • Damage to bridge approaches affects water services that require

EXERCISE ONLY

	coordinated repair.
Local Governments	<ul style="list-style-type: none"> • Building and Infrastructure assessments (Provide details on road conditions to DFES) • Environmental Health assessments • Local community messaging considerations • Suitable buildings for designation as Evacuation Centres in consultation with the Department of Communities. • Activation of local recovery plan considerations • Resources to assist HMA when requested. • Representations to the IMT/ISG/OASG as required.

SPECIAL IDEA 1 – CO-ORDINATION AND EVACUATION

0-10 days +

Capability Area: Response**Core Capability:** Command, Control and Coordination and Evacuation**Summary**

DFES is the Hazard Management Agency and will manage the overall response to this event. An Operational Area Support Group (OASG) has been activated to ensure the provision of a coordinated response and ensure a structured and planned transition from response to recovery. A great deal of work has occurred to make the affected areas as safe as possible. There is still a lot to do by the recovery effort as seen by the Impact Statement that was tabled at the meeting.

- Ensuring there are no trapped people in the severely impacted buildings.
- Ensuring community members are cleared from severely damaged and dangerous buildings, and they are closed to the public.
- Residents in moderate to severely damaged homes are displaced and currently moving through collapsed or semi-collapsed structures.
- Key infrastructure, mainly water and sewerage are largely not interrupted.
- Danger from fallen debris that blocks roads and footpaths and any further collapse of walls and fascia.
- Some aged care centres have been moderately damaged and may need to be evacuated.

Please consider these questions before the exercise. A representative from your syndicate may be required to present a summary of findings after this session.

Exercise Syndicate Questions

Consider the impacts across the metropolitan district (Table 1 and 2).

- What would be some immediate needs and priorities from your agency/local government perspective?
- How will short-term welfare for large numbers be provided? What are some of the key welfare issues regarding displaced community members that will need to be considered early?
- How will advice to relocate be disseminated to the community? What key messages should communications include?
- How will the need for long-term accommodation be provided/managed?
- Other challenges?

SPECIAL IDEA 2 – RECOVERY SUPPORT

0-90 days +

Capability Area: Impact Management & Recovery Co-ordination**Core Capability:** Impact Assessment & Recovery Co-ordination**Summary**

A more comprehensive understanding of the impacts is now known. The short-term response and immediate clean-up and restoration process are going to take some time. There are widespread impacts to infrastructure, homes, and businesses. Your LG has activated its Partnering Agreement for the provision of Emergency Recovery Support.

Refer to existing Partnering Agreements or other arrangements you may have with neighbouring local governments to help you answer these questions.

Please consider these questions before the exercise. A representative from your syndicate may be required to present a summary of findings after this session.

Exercise Syndicate Questions

- What are the trigger points from your agency/local government perspective to request assistance? State?
- How will your LG request for and offer assistance? How is this completed?
- Is the Hazard Management Agency involved in this process? How?
- How will the time frame for assistance be determined?
- How will personnel be covered for insurance purposes?
- Who will cover costs associated with typical employee remuneration during the provision of support?
- What will be your immediate (1 to 3 months), medium (3-24 months) and long-term priorities? (ongoing)

6.3 School Principal Bushfire Workshop

File Code	EM.PLN 3
Attachments	Nil

PURPOSE

To brief the Committee on Shire of Mundarings annual Principal Bushfire Workshop 2023

SOUGHT OUTCOME

That the Committee receives the information regarding the Shire of Mundaring annual School Principal Bushfire Workshop 2023. The Acting Manager Community Safety and Emergency Management will provide power point presentation at the meeting.

ACTION

That the Committee receives and notes the Shire of Mundaring annual School Principal Bushfire Workshop 2023 information.
--

6.4 Mariginiup Bushfire

File Code	EM.PLN 3
Attachments	Nil

PURPOSE

To brief the Committee on the Marigininiup Bushfire 2023.

ACTION

That the Committee notes and provides feedback on the Marigininiup Bushfire 2023.

6.5 Local Emergency Management Arrangements Review

File Code	EM.PLN 3
Author	Adrian Dyson, Manager Community Safety & Emergency Management
Senior Employee	Mark Luzi, Director Statutory Services
Disclosure of Any Interest	Nil
Attachments	Nil

PURPOSE

To brief the Committee as to progress on the Local Emergency Managements (LEMA) review project which will be ready for review next meeting, in final stages of review.

The briefing will focus on the salient points of the most current drafts of those plans.

The draft will be presented for LEMC for review in first quarter 2024

ACTION

That the Committee notes the update provided.

6.6 Community Emergency Services Manager Report

File Code	EM.PLN 3
Author	Adrian Dyson, Manager Community Safety & Emergency Management
Senior Employee	Mark Luzi, Director Statutory Services
Disclosure of Any Interest	Nil
Attachments	1. CESM Report Nov23

PURPOSE

To consider a report and information update provided provided by the Community Emergency Services Manager including the Australian Fire Advisory Council Spring Seasonal Outlook (national).

ACTION

That the Committee notes and provides feedback on the CESM update November 2023

SHIRE OF MUNDARING BFAC NOVEMBER 7, 2023**PREVENTION.**

- Currently in the restricted season, due to seasonal conditions increased restrictions on burn permits apply.

PREPAREDNESS.

- Dual mobilisation has been set up for Chidlow VFBF and Wooroloo VFBF
- Shire officers are currently inspecting properties throughout the shire for compliance to the fire break and fuel load notice.
- Metro Northeast Incident leadership refresher conducted October 14
- Skills refreshers are now complete, thank you to all Brigades they have all been sent through and recorded. For those members who have not completed the Skills refresher they are to be inactive until completed.

RESPONSE

- Brigades fully operational. One high season light tanker at Darlington and SOSF 3.4 at Chidlow until the 4.4 is returned from transmission rebuild then will go to Darlington.

BRIGADE INCIDENTS 29/08/2022 – 23/10/2022

	2023/2024
Total Number of Bushfires:	7
Unreported	4
Burn off fires	1
Campfires/bonfires/outdoor cooking	1
Suspicious/Deliberate	1

Locality	Incident No	Date / Time	Suburb	Street	Ignition Cause	Size (hect)
MUNDARING (S)	638183	21/09/2023 01:20	MOUNT HELENA	SHORT ST	Burn off fires	< 1
MUNDARING (S)	638486	23/09/2023 00:13	STONEVILLE	STONELEIGH RD	Unreported	< 1
MUNDARING (S)	640185	01/10/2023 30:10	STONEVILLE	MULUMBA PL	Unreported	< 1
MUNDARING (S)	641209	07/10/2023 15:15	CHIDLOW	ASH RD	Unreported	< 1
MUNDARING (S)	641897	11/10/2023 20:08	MOUNT HELENA	ALICE RD	Campfires/bonfires/outdoor cooking	< 1
MUNDARING (S)	642373	13/10/2023 14:13	SWAN VIEW	MARLBORO RD	Suspicious/Deliberate	< 1
MUNDARING (S)	643136	17/10/2023 38:10	WOOROLOO	LIBERTON RD	Unreported	Unknown

ALL SHIRE INCIDENTS

Incident Type	2023/2024
Called Off - No Attendance	2
False Alarm - System Initiated	2
False Call - Good Intent	16
Fire - Bushfire (lge)	1
Fire - Bushfire (sml)	6
Fire - Other/Rubbish/Vehicle	4
Fire - Structure	2
Hazardous Situation	2
Natural Hazard	4
Not Reported	3
Rescue & Medical	1
Road Crash & Rescue	3
Total	46

6.7 AFAC Seasonal Outlook Report - Summer 2023-2024

File Code	EM.PLN 3
Attachments	1. AFAC Seasonal Outlook - Summer 2023 - 2024

PURPOSE

Acting manager to inform on AFAC seasonal outlook for the LEMC

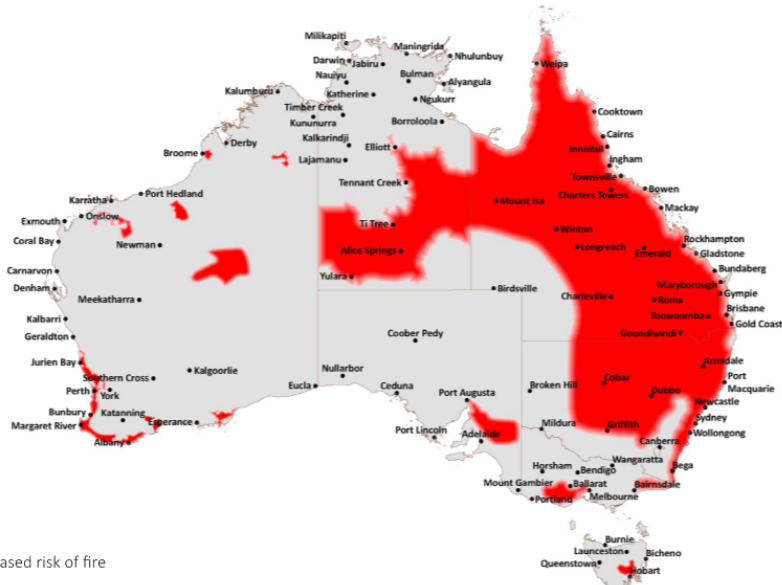
ACTION

That the Committee notes and provides feedback on the AFAC Seasonal Outlook for Summer 2024 / 2024.



Seasonal Bushfire Outlook

Summer | 2023



KEY: ■ Increased risk of fire

Figure 1 Seasonal Bushfire Outlook Summer 2023. Areas are based on the interim biogeographic regionalisation for Australia and other geographical features.

Increased risk of fire is the likelihood of an increased number of significant bushfires occurring in the outlook period compared to average.

Overview

Australia has experienced record breaking dry conditions and warmer than average temperatures during early spring, with hot and dry conditions expected to persist into the new year for many locations.

Abundant vegetation growth supported by previous La Niña rainfall will continue to dry throughout summer, increasing the flammability of fuel loads. This includes some areas burnt during 2019-20 season.

These factors are driving increased risk of fire for large areas of Queensland, NSW, and NT, as well as locations in Tasmania, Victoria, SA and WA. This summer, all communities across Australia are urged to prepare for bushfire and monitor local conditions.

About the Outlook

Fire management is a year-round process. The Seasonal Outlook reflects the priorities in each state and territory for the coming months given the expected climate conditions. It identifies areas of increased risk of bushfire so communities are aware and primed to take appropriate action. It is not intended as a prediction of where and when bushfires will occur. Fire risk can vary greatly, even at the smaller scale, between bordering states and territories. Each state and territory's assessment takes into account different land use types and vegetation types. This is influenced by different forecasts for temperature and rainfall over these regions. It should be noted that forecasting for longer time periods can be less accurate as the atmospheric system is dynamic; the more time passes, the less certain forecasters can be of its state. A significant bushfire is defined as being of such size,

AFAC is the National Council for fire and emergency services, supporting the sector to create safer, more resilient communities. AFAC drives national consistency through collaboration, innovation and partnerships. It delivers enhanced capability by developing doctrine and supporting operations.

complexity, duration or other impact that requires resources (from both a pre-emptive management and suppression capability) beyond the region in which fires originate. Increased bushfire risk depends on many factors including weather and climate, fuel amount and availability, recent fire and disturbance history, natural and human barriers, and how quickly and effectively firefighting resources are able to suppress fires in an area.

The Seasonal Outlook format has changed

The format of the Seasonal Bushfire Outlook has been reviewed and updated to communicate fire risk more effectively to the community. Key changes include:

- Assessing increased risk of fire rather than bushfire potential. See definition for increased risk of fire above.
- Simplifying information by identifying areas with increased risk of fire. References to areas of 'normal fire potential' and 'below normal fire potential' have been removed.
- Delivering more targeted information to communities by providing maps for each state and territory in the jurisdictional bushfire outlook summaries below.
- Providing place names on maps, and highlighting key information and links for each jurisdiction.
- Prioritising information about fire risk earlier in the document, supported by a detailed climate overview.
- For more information on these changes, [visit the AFAC website](#).

New South Wales



Seasonal Bushfire Outlook for Summer 2023 in New South Wales

Summary

- Large areas of eastern, central and northern NSW are expected to see increased risk of fire in summer 2023.
 - Areas burnt in Black Summer can carry dangerous bushfires.
- For further information see: rfs.nsw.gov.au

Due to drought and an outlook for warmer than average temperatures, large areas of eastern, central and northern NSW are expected to see above normal fire potential this summer. Given the current drought, potential rainfall evaporation in hot weather, and large areas having potential to carry fire, there is a significant risk of above normal fire potential across large parts of NSW.

During spring, significantly below normal rainfall and above average temperatures saw soils, forest fuels and grasses dry out extremely quickly. A number of fires around the state were able to make rapid and damaging runs. Moving into summer, large parts of NSW are still in drought or are much drier than normal.

This summer is forecast to have a high probability of above normal temperatures, which are predicted to see the landscape dry out more quickly after rainfall and worsen existing drought.

Previous years of above average rainfall has produced high grass fuel loads across much of the state. This rainfall has also seen forested areas burnt during Black Summer regrow rapidly to the point where they are able to carry fast moving and dangerous bushfires. The speed of this recovery is unusual. Typically, areas burnt this recently would slow or limit the spread of new fires. Several fires have spread aggressively through areas burnt during Black Summer, demonstrating these areas have regrown to the point they will no longer slow or inhibit the spread of fires under elevated conditions.

The summer rainfall outlook for NSW is currently uncertain, with a range of rainfall scenarios suggested. Due to a confident forecast for above normal temperatures and existing drought, there is a significant risk that areas of coastal western and northern NSW will see increased fire potential in summer.

Significant grass fuel loads in parts of southern NSW are being reduced by harvesting and grazing. Areas in southern NSW and the Great Dividing Range that have seen consistent recent rain can expect a relatively typical summer fire season. ■

Australian Capital Territory



Seasonal Bushfire Outlook for Summer 2023 in Australian Capital Territory

Summary

- Normal risk of bushfire expected for the ACT this summer.
- The long-range outlook for summer predicts warmer conditions with average rainfall.
- Fire agencies and land managers will continue to implement mitigation activities during summer, including prescribed burns where conditions allow.

For further information see: esa.act.gov.au

The upper soils in the ACT are drier than average for this time of year, with average rainfall expected until at least January 2024. Despite these recent dry conditions, catchments still hold a significant amount of water. Considering the current landscape conditions and water availability, ACT expects a normal risk of bushfires during this period.

The long-range outlook for summer in the ACT predicts average rainfall conditions and above average day and night temperatures. There is a high chance of unusually warm conditions, ranking within the top 20% of the historical range. Climate drivers are indicating warmer conditions for southeast Australia, with an active El Niño declared and a Positive IOD.

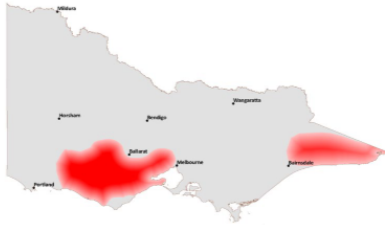
If below average rainfall is received in the first part of summer, there could be an increased risk of fires as we move towards the end of summer. It is crucial for the community to stay vigilant and maintain their properties throughout summer. Residents should review, update, or prepare their Emergency Plan. Emergency Plan templates can be accessed at ESA website.

Fire agencies and land managers will be continuing to implement mitigation activities in summer, including prescribed burning when conditions permit. ACT residents can keep track of planned and ongoing prescribed burns through the ACT Emergency Services Agency and ACT Parks and Conservation Service websites or the Hazards Near Me App.

By staying informed and prepared, residents can help minimise the impact of potential bushfires during this period. Prioritising safety and ensuring a proactive approach helps to safeguard the community and environment. ■

Jurisdictional bushfire outlook summaries (cont.)

Victoria



Increased Risk of Fire

Seasonal Bushfire Outlook for Summer 2023 in Victoria

Summary

- Rainfall over winter and spring has been significantly lower which means above-average fire potential can be expected in eastern, western and central Victoria.
- Tall, damp forests are expected to have lower fire potential until later in the summer due to underlying moisture and abundant green growth.
- Make or review your Bushfire Survival Plan at www.cfa.vic.gov.au/bushfireplan. Know how to stay informed and which information channels work for you.

For further information see: emergency.vic.gov.au

Rainfall during October eased spring dryness and early fire activity in Gippsland, however above average fuel loads and fire potential is expected to persist this summer, especially in areas that did not burn, or only burned lightly, in the 2019-20 season. In many of the Black Summer burnt areas, high levels of forest regrowth has already become very dry and may carry fire again, though not as intensely as unburnt forest. In western and central Victoria, including along the Surfcoast, a very dry winter and spring has led to significant rainfall deficits and very low soil moisture. Much of this is evident in terms of above-average fuel availability in dry forests, woodlands and heathlands which means above average fire potential is expected in these areas through summer. Contrasting this, taller damp forests still have underlying moisture and abundant green growth, and so are expected to have lower flammability at least through the early part of summer. Conditions will be monitored through summer.

In agricultural areas, elevated crop and grass fuel loads are expected and likely to cure earlier than most years, increasing fire potential. This may affect areas further south than normal due to very dry soils.

Elsewhere around the state, the fire risk potential is average noting that drier forests, woodlands and heathlands (inland and coastal) can pose a fire risk under the onset of hot, dry and windy weather conditions. After three wet years, even areas deemed to have average fire risk, could still see significant fire activity, particularly where extra growth dries out, so communities are encouraged to prepare and maintain a high level of awareness in all areas through the summer period. ■

Tasmania



Increased Risk of Fire

Seasonal Bushfire Outlook for Summer 2023 in Tasmania

Summary

- An area of the southeast which is currently much drier than usual is assessed as having increased risk of fire.
- Expected lower than normal rainfall in early summer will see the drying trend continue and the area of heightened risk increase.
- Property owners must prepare now.

For further information see: fire.tas.gov.au

Spring 2023 has seen below average rainfall across the northern half of the state and only average falls elsewhere. Maximum temperatures have been above average across the entire state for the period. This has compounded a drier than normal winter period, with areas of the Midlands, East Coast and South East now significantly drier than normal, indicating drier bushfire fuels more generally.

During the spring period Flinders Island and the East Coast experienced several difficult fires associated with warm and very windy conditions. Grassland curing is advancing rapidly in drier locations which will greatly increase fuel connectivity and continuity which raises the potential for large scale fire growth during the summer period.

Areas in the east and the southeast are now becoming too dry for safe and low intensity fuel reduction burning, however mechanical mitigation will continue. The area in the southeast which is currently much drier than usual is assessed as having above normal fire season potential.

With the expected lower than normal rainfall in early summer, there is concern that the drying trend will increase this area of increased fire risk to include the Northern Midlands and the Fingal and Royal George valleys by the new year. ■

South Australia



Seasonal Bushfire Outlook for Summer 2023 in South Australia

Summary

- Dry conditions are likely to persist with above average maximum temperatures expected.
- Fuel dryness, especially in shrubland and forest fuels, and evaporative stress are above average for most of the state.
- It is likely that SA will experience a longer fire danger season for broad areas of the state.

For further information see: cfs.sa.gov.au

SA has seen a very warm spring with much of the southwest of the state recording the highest temperatures on record for the period. The trend for very dry fuels is likely to continue with forecasted well above average maximum temperatures. This is driving a trend towards high Fire Behaviour Index values, particularly across the southern half of the state.

In contrast to recent years, 2023 has seen an earlier and more rapid switch to dry conditions leading into summer. Fuel dryness and evaporative stress are above average for most of the state, particularly the West Coast, Lower Eyre Peninsula, Yorke Peninsula, Upper and Lower South East, and Kangaroo Island.

Fuel loads are average for much of the state. The western half of Kangaroo Island has lower fuel loads as it continues to recover from fires. The southeast of the state has higher fuel loads, notably spear grass. Fuel loads across the Southern Flinders ranges are also high. The increased presence of Buffel grass throughout the upper Mid North, Flinders and pastoral districts presents a risk of higher fuel loads particularly along major arterial transport routes. While population is sparse in these areas, there are significant agricultural and environmental assets and would likely see a sustained response to an event. With seasonal grain harvests across the Eyre Peninsula, mid and Northern Yorke Peninsula largely completed, risks are slightly reduced. Pre-season hazard reduction has been successfully managed to reduce anticipated risk levels.

Like most of the country, the outlook for December to February shows well above average maximum temperatures in all regions of SA. There may be some rainfall in the new year, but this will still be coupled with above average temperatures, with a likelihood of a longer fire danger season for broad areas of the state. ■

Queensland



Seasonal Bushfire Outlook for Summer 2023 in Queensland

Summary

- Queensland is forecasted to remain under the influence of a positive El Niño through the late spring and early summer months.
- A continuation of the intense late spring fire conditions into the summer months is likely for much of Queensland.
- The drying fuels, forecast below to average rainfall and above average temperatures are likely to bring locally intense bushfires that maybe destructive across parts of Queensland as vegetation will remain flammable during early summer.

For further information see: qfes.qld.gov.au

The continuation of below average rainfall, elevated fuel growth and lowest on record rainfall deficiencies across southern parts of Queensland throughout the late winter and spring months, has primed many parts of the state for an extended fire season. The El Niño is likely to continue to influence the fire weather patterns across Queensland for the early summer months.

The El Niño influence is likely to contract back to the Eastern Pacific Ocean during the later summer months, this is likely to see a protracted fire season around the North Tropical Coast and a return to normal rainfall patterns across central and southern Queensland.

Whilst there is a forecast for normal rainfall potential across many parts of northwest, central and southern Queensland through the later summer months, the vegetation and soils are currently experiencing moister deficiencies, this may delay the effects of any rainfall on the available fuels. ■

Western Australia



Seasonal Bushfire Outlook for Summer 2023 in Western Australia

Summary

- The northern rainfall onset for the Kimberley and Pilbara regions is expected to be later than normal due to the influence of El Niño conditions.
- Serious deficiencies in winter and spring rainfall for southern forested regions of WA, while the Midwest experienced severe deficiencies including some areas showing the lowest rainfall on record. This is reflected in below to very much below root zone soil moisture for multiple locations.
- For southern WA, existing rainfall deficiencies and warmer than average conditions will likely contribute to above average fire danger for forest and shrubland areas this period.

For further information see: dfes.wa.gov.au

Climate drivers (El Niño and Positive IOD) this winter and spring have resulted in significant rainfall deficiencies for most of the southern half of WA over the past six months. The very much below average root zone soil moisture has reduced fuel loads for grassland vegetation in the southern half of the state however, it has also accelerated the drying of fuel in woody vegetation. This has supported planned burning to commence earlier than usual in forested regions, to achieve key lower fuel areas for the Southwest Land Division. Ongoing rainfall deficiencies have induced moisture stress in woody vegetation and resulted in an early start to the southern bushfire season. Forecast warmer and drier summer conditions are highly likely to be challenging for firefighting, consequently increasing the risk of bushfires for parts of southern WA.

On the contrary, heavy rainfall in the most northern part of WA in late June and early July 2023 has reduced the effectiveness of early dry season burning and added more grass fuels to the landscape. This above average grass fuel load and continuity have made recent bushfires more difficult to suppress. Furthermore, a later than usual northern rainfall onset for the 2023–24 outlook may result in a longer northern bushfire season, extending the overlap of the northern and southern bushfire seasons through the increasing risk of bushfire in parts of northern WA, including the Pilbara, inland Midwest Gascoyne, and Goldfields Midlands regions, where fuel loads are above average. ■

Northern Territory



Seasonal Bushfire Outlook for Summer 2023 in Northern Territory

Summary

- Drying conditions continue to impact Central Australia, Barkly, Lassiter and Tanami regions.
- Average grass fuel loads, increased fire scar coverage for the Top End, Katherine and Arnhem districts mean there is a normal fire potential for these regions.
- Grass fuel loads in Central Australia and the Barkly region are a major driver for large, landscape-wide wildfires, with resourcing stretched thin for suppression and response. An increased risk of fire will remain through summer.

For further information see pfes.nt.gov.au or [Bushfires NT](#)

The annual monsoon season is predicted to be later onset, with rainfall becoming more regular across the Top End by December. Wildfire incidents in the Vernon Arafura region during the late dry season proved challenging as Gamba Grass (*Andropogon gayanus*) fuels increased fire intensities throughout the peri-urban and rural areas of Darwin and Katherine. With fire scar coverage and the impending monsoon season, bushfire risk is now considered normal for the Top End.

Throughout the Tiwi Islands, Eastern, Western and Central Arnhem regions, carbon abatement and mitigation programs have implemented extensive mosaic-style fire scar coverage, reducing the incidence of late-dry season wildfires. With the onset of the northern monsoon season, the predicted risk of wildfire potential for the Arnhem region is lower for summer.

Throughout the Barkly and Central Australia Fire Management Zones, there has been a significant increase in bushfire. Dry lightning has caused multiple ignitions and an above normal fire potential is predicted for the Barkly, Tanami, Alice Springs and Lassiter regions. Landholders need to be vigilant of weather conditions, ensure they are adequately prepared, and have fire breaks strategically installed throughout their properties.

Bushfires NT and NTFRS worked with government agencies, pastoralists and other key stakeholders on fuel reduction and wildfire mitigation programs during spring. These agencies are now responding as weather conditions become more extreme with higher temperatures and minimal rainfall this season. ■

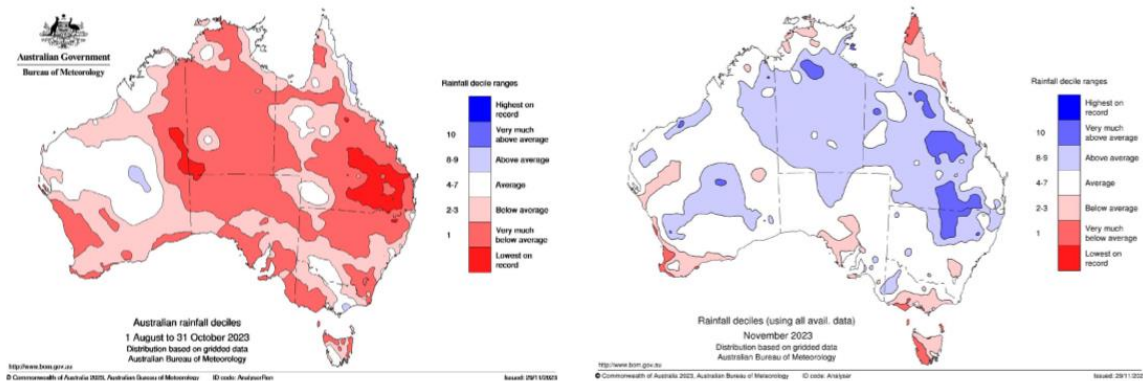


Figure 2a 1 August 2023 – 31 October 2023 rainfall deciles relative to all years since 1900. Figure 2b November 2023 to date rainfall deciles (1 – 28 November).

The risk of grass and bushfire in Australia is dependent on many factors, including the amount and type of fuel (vegetation) and how dry that fuel is. Fuel conditions are influenced by recent rainfall, temperatures, and soil moisture.

For Australia as a whole, August to October 2023 rainfall was below average for most of the country (Figure 2a) – and 61% below the 1961–1990 average. The area-average total of 22.63 mm was the lowest on record for any three-month period since 1900. Most of southeastern Queensland had lowest on record rainfall for the period, while the NT, SA and NSW each had their fourth driest August to October on record, and WA the sixth-driest. Above average rainfall for the three months occurred only in small areas in northeast coastal Queensland, parts of central and eastern Victoria and some inland areas of WA.

In contrast, rainfall for 1–28 November (Figure 2b) has already exceeded the November monthly average across much of northern and north-eastern Australia, somewhat easing the recent dry conditions in parts of eastern Australia.

While El Niño and positive Indian Ocean Dipole (IOD) events, both of which are currently active, tend to result in below average rainfall for broad areas, significant rainfall events are still possible, especially those of short duration. Approximately half of past El Niño events have included a broadscale heavy rain event in eastern Australia.

Rainfall in the 24 months to August 2023 was well above average for much of the country, with both La Niña and negative Indian Ocean Dipole events influencing the Australian climate during much of this period. This is a strong contrast to the 2019–20 southern fire season, which had very dry conditions for much of the previous two years. As a result, the landscape in 2023 has generally been wetter, with higher streamflow and water storage levels than in 2019. Despite this, soils dried substantially during August to October with root-zone soil moisture (the top 100 cm) dropping to below or very much below average (in the driest 30% of years since 1911) across most of Australia with parts of southeastern Queensland recording their lowest October soil moisture on record. November rainfall has seen soil moisture levels return closer to average across much of inland

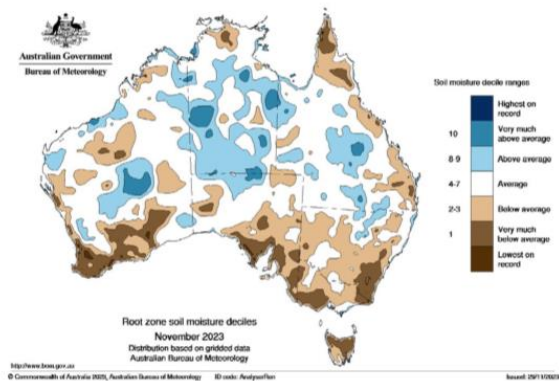


Figure 3 November-to-date (to 29 November) 2023 root zone (top 100 cm) soil moisture deciles relative to all years since 1911.

Queensland and northern NSW, though soils remain very much drier than average in eastern Queensland and much of southern Australia (Figure 3).

August to October maximum temperatures were above average across most of the country, with Australia as a whole having the second highest maximum temperature since records began in 1910, while NSW and WA had the highest temperature on record. SA and Queensland had their second-highest, Tasmania their third-highest, and Victoria and the NT both had their fifth-highest maximum temperature on record. November to date temperatures have generally been average to warmer than average, with very much above average temperatures in southwest WA.

Long-range forecasts

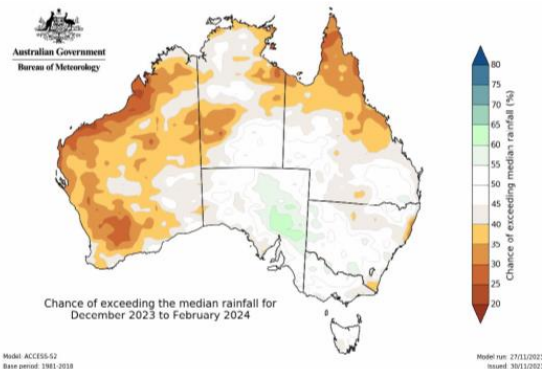


Figure 4 December 2023 – February 2024 chance of above normal rainfall.

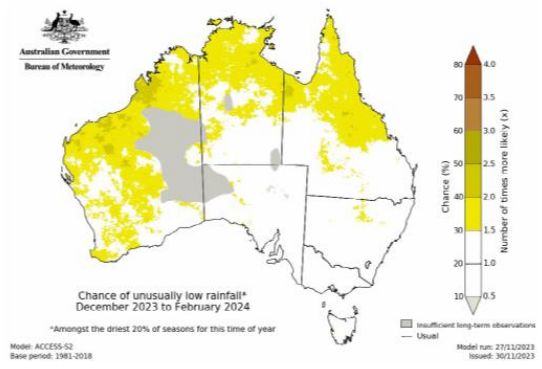


Figure 5 December 2023 – February 2024 chance of unusually low rainfall.

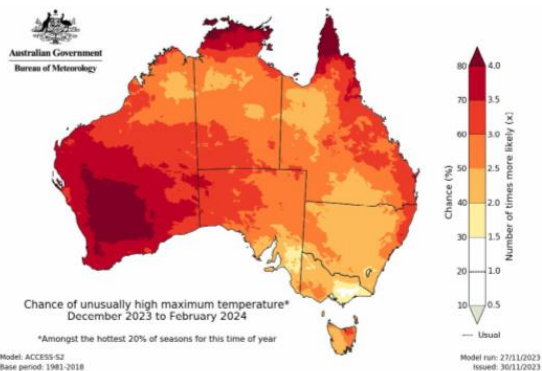


Figure 6 December 2023 – February 2024 chance of unusually high maximum temperatures.

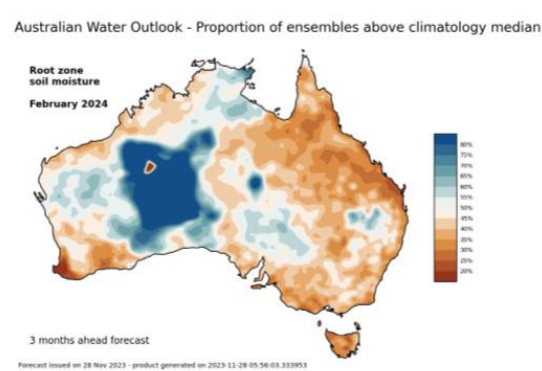


Figure 7 February 2024 chance of above normal soil moisture.

The Bureau of Meteorology’s long-range forecasts are based on global models of the oceans, atmosphere, land, and ice. These models include the physics of the earth system that implicitly captures the influence of all climate drivers, including long-term trends due to climate change.

December to February rainfall (Figure 4) is likely (greater than 60% chance) to be below median across northern Queensland, parts of the NT and much of WA. With the approach of the summer months, the long-range outlook for likely low rainfall has eased across eastern Australia outside of the tropics, with models now reflecting the possibility of more rainfall for these regions than indicated in earlier forecasts. Much of the tropical north and WA have more than twice a slightly elevated the chance of unusually low rainfall during December 2023 to February 2024 (Figure 5).

December to February maximum temperatures are very likely (greater than 80% chance) to be above median for almost all of Australia. December to February minimum temperatures are also very likely (greater than 80% chance) to be above median for most areas of Australia, except for some coastal areas, where

the chances are closer to 70%. Most of Australia is likely to have unusually high maximum temperatures (in the top 20% of records) during summer (Figure 6), at least 2.5 times more likely than normal.

The combination of reduced rainfall, both in recent months (Figure 2) and the coming season (Figure 4) in addition to above average summer temperatures is expected to increase evaporation. This is driving the forecast for drier than average root zone (top metre) soil moisture by late summer (Figure 7) for much of eastern Australia and south-west WA. For much of this area, this is a significant change from the wet soils leading into last year’s summer. The abundant growth associated with high moisture availability associated with the 2022–23 La Niña, is likely to have dried significantly during spring with further drying likely during summer. This would make the high fuel loads more flammable in these locations, particularly in the southern states that are going into their peak fire season.

Updates to climate forecasts, including seasonal, monthly, fortnightly and weekly forecasts, as well as the outlook for the

Climate drivers

While the Bureau's coupled climate model provides the primary guidance for long-range forecasts of rainfall and temperature out to three and four months ahead, predictability beyond that lead time can be inferred from climate drivers at particular times of the year. El Niño events that develop in mid-winter historically reach maturity in spring and early summer, before declining in autumn as the El Niño Southern Oscillation (ENSO) enters its transitional phase. With the transition period now three to four months away, ENSO does not provide us with predictability beyond that provided by the long-range forecasts (which presently provide guidance out to March).

The current El Niño is forecast to peak in December or January with climate models anticipating further warming of the central and eastern tropical Pacific before an easing in autumn 2024. Climate change is now one of the strongest and most predictable influences on global climate. Globally, surface air temperature and sea surface temperatures (SSTs) have been at record levels during 2023. Globally averaged SSTs have been the warmest on record (since 1900) for each respective month since April. The global surface air temperature anomaly (difference from average) for September and October 2023 were highest and second highest respectively across all months (for the period 1940–2023, ERA5 data)¹.

The elevated ocean temperatures are notable both for the magnitude with which previous record temperatures are being broken, but also for their impact on comparison of the current conditions with historical climate. Historical El Niño events have occurred in cooler climates with very different ocean states to present. This fact underscores that the ACCESS-S and international climate model predictions provide the best guidance, since they incorporate the current ocean and atmosphere state as the initial conditions for the forecasts.

1. <https://climate.copernicus.eu/copernicus-october-2023-exceptional-temperature-anomalies-2023-virtually-certain-be-warmest-year>

In Australia, background warming trends and changes in rainfall patterns have loaded the odds in favour of particular climate phenomena in any given year including:

- the chance of above average and extreme temperatures
- reduced average rainfall over the southern half of the continent
- increased heavy rainfall when meteorological conditions are favourable
- a longer fire season, with more extreme fire danger days.

In the absence of a La Niña or a negative IOD event, warm and dry conditions have predominated Australian summers this century. Historically, forest fire activity in eastern Australia is lower during La Niña or negative IOD years as has been experienced in recent years. However, these wet years typically generate increased grass and vegetation growth which subsequently increases fuel loads in the year following. Fast-moving grass fires in particular, are often experienced in the year following an extended wet period, which can be exacerbated with the onset of drivers such as El Niño or a positive IOD that act to dry the vegetation. The 2023 bushfire season to-date has seen widespread grass fires across much of northern Australia, reflecting this pattern of enhanced grass fire activity, with high fuel loads also evident in the south.

Further information

For further information about climate forecasts and conditions, please visit the following pages

- bom.gov.au/climate/ahead
- bom.gov.au/weather-services/fire-weather-centre/fire-weather-services

This Seasonal Outlook was developed by AFAC, the Bureau of Meteorology, Queensland Fire and Emergency Services, the NSW Rural Fire Service, ACT Emergency Services Agency, ACT Parks and Conservation Service, Country Fire Authority, Department of Energy, Environment and Climate Action Victoria, Tasmania Fire Service, SA Country Fire Service, Department of Fire and Emergency Services and Department of Biodiversity, Conservation and Attractions WA, and Bushfires NT.

6.8 Bushfire Risk Management Report

File Code	GV.MTG 6.5
Author	Karen Dore, Bushfire Risk Management Officer
Senior Employee	Mark Luzi, Director Statutory Services
Disclosure of Any Interest	Nil
Attachments	1. BRMO Report Dec23

PURPOSE

To brief the Committee on Shire of Mundaring progress against its Bushfire Risk Management Plan as per the Bushfire Risk Management Officer (BRMO) Quarterly Update 30 June 2023 (with amendments as at 5 September 2023).

ACTION

That the Committee notes and provides feedback on the BRMO Quarterly update 30 June 2023 (with amendments as at 5 September 2023).



Bushfire Risk Management Officer (BRMO)
Quarterly Update, 30 September 2023
 11/12/23 notations for LEMC

Key
 Up-to-date ●
 In progress ●
 Overdue ●

1. Bushfire Risk Management Plan (BRMP)														
<ul style="list-style-type: none"> Data updating <i>and collation</i>* continues. <p>345 344 Human Settlement “assets” mapped within Bushfire Risk Management System (BRMS). These range in size from a few adjacent properties to a subdivision (up to 300 properties).</p> <table border="1"> <thead> <tr> <th><i>Extreme</i></th> <th><i>Very High</i></th> <th><i>High</i></th> <th><i>Medium</i></th> <th><i>Low</i></th> </tr> </thead> <tbody> <tr> <td>87 86</td> <td>74 77</td> <td>101 99</td> <td>48 47</td> <td>35</td> </tr> </tbody> </table> <p>*The additional data being collated relates to Potential Entrapment Points and includes:</p> <ul style="list-style-type: none"> Shire of Mundaring, Bushfire Area Access Strategy (BAAS) Department Planning Lands and Heritage, Bushfire Area Vehicle Access Strategy (BAVAS) Main Roads WA, road classifications and traffic counts Bushfire Ready Group, resident and other local knowledge 					<i>Extreme</i>	<i>Very High</i>	<i>High</i>	<i>Medium</i>	<i>Low</i>	87 86	74 77	101 99	48 47	35
<i>Extreme</i>	<i>Very High</i>	<i>High</i>	<i>Medium</i>	<i>Low</i>										
87 86	74 77	101 99	48 47	35										
2. Stakeholder Relations														
<ul style="list-style-type: none"> Stakeholder Relations Plan Summary available on request. DBCA – 2024 Burn Program, meeting scheduled for December. Await DFES facilitation. DoE (DFES) – ongoing liaison with DFES Bushfire Risk Management Liaison Officer, collaborating via BRMS, including attendance at annual Principal’s Bushfire Forum. DPLH (DFES) – pre-season meeting held 23/06/23. MRWA – pre-season meeting held 24/08/23. WaterCorp – pre-season meeting held 11/07/23. <p>Other Agencies ‘as required’ and / or via Shire’s FHIO / FPO.</p>														
3. Community Engagement														
<i>Inform</i>	<i>Consult</i>	<i>Involve</i>	<i>Collaborate</i>	<i>Empower</i>										
<ul style="list-style-type: none"> ProPer Prep (Inform & INSPIRE) <ul style="list-style-type: none"> Short videos x 5: https://engage.mundaring.wa.gov.au/emergency-response-recovery Two additional short videos are being prepared in relation to Hazard Reduction Burning in readiness for next season. Social media campaign: underway (weekly prepared posts, updated branding). At Risk Communities (Involve) <ul style="list-style-type: none"> Successful, Disability Inclusive Emergency Preparedness (DIEP) workshop held on 11/09/23. DFES At Risk Program – proposal to utilise outcomes of above to further engage with aged care facilities / senior groups in relation to preparedness. Person-Centred Emergency Planning short course completed by BRMO and the Shire’s Community Engagement Coordinator. Advocacy to commence in 2024. Volunteer Recruitment (facilitate to Empower) Volunteer Recruitment campaign prepared in collaboration with all Brigades. Resources shared with Brigades and promotion underway. Focussed advertising to be undertaken in February 2024. Bush Fire Ready Groups (Collaborate) <ul style="list-style-type: none"> Preparedness advocate email list created (14 people). Successful, preparedness advocate ‘meet & greet’ session held 14/09/23. Successful, shared preparedness advocate/Brigade information stall facilitated at the Mundaring Rotary Markets on 10/09/23. Attended Darlington Bushfire Ready Street Contact pre-season meeting. 														

4. Mitigation Activity Funding (MAF)		
● 22-23 \$499,146.12	● 21-22 \$499,968.54	● 20-21 \$331,596.00
● 19-20 \$182,914.00	● 18-19 \$258,000.00	
<p>● MAF 23-24 Round 1, \$500k application, <i>complete and acquitted</i></p> <p>1: Lake Leschenaultia (west), mechanical works \$97k/firebreaks \$99k, 35 days, COMPLETE.</p> <p>2: Old Northam Rd (Liberton to Jason), mechanical works \$142k, 18 days, COMPLETE.</p> <p>3: Stoneville Rd (Bentley to Cameron), mechanical works \$79k, 10 days, COMPLETE.</p> <p>4: Heritage Trail (Seaborne to Stoneville), mechanical works, \$83k, 15 days, COMPLETE.</p>		
<p>● MAF 23-24 Round 2 \$240k application, <i>successful</i></p> <p>1: Coothallie Road (Reserve 35396), mechanical works \$90k, <i>quoted, works proposed between February and May 2024</i>.</p> <p>2: Cockatoo Drive (adjacent Yallambie), mechanical works, \$20k, <i>await quote, TMP in progress, works proposed January 2024</i>.</p> <p>3: Wattle Court / Gray Court (Reserve 41670), mechanical works, \$50k, <i>quoted, works proposed between February and May 2024</i>.</p> <p>4: Lake Leschenaultia (east) firebreaks, \$80k, <i>final quote to be procured late January, works to be scheduled prior to 31 May 2024</i>.</p>		
5. Other Funding Opportunities		
<p>● National Disaster Risk Reduction (NDRR) grants program</p> <ul style="list-style-type: none"> Submitted 29/05/23 (Ref: NDRR2324-014) Awaiting outcome (expected mid July 2023 delayed, January 2024). \$20,000 project, \$10,000 requested. Project: creation of a further ten informative localised property and personal preparation related videos, project plan underway. 		
<p>● All West Australians Reducing Emergencies Aware (AWARE) program</p> <ul style="list-style-type: none"> Submitted 20/09/23 (Ref: AWARE2324-018) <i>Awaiting outcomes (expected TBA)</i>. \$35,100 project, \$21,600 requested, \$13,500 in-kind contribution. Formal BAL Assessor training for relevant staff (6) to assist with community engagement in relation to personal preparedness, including retro-fitting older homes. 		
<p>● Disaster Ready Fund (DRF) Round Two (2024)</p> <ul style="list-style-type: none"> Likely to open in January and close in March, with funds available in July 2024. Expression of Interest (DRFEOI24-0004-XXX) "in progress". Grants from \$15,000 Several ideas currently under discussion. <ul style="list-style-type: none"> <i>Arena Generator, forwarded to Infrastructure</i> <i>Bushfire Area Access Strategy works</i> <i>Jane Brook and / or Wooroloo Brook management plan and works</i> <i>Safer Communities – Retrofit Assistance</i> <i>Emergency Response Trailer – Animal Welfare</i> <i>Static Water Tanks</i> <i>Partner with Toodyay, multi-layered walk through of an incident (video)</i> 		

6.9 Grant Funding Opportunities

File Code	GS.STA 5
Author	Adrian Dyson, Manager Community Safety & Emergency Management
Senior Employee	Mark Luzi, Director Statutory Services
Disclosure of Any Interest	Nil
Attachments	Nil

PURPOSE

To brief, and receive feedback from, the Committee on proposed grant applications under the All West Australians Reducing Emergencies (AWARE) program and the Disaster Ready Fund (DRF) program, as follows;

Program	Opening	Closing	Proposals
AWARE		September 2023	Awaiting funding announcement
DRF	December 2023	April 2024	Generator – Mundaring Arena (evacuation centre)
DRF			Static water supply tanks – bushfire response in non scheme areas
DRF			Emergency response trailer – animal emergency welfare
DRF			Review risk register, treatments etc.

Note; Further information on the AWARE and DRF grant programs is available via the State Emergency Management Committee website, <https://www.wa.gov.au/organisation/state-emergency-management-committee/disaster-ready-fund>

ACTION
That the Committee notes the Shire of Mundaring shortlisted grant proposals

7.0 URGENT BUSINESS (LATE REPORTS)

8.0 CLOSING PROCEDURES

8.1 Date, Time and Place of the Next Meeting

The next Local Emergency Management Committee meeting will be held on Friday 15 March 2024 at 10am in the Committee Room, Shire of Mundaring, 7000 Great Eastern Highway.

Meeting dates to follow, subject to change;

Friday 14 June 2024

Friday 13 September 2024

Friday 13 December 2024

8.2 Closure of the Meeting