

LOWER EYRE PENINSULA

PROVISIONAL BUSHFIRE MANAGEMENT AREA PLAN



Document Control

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Approvals

This document requires the following approvals:

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Related Documents

Documents and Standards referenced within this plan.

Version	Date	Name of Document	Author
–	2009	AS/NZS ISO 31000:2009 Risk Management - Principles and Guidelines	Standards Australia
-	2004	Emergency Management in Australia Concepts and Principles Manual 1	Emergency Management Australia

Glossary and Acronyms

Name	Description
Agencies	Refers to any State or Federal government entity that is the manager or owner of the land or asset.
APZ	Asset Protection Zone
AS/NZS ISO 31000:2009	AS/NZS ISO 31000:2009 Risk Management - Principles and Guidelines. The agreed international standard that dictates the fundamental principles behind risk management.
Asset Owner and/or Land Manager	<p>Asset Owner and/or Land Manager is the person, organisation or agency that owns the asset and/ or the person, organisation or agency responsible for the care or management of an asset or land. The responsibility may be defined by ownership, lease or contract. Also refer to the <i>Fire and Emergency Service Act 2005</i> for more information.</p> <p>For BMAP purposes where the term Asset Owner and/or Land Manager is used - this is to convey that it is the owner or the person managing the asset or land that is responsible for certain actions.</p>
Asset Treatment Strategies	Asset treatment strategies are allocated to mitigate individual risks within the BMAP Treatment Register and are designed to mitigate specific elements of the risk i.e. the radiant heat, susceptibility of the asset to spark and embers, the intensity of the bushfire and/or the potential of a bushfire starting and establishing. Asset treatment strategies are to be undertaken by asset owners and/or land managers and will be documented in an implementation plan which documents how the work will be undertaken.
BBZ	Bushfire Buffer Zone
BMA	Bushfire Management Area typically defined by a Council's boundary.
BMAP	Bushfire Management Area Plan as defined under S73A of the <i>Fire and Emergency Services Act 2005</i> .
BMC	Bushfire Management Committee as defined under the <i>Fire and Emergency Services Act 2005</i> S72A.
BRIMS	A systematic process that identifies assets at risk from bushfire, assess that level of risk, captures current and proposed treatments, treatment owners and time frames for implementation, and provides a framework for continuous review and monitoring of the risks and their treatments.
Bushfire Hazard	The vegetation that poses a level of threat to human life, economic and cultural assets or ecological assets. The potential severity of a bushfire threat is determined by fuel load, fuel arrangement and topography under a given climatic condition.
Bushfire Risk	The concept of risk has three elements: a) the likelihood of a bushfire igniting and spreading to the hazard adjacent to and threatening an asset; b) the observable event of the hazardous vegetation igniting and c) the consequences to the asset from a bushfire event.
Consequence	The outcome or impact of damage to the asset from a bushfire event occurring.
DEWNR	Department of Environment, Water and Natural Resources.
FBD	Fire Ban District
FDI	Fire Danger Index
FDR	Fire Danger Rating

Name	Description
FDS	Fire Danger Season
FES Act	Fire and Emergency Services Act 2005
FMP	Fire Management Plan – The plans that are produced by the Department Environment Water and Natural Resources in relation to the management of their parks and reserves for hazard reduction works and ecological enhancement.
FPO	Fire Prevention Officer as defined in the FES Act.
Land Manager	<p>The person, organisation or Agency responsible for the care or management of an asset or land. The responsibility may be defined by ownership, lease or contract. Also refer to the Fire and Emergency Service Act 2005.</p> <p>For BMAP the term Asset Owner and/or Land Manager is used - this is to convey that it is the owner or the person managing the asset or land is responsible for certain actions.</p>
Landscape Treatment Strategies	The overarching bushfire prevention and preparedness activities that are generally undertaken by agencies, organisations and communities. They broadly address the bushfire risk to assets and, thereby, reduce the overall level of bushfire risk to the Region and State. Each of the treatment strategies will reduce either the likelihood and/or the consequence of the bushfire depending on the targeted outcomes of the programme.
LEP	Lower Eyre Peninsula
Likelihood	The chance or cause of a bushfire igniting and spreading to the hazard adjacent to and threatening an asset.
NERAG	National Emergency Risk Assessment Guidelines
Risk Elements	<p>The parts of the risk.</p> <p>The Risk comprises of the likelihood and the consequence of a bushfire impacting for each of the identified assets.</p> <p>ELEMENTS - Risk elements may be comprised of more than one element such as for likelihood there are two elements: (1) potential ignition sources and (2) ability to establish, spread and intensity. These may be referred to as elements.</p>
SACFS	South Australian Country Fire Service
SAPOL	South Australian Police
SBCC	State Bushfire Coordination Committee as defined under the Fire and Emergency Services Act 2005, s71.
Treatment Actions	The work or actions as stipulated in the Treatment Implementation Plan undertaken to carry out the Treatment Strategies.
Treatment Implementation Plan	A plan that is developed by those responsible for undertaking the Treatment Strategies.
Treatment Strategies	Mitigation programmes stipulated by the BMC to address an identified bushfire risk. These strategies provide direction in developing appropriate treatment actions that will inform the Treatment Implementation Plan.
ZEMP	Zone Emergency Management Plan

1 INTRODUCTION

1.1 Purpose

Whilst large areas of the State can be affected by bushfires, the greatest losses of human life, property and infrastructure occur on the fringes of regional centres and towns. Understanding these risks through a systematic risk management process is an important step in prioritising and targeting localised treatment strategies to minimise the destruction from bushfire and the resultant adverse impacts on people, property and communities. Bushfire risk management also provides essential inputs into State and Local Government planning, the application of building codes, fuel load management, planning for emergency management response and prioritising of resources for sound mitigation decisions during an emergency.

Therefore the purpose of this plan is to assess the existing bushfire risk to assets and the adequacy of current control measures within the Lower Eyre Peninsula (LEP). It is also to identify additional treatment strategies that may address specific levels of risk for an individual asset as well as broadly influencing the overall level of risk to the region and State. The implementation of these treatment strategies could potentially contribute to an overall improvement in the resilience of the wider community and those assets identified in the plan.

1.2 Objective

A fundamental aspect of bushfire preparedness and community safety during a bushfire comprises a shared responsibility by the State, local councils, asset owners (public and private), and the broader community who all contribute to mitigating bushfire risk for themselves and each other. Bushfire preparedness and prevention is a shared responsibility and people must be proactive in assessing their own bushfire risk and take appropriate actions ahead of every Fire Danger Season (FDS) to minimise the bushfire risk for themselves and their neighbours.

The objective of this plan is to:

- a. Document the outcome of the LEP Bushfire Management Committee (BMC) identification and assessment of the bushfire risk to assets within the LEP Bushfire Management Area (BMA);
- b. Capture the current and future mitigation treatment strategies to manage the risks ;
- c. Identify those land managers and/or agencies responsible for implementing mitigation treatment strategies;
- d. Support and inform planning at a local level; and
- e. Inform stakeholders of the potential bushfire risk within the LEP BMA.

1.3 Scope

The Fire and Emergency Services Act 2005 (FES Act) requires each BMC to prepare and implement a Bushfire Management Area Plan (BMAP). This plan will act as a tool for the coordination of Local and State Government bushfire policy and management.

Each BMAP will:

- a. Identify, map and assess assets at risk of bushfire across the BMA.
- b. Record treatment strategies to reduce the overall risk of bushfire to identified assets and the wider community.
- c. Identify land managers or agencies responsible for the implementation of the treatment strategies.

1.3.1 Constraints, Assumptions and Exclusions

The risk management process used by the Bushfire Management Committee is consistent with AS/NZS ISO 31000:2009 Risk Management - Principles and Guidelines and the National Emergency Risk Assessment Guidelines (NERAG), October 2010.

Weather conditions play a significant role in the likelihood of a bushfire occurring and its behaviour and intensity should it occur. Therefore, all risk assessments assume a Fire Danger Rating (FDR) of Extreme (Fire Danger Index (FDI) ≥ 100). However, consideration is also given for plausible fire weather conditions that could occur on days when the weather conditions are below an FDR of Extreme or on fire weather days outside the FDS.

Formulas and data used during risk assessment workshops and in the development of this plan have been based on the best available information at the time of development and may be subject to change over time as more accurate data and information becomes available.

Risks were measured in terms of the natural state (typically 7-10 years) of the hazard (vegetation), irrespective of recent fire events.

Please note that due to this plan not currently including assets that are prescribed as ecological, this plan will only be considered for implementation on a provisional basis. Once those assets are appropriately determined and included in this plan, the status of this plan will then be considered for complete approval.

1.4 Legislation

1.4.1 Fire and Emergency Services Act

A BMAP is a requirement under the FES Act S73A. In particular S73A(1) requires the BMC to prepare and maintain a BMAP for its area. S73A(3) outlines that the BMAP must:

- a. Identify existing or potential risks to people and communities within its area from bushfire;
- b. Outline strategies to achieve appropriate hazard reduction associated with bushfire management within its area, especially through a coordinated and cooperative approach to bushfire prevention and mitigation;
- c. Identify action that should be taken by persons, agencies and authorities to achieve appropriate standards of bushfire management within its area;
- d. Without limiting paragraphs (b) and (c), establish or adopt principles and standards to guide or measure the successful implementation of bushfire management strategies and initiatives; and
- e. Include or address other matters prescribed by the regulations or specified by the State Bushfire Coordination Committee.

Under S73A(5) the plan is to be reviewed at least once every four years by the BMC or at the direction of the State Bushfire Coordination Committee (SBCC).

1.4.2 Local Government Act

Section 7 of the Local Government Act 1999 specifies the principle functions of a Council. In particular the functions that are specific to this plan include:

- S7(d) to take measures to protect its area from natural and other hazards and to mitigate the effect of such;
- S7(f) to provide infrastructure for its community and for development within its area (including infrastructure that helps to protect any part of the local or broader community from any hazard or other event, or that assists in the management of any area).

Additionally Section 8(d) of the Local Government Act 1999 outlines the way in which Councils are required to undertake their roles and functions. It specifies the need for consistency of all plans, policies and strategies with Regional, State and National objectives and strategies concerning the economic, social, physical and environmental development and management of the community. This has specific relevance for emergency management planning, and hence this plan.

1.4.3 Emergency Management

The State Emergency Management Act 2004 S3 specifies that an 'emergency means an event (whether occurring in the State, outside the State or in and outside the State) that causes, or threatens to cause:

- a. The death of, or injury or other damage to the health of, any person; or
- b. the destruction of, or damage to, any property; or
- c. a disruption to essential services or to services usually enjoyed by the community; or
- d. harm to the environment, or to flora or fauna.

This is not limited to naturally occurring events (such as earthquakes, floods or storms) but would, for example, include fires, explosions, accidents, epidemics, sieges, riots, acts of terrorism or other hostilities directed by an enemy against Australia.' This plan also has application in the context that a bushfire could create an emergency event.

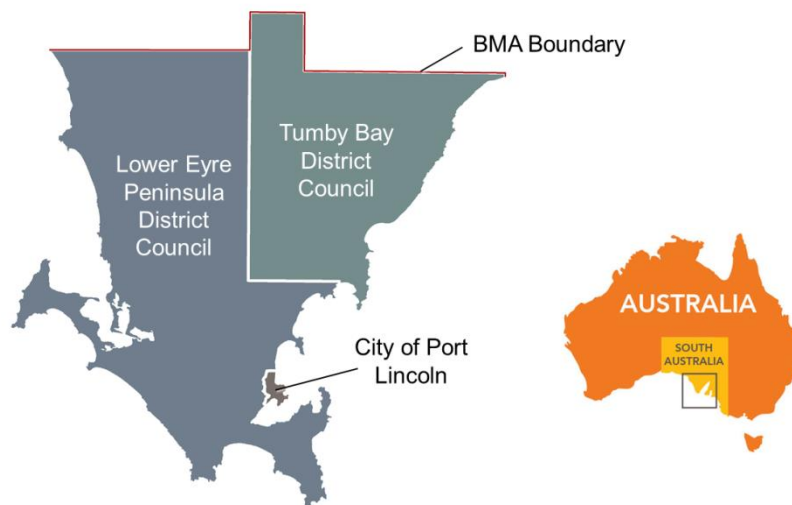
At a regional level, this plan will provide valuable input into the Zone Emergency Management Plan (ZEMP) in relation to rural fire.

2 LOWER EYRE PENINSULA BMA

2.1 Location

The Lower Eyre Peninsula Provisional Bushfire Management Area Plan has been developed for the southern end of the Eyre Peninsula in South Australia and consists of the following areas:

- Tumby Bay District Council
- Lower Eyre Peninsula District Council
- City of Port Lincoln
- Reserves listed in the Department of Environment Water and Natural Resources Fire Management Plan, Reserves of the Southern Eyre Peninsula 2009-2019.



2.2 Topography

The main topographical features of the BMA are Koppio Hills (or Lincoln uplands) towards the southeast, Marble Range and Mt Greenly to the west.

Cleared cropping and grazing land lies west of the open sandy beaches on the east coast. This is followed by steeper undulating hills and valleys of the Koppio Hills. Areas of the remnant native vegetation are scattered throughout the hills, with corridors of native vegetation next to most of the dirt roads.

Beyond the Koppio Hills area, the farmland flattens out and native vegetation is less frequent, before arriving at the Marble Range to the west. The range is covered mostly in low mallee scrub to heath.

Further west, open farming land gives way to coastal regions interspersed with low mallee scrub. North west is a series of salt lakes, many of which are often dry.

The southern cliffs and beaches of the Peninsula are bordered by land which is predominantly limestone and mallee scrub. Large areas are water reserve and the Lincoln National Park, while Whalers Way and adjoining scrubland is privately owned.

2.3 Land Use

The BMA has strong links with its markets and produce is regularly sent interstate and overseas by road, air and sea. In order of economic importance, the region's top three industries are agriculture, fishing and tourism. Collectively those three sectors are worth well in excess of half a billion dollars each year to our region. Eyre Peninsula produces 33% of South Australia's grain harvest and 65% of South Australia's seafood harvest, yet it comprises only 2.3% of the state's population.

Agriculture:

- Sheep, meat and wool
- Prime beef production and processing
- Grain, vegetable seeds and oil seeds

Aquaculture:

- Tuna
- Oysters
- Barramundi
- Abalone
- Marron
- Mussels
- Yellowtail Kingfish

Tourism facilities:

- Strong tourism focus, particularly within Coastal areas, where camping and fishing are popular activities.
- Includes Whalers Way and Glen Forest Tourist Farm among others.

2.4 Land Tenure

Private:

- Allotments in towns and settlements
- Commercial Business Premises
- General farming and primary production properties
- Aqua-cultural Leases – land and sea based
- Heritage Areas
- Wind Farm

State Government:

- Department of Environment Water and Natural Resources (DEWNR) Reserves
- SA Water Collection Basins
- PIRSA aqua-cultural leases
- Utilities substations and infrastructure

Council:

- Road Reserves
- Community Lands
- Coastal Reserves
- Caravan Parks
- Camping Reserves

Aboriginal Lands Trust:

- Wanilla Forest Reserve cared for by Port Lincoln Aboriginal Community Council and is the only commercial forest reserve in the BMA.

Genesee Wyoming Australia Pty Ltd:

- Care and control of the railway system operating throughout the BMA.

National Parks, Conservation Parks and Wilderness Areas:

- Covering approximately 13.3% of the land area and are predominantly native vegetation.

Water Reserves:

- Consists mostly of mallee scrub with some grassland.

Towns and Infrastructure:

- The settlements are served by a network of sealed highways and well-maintained open surface secondary roads.
- Viterra terminal in Port Lincoln.
- Community facilities in and around settlements.
- STEDS System in Cummins, North Shields, Coffin Bay and areas of Tulka.
- Electrical substations, transmission lines and telecommunications towers and exchanges.
- Wind farm at Cathedral Rocks.

Rural Living Zones:

- Rural living allotments area scattered throughout the Lower Eyre Peninsula BMA.

2.5 Climate

2.5.1 Temperature

The temperature is typically Mediterranean in the southern coastal areas. This means hot dry summers and wet mild winters are experienced. In summer the temperature ranges between 24 - 35°C, although on extreme days the temperature can reach ≥40°C. The average winter maximums range between 16 - 18°C and the winter minimums tend to fall between 5 - 8°C.

2.5.2 Wind and Weather Patterns

From December to March, the strongest and most frequent winds are from the south-east through to the south-west often reaching 30-40km per hour due to a strong sea breeze. In April to November the winds swing more westerly with the strongest winds being found near the coast. The effect of coastal winds is generally limited to 75km inland. This distance may be affected by coastal ranges acting as a wind break.

Northerly winds during summer are of the greatest concern because they are usually quite strong and are accompanied by high temperatures and low humidity. Sudden changes from northerly winds to cool gusty southerlies are not uncommon.

2.5.3 Dry Lightning History

Thunderstorms with associated lightning usually occurs around November to December and then again during March and April each year. Lightning is a contributor to bushfire ignitions in the region.

2.5.4 Rainfall

The majority of the rainfall occurs between April and October. The Southern areas occasionally experience “wet droughts” where too much rain effects primary production.

Port Lincoln and Wanilla Reserve receive on average 550mm and 613mm of rainfall. However, there are large monthly and seasonal variations in rainfall, which affects agriculture and land use even on the lower parts of Eyre Peninsula.

2.6 Fire Ban District (FBD) and Bushfire Season

The BMA encompasses the Lower Eyre Fire Ban District.

Fire Danger Season – The Fire Danger Season dates are set annually by the SACFS Chief Officer based on recommendation from the Bushfire Management Committee. These dates are generally from the 1st of November to the 15th of April but may be varied according to climatic influences leading up to summer.

Effects: Port Lincoln, Coffin Bay, Tumby Bay, Port Neill, Cummins.

2.7 Population and Demographics

Port Lincoln is the main City within the BMA with approximately 14,000 residents. The surrounding settlements and townships that support the rural agricultural areas have smaller populations. There are a number of coastal settlements that have small populations (e.g. 200 residents in Pt Neill and 1500 in Tumby Bay) during winter, escalating substantially during the summer to almost triple the population.

3 ROLES AND RESPONSIBILITIES

3.1 Lower Eyre Peninsula (LEP) Bushfire Management Committee

The LEP BMC has been established by the State Bushfire Coordination Committee (SBCC) under the FES Act. As previously stated under (S73A(1)) the LEP BMC must prepare and maintain a BMAP for its Bushfire Management Area (BMA). This plan takes an unbiased landscape view of the strategic bushfire management needs of the BMA and is, therefore, boundary or tenure blind.

The key function of the LEP BMC is to bring together all relevant agencies and organisations with a direct interest in bushfire management, who will undertake a coordinated and collaborative approach to the planning and implementation of mitigation treatment strategies. This will orchestrate the improvement of bushfire preparedness and prevention for the wider community. Additionally the roles and responsibilities of member organisations of the LEP BMC will include:

- a. Promoting the coordination of policies, practices and strategies relating to bushfire management activities within its area;
- b. Preparing and keeping under review a BMAP for its area and ensuring that the BMAP is consistent with the SBMP;
- c. Overseeing implementation of its BMAP and reporting to the SBCC;
- d. Initiating or preparing the development of plans, policies, practices or strategies to promote effective bushfire management within its area;
- e. Convening with local or regional forums to discuss issues associated with bushfire management within its area, including working with local communities to promote and improve effective bushfire management;
- f. In the exercising and performance of their powers and functions:
 - i. Having due regard to the impact of their actions on the environment; and
 - ii. Seeking to achieve a proper balance between bushfire prevention and proper land management in the country; and
- g. Performing any other functions assigned by the Minister or the SBCC.

3.2 Community

With people choosing to live, work, visit and holiday in bushfire prone areas there is an emphasis on taking personal responsibility for one's own safety. Bushfire prevention and preparedness is not just the responsibility of the State government, local councils or fire agencies but also individuals, asset owners and managers (public and private), and the broader community. This BMAP assumes that all persons in the LEP BMA are responsible for the mitigation of the bushfire risk for themselves, their neighbours and their community and therefore need to understand and partake in bushfire prevention and preparedness. In particular, legislation (FES Act) states that owners of land must take reasonable steps:

- a) to prevent or inhibit the outbreak of fire on the land; and
- b) to prevent or inhibit the spread of fire through the land; and
- c) to protect property on the land from fire; and
- d) to minimise the threat to human life from a fire on the land.

To ensure that the community is observing these bushfire prevention and management activities the fire prevention officers employed by the councils within the LEP BMA, are required in their roles by legislation (FES Act) to not only assess the extent of bushfire hazards within the area but to also provide advice to owners of property within the community in respect of required bushfire prevention and preparedness activities.

4 RISK ASSESSMENT

4.1 Weather Context

When the bushfire risk assessment was undertaken for this plan, the weather conditions were defined as those the local area would experience on a day with a FDR of Extreme ($FDI \geq 100$). A FDR of Extreme means that a bushfire, once it takes hold, would be unpredictable, fast moving and difficult to bring under control. Such conditions would be characterised by dry fuel, high temperatures, low humidity and wind speeds greater than 40 km/h. Through their local knowledge of fire weather and fire behaviour workshop attendees and other stakeholders are able to determine which assets would be at risk and aid in the determination of likelihood and impact of bushfire.

4.2 Assets at Risk from Bushfire

A variety of assets deemed to be at risk of bushfire have been identified and assessed by either a BMC working group or in the case of economic assets by agencies or organisations who manage the infrastructure or businesses that are significant to the region. All the assets at risk in this plan are geographically identified and presented as either, a point, line or polygon in the bushfire risk map that form part of this plan. This plan also includes all relevant information relating to the risks as well as existing and proposed treatment strategies associated with each asset. The planning process allows for a single repository for all current and future assessments to be managed and maintained centrally within the LEP Bushfire Management Area.

The assets identified are divided into four classes: Human Settlement, Economic, Cultural Heritage and Ecological. Each of these four asset classes is further broken down into asset categories as shown in **Table 1**.

Asset Class	Asset Category
Human Settlement	<ul style="list-style-type: none">• Residential• Special Fire Protection• Other
Economic	<ul style="list-style-type: none">• Infrastructure• Commercial or Industrial
Cultural Heritage	<ul style="list-style-type: none">• Community• Historic• Other
Ecological (flora and fauna)	<ul style="list-style-type: none">• Locally Important• Endangered• Vulnerable

Table 1 Asset Classes and Categories included in the BMAP

Human Settlement

Human Settlement assets are those assets which are likely to be occupied by people and may be at risk from bushfire. Therefore, there is the potential for the loss of human life.

Roads may be considered an asset because of their potential to be used for evacuation or relocation and firefighting response during bushfire.

Economic

Economic assets are those assets of significance to the local community, region, State or Nation which are potentially at risk from the impact of bushfire. They will not only include commercial and industrial assets but also infrastructure providing utilities such as energy, transport and telecommunications.

Cultural Heritage

Cultural Heritage assets identified are those of significant cultural value arising from the early occupation of South Australia by non-indigenous settlers. This category will also include assets that are of local community value including halls, churches, institutes and recreational facilities.

On advice the Department of the Premier and Cabinet – Aboriginal Affairs and Reconciliation Division, to prevent any damage, disturbance or interference with any Aboriginal site or object, assets of aboriginal heritage will not be identified in this plan.

Ecological

Ecological assets are located throughout each BMA, and are not just limited to formal protected areas. Ecological assets that will be considered in the planning process include:

- Large areas of native vegetation – these areas are important for biodiversity conservation (e.g. providing habitat), and may be made up of formally protected reserves, Crown lands, other lands managed by government agencies, roadside vegetation, private protected areas (Heritage Agreements under the *Native Vegetation Act 1991*) and other private lands.
- Native species and ecological communities of conservation significance. ‘Of conservation significance’ is used to describe rated populations or species of flora and fauna as well as vegetation communities. These may be:
 - nationally rated, that is, listed as Threatened (with a rating of Extinct, Critically Endangered, Endangered or Vulnerable) under the federal *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act)
 - South Australian rated, listed as Threatened (with a rating of Endangered, Vulnerable or Rare) under the *National Parks and Wildlife Act 1972*, schedules 7, 8 and 9
 - provisionally listed as Threatened (with a rating of Endangered or Vulnerable) in South Australia, that is, included on the unpublished *DEWNR Provisional List of Threatened Ecosystems of South Australia* (DEH 2005b).
- Water catchment areas.
- Revegetation projects.
- Significant habitat elements (e.g. tree hollows).

Ecological assets are not currently included within this provisional LEP BMAP. The LEP BMC and the State Bushfire Coordination Committee acknowledges the importance of including ecological assets in bushfire risk management and are committed to including those assets in the final LEP BMAP.

In the interim the current list of ecological assets, risk mitigation works and management strategies pertaining to the LEP BMA are in the DEWNR Fire Management Plan *Reserves of the Southern Eyre Peninsula Fire Management Plan (DEH 2009)*. Please note, this DEWNR Fire Management Plan only considers DEWNR-managed lands and certain privately owned Heritage Agreements rather than all tenures for the LEP BMA.

4.3 Bushfire Risk Assessment

In terms of expressing risk in a bushfire context, there are three components that make up a bushfire risk:

- a. There is an observable bushfire event of the hazardous vegetation (hazard) adjacent to an asset igniting and impacting on the asset;
- b. There is a likelihood of a bushfire igniting in the surrounding landscape and spreading to the hazardous vegetation adjacent to the asset; and
- c. There is the consequence of the observable bushfire event impacting on the asset.

A number of risk elements need to be considered to determine the likelihood and consequence of bushfire impact for each of the identified assets.

4.3.1 Likelihood

The two elements that contribute to the likelihood of a bushfire impacting an asset include the *potential ignition sources* and the *ability to establish, spread and intensity*.

Potential Ignition Sources

When considering the potential ignition sources, it was important to consider both the historical evidence of past bushfires, scarring within the surrounding area (approx. 15-20km) and the current and future land use in the area. Local knowledge is invaluable in this determination. As part of this assessment the Australian Incident Reports System (AIRS) data from SACFS for known ignitions is used to gain a broad understanding of fires that have occurred in the Bushfire Management Area.

Ability to Establish, Spread and Intensity

This assessment considers a bushfire's ability to establish, spread and its intensity, and the direction in which the fire is likely to travel on a day when the FDR is Extreme. How the fire was likely to develop was based on available fuel structure, the topography, the prevailing weather (with a FDR of Extreme) and the ability of firefighters to suppress the bushfire. Local knowledge of vegetation, fire behaviour, fire weather, firefighting conditions and the ability to suppress was invaluable in this determination.

4.3.2 Consequence

The two elements that contribute to the consequence of a bushfire are the *Bushfire Attack Level – BAL* (measuring the radiant heat) and either the *susceptibility of human settlement assets* or *susceptibility of built structures*.

Bushfire Attack Level (Radiant Heat)

Determining the bushfire attack level is measuring the radiant heat that is likely to impact on an asset based on applying the AS3959 Australian Standard construction of buildings in bushfire-prone areas. This assessment requires classifying the type of vegetation hazard as per the standard, the separation distance of the asset from that vegetation and the effective slope the fire will travel onto reach the asset.

Susceptibility of Human Settlement Assets

This assessment refers to the susceptibility of the building occupants to bushfire and therefore, the potential for the loss of human life. It is not the assessment of the structures or the built environment itself.

This assessment is based on the combination of three elements; the people who live in the area, the preparedness level of the assets and environmental factors.

Susceptibility of Built Structures (Economic and Cultural Heritage Assets)

The susceptibility of a built structure being adversely impacted by bushfire is dependent on the type of construction and material used as well as its general condition.

5 TREATMENT STRATEGIES

Treatment Strategies are activities used to modify the characteristics of a hazard (bushfire) to reduce either the likelihood and/or impact of bushfire on a particular asset. For the purpose and intent of the BMAP, the BMC will allocate mitigating treatment strategies to each of the assets identified or, on a broad basis, treatment strategies that will potentially reduce the risk to a number of assets or across the BMA. To facilitate this, the SBCC has endorsed a suite of treatment strategies that affect both assets and across the landscape.

5.1 Asset Treatment Strategies

Asset Treatment Strategies are allocated to mitigate individual risks within the Asset Risk and Treatment Strategies Register and are designed to mitigate specific elements of the risk i.e. the radiant heat, susceptibility of the asset to spark and embers, the intensity of the bushfire and/or the potential of a bushfire starting and establishing. Asset Treatment Strategies to be undertaken by asset owners and/or land managers will be documented in an implementation plan which details how the work will be undertaken.

5.2 Landscape Treatment Strategies

Landscape Treatment Strategies are the overarching bushfire prevention and preparedness activities that are generally undertaken annually by agencies, organisations and communities. They broadly address the bushfire risk to assets and, thereby, reduce the overall level of bushfire risk in the BMA. Each of the treatment strategies will reduce either the likelihood and/or the consequence of bushfire depending on the targeted outcome of the programme.

For a full list of allocated treatments strategies please refer to the Asset Risk and Treatment Strategies Registers of this plan.

5.3 Treatment Strategies Suite

5.3.1 SAPOL Operation NOMAD

The potential and actual harm caused to the community from arson and bushfires continues to be an important area of focus for South Australian Police (SAPOL). Operation Nomad is a nationally recognised crime prevention programme using targeted SAPOL activities to reduce the incidence and severity of fires in South Australia caused by deliberate, reckless or careless human behaviour.

5.3.2 Community Engagement

Community education and engagement activities can extend from simple information provision to extended training and empowerment programmes. These activities can be, and are, undertaken by many different groups (CFS, MFS, local councils, SAPOL, Primary Producers SA, Red Cross, etc.). The type of programme or information that needs to be provided is dependent on the audience and their level of risk. Research has shown that information provision on its own, whilst important, does not lead to a sufficient level of planning and preparation. Community engagement programmes have the potential to achieve positive outcomes at both the individual (resident, household, etc.) and community levels, provided they are planned, well implemented and resourced appropriately.

5.3.3 Policy, Standards and Codes of Practice

The Policies, Standards and Codes of Practice refer to current overarching bushfire management practices, performance measures and desired outcomes of the fire management activities on private and public lands. They provide a framework for the safe and effective management of potential ignitions sources and fire on private and public land in South Australia.

5.3.4 Firebreaks and Fire Access Tracks

Firebreaks and fire access tracks are strategic bushfire management tools which may be implemented as measures to assist with bushfire mitigation or suppression. A firebreak is an area or strip of land where vegetation has been removed or modified to reduce the risk of fire starting, and reduce the intensity and rate of spread of fires that may occur. A fire access track is designed, constructed and maintained for the safe passage of firefighting vehicles undertaking fire suppression activities. Whilst firebreaks and fire tracks may be constructed or designed for a specific purpose, it does not necessary exclude a fire track to also act as a fire break, or vice versa, in some instances.

5.3.5 Prescribed Burning

Prescribed burning is the controlled application of fire to a particular landscape. The aim is to strategically manage bushfire fuel hazards to help reduce the intensity of bushfires, help prevent a bushfire spreading to communities and assets and ultimately save lives and property.

As well as being used as a treatment for reducing bushfire fuel hazards across the landscape, prescribed burning can also be utilised for ecological benefits. The use of burning for ecological purposes aims to monitor appropriate fire regimes required for vegetation management (e.g. species, ecological community and/or structural diversity), catchment and woody weed management and/or fire exclusion.

Currently, the State Government agencies of DEWNR, Forestry SA and SA Water are the only organisations which use fire in the native vegetation landscape; however, there is a valid argument for private owners of large tracts of native vegetation to also incorporate fire into the management of their land.

5.3.6 Bushfire Buffer Zones (BBZ)

A Bushfire Buffer Zone (BBZ) is an area of fuel-reduced vegetation that aims to provide a buffer to reduce the spread, intensity and potential spotting from a bushfire. The works associated with the establishment of a BBZ are focussed on reducing the amount of fine fuels and ensuring there is no continuous fuel structure between surface, near surface, elevated and canopy fuels.

5.3.7 Asset Protection Zones (APZ)

An Asset Protection Zone (APZ) is a heavily managed area of land adjacent to an asset with the intention to reduce the impact of bushfire on that asset. Radiant heat is the most common cause of death in bushfires and affects people (health and decision making), animals and structures whilst ember attack on properties is the leading cause of house loss during a bushfire. By introducing an APZ, it will provide a separation between a bushfire hazard and the asset, preventing direct flame contact, reducing the effects of radiant heat and minimising ember attack. This may apply to a group of similar residential properties or along a boundary where the hazard exists, commercial or industrial asset or infrastructure. It may also be used within the boundary of a property to form part of a property's preparedness activities.

5.3.8 Property Preparedness

Property preparedness relates to action taken by landholders to reduce the risk of bushfire impacting on a house or other buildings. The primary focus of property protection should be the reduction in the quantity of bushfire fuels adjacent to assets to the risk of structures being damaged or ignited by direct flame contact or the intense heat radiated from the fire front. It will also reduce the risk from wind-blown sparks and embers that are generated by bushfires. If the occupants plan is to stay and defend their home during a bushfire, having a well prepared property is essential.

5.3.9 Bushfire Prevention Activities Conducted by a Council Fire Prevention Officer

Councils and Fire Prevention Officers undertake fire prevention activities as outlined in the South Australian Fire and Emergency Services Act and Regulations 2005. Bushfire prevention activities undertaken by Fire Prevention Officer include:

- Assessing the bushfire hazard throughout the District
- Co-ordinating bushfire mitigation strategies throughout the District
- Assisting the council in providing advice and information to Bushfire Management Committee
- Community engagement/education
- Developing local standards in relation to bushfire prevention.

5.3.10 Council Planning and Development Policy and Standards

A key objective of planning and development policy and standards within a council is the consideration of protection from bushfire to ensure the safeguarding of human life and protecting the loss of assets including infrastructure, the region's cultural heritage (indigenous and non-indigenous) and ecological assets.

Although not currently in place, it should be noted that in order for this strategy to be embedded in Development Plan Policy (including Objectives, Principles of Development Control and Complying/Non complying lists) there may be a requirement for a Development Plan Amendment by the Minister or by each Council requiring new a policy to be written.

5.4 Amendments to the Lower Eyre Peninsula Bushfire Management Plan

Once BMAP has been approved by the SBCC, treatment implementation plans will need to be developed by the asset owners and/or land managers.

The BMC in conjunction with the asset owners and/or land managers are responsible for the development of the implementation plans in order to document and report how the chosen risk treatment strategies and their associated activities will be implemented.

An implementation plan template will be available to assist the BMC together with asset owners and/or land managers to document and report how the chosen risk treatment strategies and their associated activities will be implemented.

These plans should include:

- a. The Mitigation Actions for each Treatment Strategy
- b. Responsibility for treatment implementation
- c. Resource requirements (people and equipment)
- d. Timeframes.

The Treatment Implementation Plans are the responsibility of the asset owner and/or land manager and will be made available to the BMC but may not be available to the public.

6 REVIEWING, MONITORING, ASSESSING AND REPORTING

6.1 Reviewing

As stipulated in the FES Act 2005 this BMAP must be reviewed and updated within each successive four year period from the approval date of the original plan. The LEP BMC will also account for any changes in context or risk on an ongoing or regular basis due to:

- Accepted risk levels becoming unacceptable
- Changes in circumstances or assessment criteria
- Additional information becomes available
- Changes in social, political or legislative/regulative environments
- Changes to the BMC area or organisational responsibilities.

6.2 Monitoring

The BMC will be required to monitor progress towards the completion of the treatment works listed in the BMAP, and the timeliness of the works.

This will include:

- Performance and success measures
- Reporting and monitoring procedures.

6.3 Assessing

The BMC will monitor and assess the effectiveness of existing and new treatments in reducing the risk to an acceptable level once they have been implemented.

6.4 Reporting

The LEP BMC is required to report annually to the SBCC on its progress in implementing the bushfire risk management treatment strategies identified in this plan.

The asset owners and/or land managers are required to report on the progress of implementing the treatment strategies to ensure that the BMC is able to measure and monitor the implementation of the plan.

7 REGISTERS

7.1 Overview of Risk and Treatment Strategy Registers

The risk and treatment strategy registers and their supporting treatment plans are current as of the date this document was approved. However, due to the nature of risk being dynamic the BMC will monitor and update the risks and the treatment status once the implementation of mitigating controls has been completed or should the level of risk change. The information pertaining to each risk is to be maintained by the BMC on the secure Bushfire Risk Intelligence Management System (BRIMS) maintained by the SACFS Bushfire Management Planning Unit.

The registers and the maps detailing risk ratings and treatment strategies are included as attachments to form the complete plan.

7.2 Landscape Treatment Strategies Register

The Landscape Treatment Strategies Register details the strategies that will be applied across the LEP BMA including the planned timelines for implementation and who is responsible.

7.3 Asset Risk and Treatment Strategies Register

This register lists the description and location of all assets identified within the BMC as well as the results of decisions made for each risk assessment criteria and the overall resulting risk rating that has been determined for each asset. This register also details the treatment strategies that have been allocated to each asset, including planned timelines for when the treatment strategies are to be implemented and who is responsible.

