Government of South Australia

STATE BUSHFIRE COORDINATION COMMITTEE

Fire Management Zone Standard and Guidance for Use

This document defines the standards for the establishment of Fire Management Zones, and provides some guidance for use within an approved fire management plan in South Australia

Fire Management Zone Standard and Guidance for Use

This Standard has been prepared by the South Australian State Bushfire Coordination Committee (SBCC) to support the implementation of the State Bushfire Management Plan.

The South Australian Country Fire Service (CFS) has issued this Standard on behalf of the South Australian SBCC.

Recent Revision History:

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Distribution List:

1. State Bushfire Coordinating Committee
2. Ecological Technical Reference Group
3. South Australian Country Fire Service
4. Bushfire Management Committees
5. Department for Environment and Water
6. South Australian Forestry Corporation
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8. Local Government Association (for distribution to Councils)
9. Primary Producers SA
10. Conservation Council of SA

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Name

Mark Jones, Chair, SBCC

Signature

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Contents

1 INTRODUCTION

In South Australia, a Fire Management Zone (FMZ) is a strategic management approach defined spatially through approved strategic fire management planning. As a fire management strategy, FMZs identify where fire management activities are approved to occur, and where they should be targeted / prioritised. FMZs provide a coordinated and consistent approach to bushfire risk mitigation and land management, and support the relevant fire and land manager/s by defining the minimum requirements an area must meet to comply with the relevant FMZ category. FMZs also determine the type of treatment activities that are permissible.

FMZs are consistent with recommendation 6.3 in the Council of Australian Governments' (COAG) National Inquiry on Bushfire Mitigation and Management (Ellis et al., 2004). The report recommends that:

- a zoning approach be adopted
- zoning should be applied at the landscape level
- clear objectives should be outlined for each zone
- fuel and fire management activities should be determined for each zone, and
- stakeholders and the community should be involved.

1.1 Fire Management Zones

Where significant risks, either from bushfire or inappropriate fire regimes, are identified in an approved fire management plan, FMZs may be applied as a strategy to identify where fire management activities are considered a priority to mitigate the identified risk/s.

Fire Management Zones comprise the following categories:

- Asset Protection Zone (A-zone)
- Bushfire Buffer Zone (B-zone)
- Strategic Fuel Management Zone (S-zone)
- Conservation Zones (C-zones)
- Exclusion Zones (X-zone)

If fire management activities occur in areas that are not zoned the land manager must conduct the activities in accordance with the principles and regulation of the *Fire and Emergency Services Act 2005* (FES Act), and the *Native Vegetation Act 1991* (NV Act), and the Ecological Fire Management Guidelines (EFMG).

1.2 Purpose

The purpose of the Zone Standard is to provide a standard approach for the application of fire management zones through the use of approved fire management plans across South Australia in accordance with:

- FES Act (Bushfire Management Area Plans)
- *Native Vegetation Regulations (2017) (*NV Regs*)* (other plans for the management of bushfires), or
- NV Act *(*as part of a Vegetation Management Plan).

Zoning within a planning area will be determined by considering the level of fire risk to life, property, and environmental assets. The risk rating is assessed utilising an approved risk assessment methodology consistent with ISO 31000:2009[1] and NERAG[2]. FMZs can then be

[1] International Standard ISO 31000:2009, Risk management – Principles and guidelines.
[2] National Emergency Risk Assessment Guidelines, Version 2, Australian Emergency Management Committee (AEMC).

applied as fire management strategies to mitigate the identified risk to an acceptable residual risk level.

FMZs are a suite of mitigation strategies within approved fire management plans to reduce bushfire risk to life, property and environment. Complementary management strategies such as property preparedness (e.g. cleaning out gutters of building or planting low flammability gardens) should be considered along with FMZs.

Any fire management activities located outside of an approved FMZ in a fire management plan, or actions exempt under the FES Act, are not approved through this standard, and require approval from the Native Vegetation Council (NVC) or State Bushfire Coordination Committee (SBCC) and relevant Bushfire Management Committee (BMC).

1.3 Scope

The Zone Standard is relevant to the planning, implementation, and maintenance of A-zones, B-zones, S-zones, C-zones and X-zones, across all land tenures identified in an approved fire management plan.

1.4 Objectives

This Standard has been developed to ensure fire and land management agencies apply a consistent approach to the application of FMZs on private and public land across South Australia.

2 DEVELOPMENT OF THIS STANDARD

2.1 Responsibilities

- The SBCC is responsible for the review and adoption of this Standard.
- The SBCC can delegate the review of this Standard to a working group as it deems appropriate.
- The Standard will be reviewed every 5 years at a maximum, from its adoption, or as deemed necessary as SBCC.

2.2 Authorities

This Standard has been adopted by the SBCC on 14 February 2020.

3 DESIGN CONSIDERATIONS

3.1 Principles for establishing Fire Management Zones

FMZs will be planned and implemented as outlined in this Standard:

- FMZs (A-, B-, C-, S- and X-zones) are areas where fire management activities are planned and conducted in relation to reducing risks to life, property, and environmental assets.
- FMZs are to be identified in an approved fire management plan in order to inform land managers, those undertaking fuel reduction activities, and the community.

- Zoning is informed by the risk assessment process during the development of an approved fire management plan, which is consistent with ISO 31000:2009[3] and NERAG[4].
- A-zones should be inspected on an annual basis to ensure that the overall fuel hazard level[5] does not exceed a level of Moderate or below throughout the zone.
- B-zones should be managed so that the overall fuel hazard level does not exceed High (as an average throughout the zone).
- C-zones are established for fire management activities to be targeted towards maintaining and enhancing environmental assets through the application of appropriate fire regimes outlined in the Ecological Fire Management Guidelines (EFMG). C-zones do not have an overall fuel hazard prescription.
- S-zones are established to meet a specific risk reduction outcome and may be a more appropriate zoning strategy where environmental assets exist and an overall fuel hazard target is not appropriate.
- X-zones are established where human induced fire is to be excluded for a period of time, and where protection during a bushfire event is considered important.
- When planning and implementing FMZs, consideration must be given to avoiding or reducing any impact to environmental assets and cultural assets, including Matters of National Environmental Significance (MNES) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the principles of the NV Act

3.2 Choosing the appropriate Fire Management Zone

Zones are established using the following logic process:

- A risk assessment is conducted to assess the risks from fire across the landscape (regardless of tenure) and the appropriate fire management strategies identified to mitigate the risk. Where fuel management is considered to be an appropriate risk mitigation tool, then this standard should be used to determine the application of the most appropriate FMZs.
- A-zones should be considered as an appropriate strategy to minimise the risk to life, property, cultural, and environmental assets that are at risk from radiant heat or direct flame contact.
- B-zones should be considered as an appropriate strategy where there is a risk of fires establishing and spreading through the locality, becoming a landscape scale fire, or where life, property, cultural, and environmental assets or values are at risk from radiant heat and ember attack.
- A- and B-zones are areas where specific fuel management is planned and conducted in relation to reducing bushfire risk/s to life, property, cultural, and environmental assets.
- A- and B-zones can be complementary where they are located adjacent to one another, for example in areas of significant bushfire risk/s. However they can exist as individual zones where the strategy (FMZ) recommended is considered appropriate to address the outputs of the risk assessment.
- S-zones should be considered as an appropriate fire management strategy:
    - where there is a risk of fires establishing and spreading through the locality
    - where there is a risk of fires becoming a landscape scale fire
    - where a B-zones is not a suitable strategy

[3] International Standard ISO 31000:2009, Risk management – Principles and guidelines.
[4] National Emergency Risk Assessment Guidelines, Version 2, Australian Emergency Management Committee (AEMC).
[5] Overall Fuel Hazard Guide for South Australia, Department of Environment and Natural Resources 2012 (2nd Edn., amended Feb 2012).

- to meet conservation objectives along with life, property, cultural, and environmental objectives.

3.3 Zoning to minimise impacts on environmental assets

When planning FMZs, careful consideration must be given to the location of the FMZ/s to minimise impacts on environmental assets where possible. This may include, but is not limited to, avoiding:

- significant flora and fauna species (and their habitat), populations, and ecological communities (National - critically endangered, endangered, vulnerable, State - endangered, vulnerable or rare, and Regionally rated species)
- threatened species that may have very specific fire regime needs
- areas that contain significant habitat elements that are sensitive to fire.

Where zones cannot be created to avoid identified assets, the implementation of the zone treatment should be planned and delivered to minimise impact to the assets. Individual assets can be identified and protected from the fuel treatment measure or the treatment can be applied in a manner that does not impact the asset e.g. an area can be burnt in spring if the identified asset is only susceptible to burning in autumn, or shrubs in the area could be selectively thinned if the identified asset is susceptible to burning.

3.4 Other considerations related to zoning

The fuel management of zones is one of a range of risk mitigation strategies available for use in an approved fire management plan. Zoning is most appropriate where high fuel hazard levels could significantly contribute to bushfire risk and landscape scale risk (i.e. large areas of high fuel hazard levels). Areas can be zoned even if the overall fuel hazard level within the area is not currently High. This recognises that the area is strategically important for bushfire risk mitigation and fuels in the area should not be allowed to significantly increase. The zone guidelines may assist with the planning and implementation of:

- individual Bushfire Survival Plans
- individual property preparedness activities
- community engagement programs
- property fuel breaks and fire access tracks
- building construction and siting (Australian Standard 3959)
- management of ignitions.

4 ASSET PROTECTION ZONE

4.1 Definition of Asset Protection Zones

An A-zone is an actively managed fuel reduced area that surrounds or is adjacent to assets for the purpose of minimising risks to life, property, and environmental assets, particularly aimed at stopping the spread of fire and preventing direct flame contact, intense radiant heat, and reducing short distance ember attack from the immediate environment. The distance from the asset and the width is determined by the Australian Standard 3959.

Fine fuel levels in the A-zone shall be maintained to keep surface and shrub level fine fuels at Moderate or lower (as an average across the zone) as defined in the Department for Environment and Water's *Overall Fuel Hazard Guide for South Australia*.

A-zones can include the 20 m Native Vegetation Council defendable space around dwellings[6]. A-zones can extend beyond this width, when identified in an approved fire management plan:

- to protect multiple dwellings, settlements, larger civil infrastructure, major road corridors, and defined environmental assets
- where slopes occur downhill from the asset or where vegetation types have High fuel levels (refer to AS3959 2011[7])

An A-zone may similarly be less than 20 m where the ground slopes uphill from assets or where vegetation fuel levels are low.

4.2 Managing Asset Protection Zones

A-zones should be maintained so that the overall fuel hazard (as an average throughout the zone) does not exceed Moderate.

- Dry grass in an A-zone should be maintained at 10 cm or less.
- Where possible and appropriate, an A-zone should incorporate existing cleared areas, roads and driveways which already have low fuel levels rather than clearing further land.

4.3 Specification for Asset Protection Zones

4.3.1 General design requirements

The Bushfire Attack Level (BAL) assessment process defined in AS3959 is to be used to define the spatial extent of A-zones.

To determine the width of an A-zone to an existing asset, the maximum BAL should achieve an intensity level of 12.5 kw/m^2, and should be calculated using a Fire Danger Index of 100 and the fuel load for the relevant South Australian vegetation type.

The distances used for measurement of A-zone width are to be measured on the horizontal plane.

When planning and implementing an A-zone, consideration must be given to avoiding or reducing any impact to environmental values and assets, including MNES under the EPBC Act and the principles of the NV Act.

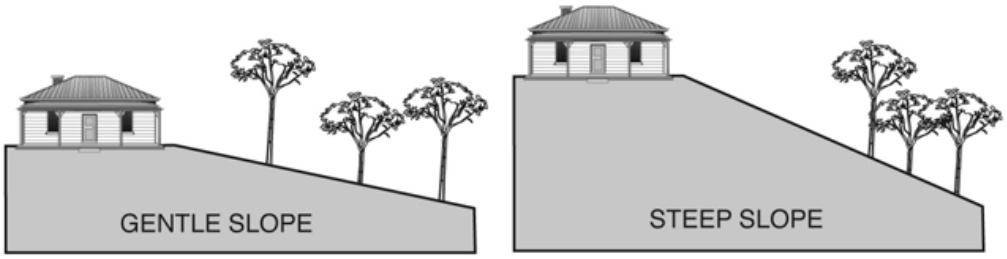
4.3.2 Allowance for the effective slope

The effective slope for determining the width of an A-zone is defined as the part of the slope adjacent to the asset that will have the greatest influence on bushfire behaviour. Fire behaviour is increased for fires travelling uphill versus those travelling downhill, so an A-zone distance may need to be larger if the bushfire hazard is downslope of the asset. The effective slope is measured over a distance of at least 100 m from the asset towards the hazard in each direction.

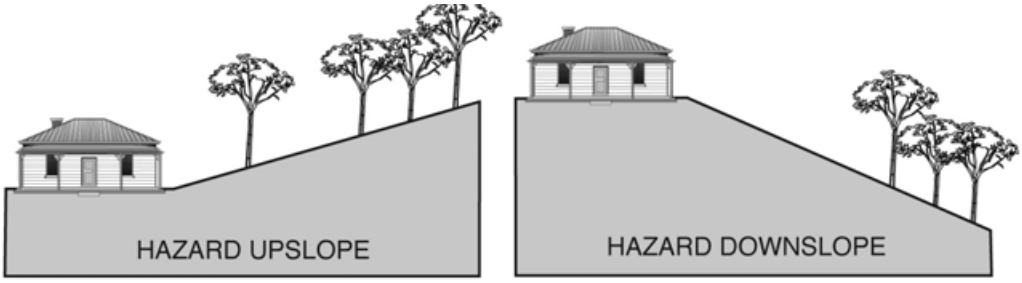
[6] Guide to the Native Vegetation Regulations 2017. NVC 11/04/2017

[7] AS3959 – 2009, amended 3 – 2011, Construction of buildings in bushfire-prone areas, Standards Australia.

It is possible to have different A-zone distances on different sides of the asset.



Gentle slopes require a smaller APZ distance than steep slopes



A hazard downslope will require a greater APZ distance
then a hazard upslope of the asset

4.3.3 Allowance for vegetation type

Different types of vegetation (e.g. forest, woodland, grassland, wetland, and cropland) burn with different intensities during a bushfire. Differences in vegetation type are incorporated within the AS3959 BAL assessment process.

4.3.4 Asset Protection Zone width

The width of an A-zone for inclusion in an approved fire management plan is dependent on the vegetation type adjacent to the asset and the effective slope of the surrounding land. The *Overall Fuel Hazard Guide for South Australia* is to be used to determine vegetation type.

The width of the A-zone is to be measured from the asset nearest to the bushfire hazard.

4.3.5 Asset Protection Zone Vegetation management

Available fine fuels (fuel particles less than 6 mm in diameter – such as leaves, twigs, and small sticks up to pencil size) within an A-zone are to be reduced and maintained so that:

- fine fuel levels close to the asset are significantly lowered to reduce fire intensity and flame contact with assets
- fine fuel levels in surface, shrub, and canopy are significantly reduced and continuity (spread across the area) interrupted.

Note that mature trees are not fine fuel. Loose bark and dead leaf litter from mature trees are included in fine fuel assessment.

Fuel levels should be modified and maintained to keep the zone at Moderate or lower overall fuel hazard levels for the duration of the fire danger season. This may be achieved by utilising the methods identified below. Appropriateness of individual actions is dependent on land use and vegetation type.

- Tree canopies within the A-zone should be separated by at least 2 m [8]. Keep the lower branches on mature trees pruned to a minimum of 2 m above the ground.
- Manage understorey plants in the A-zone so that the leaf area of the vegetation is not vertically or horizontally continuous. A disconnected 'clumping' of shrubs is more desirable than even connected coverage. Separate shrubs and trees to minimise vertical fuel 'ladders'.
- Dead shrubs/understorey plants within the A-zone should be removed.
- Grasses within the A-zone should be reduced to an average height of 10 cm.
- No heath or shrub understorey species are to be within 2 m of the asset to be protected.
- Vegetation clearance can be undertaken within 20 m of an approved dwelling (apart from large trees with a trunk circumference of 2 m or greater (measured 1 m from the base of the tree) (NV Act).
- Where the asset is a building, tree branches overhanging the roof should be removed or trimmed to at least 2 m clear of the roof.
- Where approved, prescribed burning can achieve the desired fuel reduction outcome
- Fine fuel levels in the A-zone should be maintained to keep surface and shrub level fine fuels at Moderate or lower (as an average across the zone) as defined in the *Overall Fuel Hazard Guide for South Australia*.

5 BUSHFIRE BUFFER ZONES

5.1 Definition of Bushfire Buffer Zones

A B-zone is an area maintained to not exceed High overall fuel hazard levels (as an average throughout the zone) aimed at minimising risks to life, property, and environmental assets by slowing the fire's rate of spread, reducing its intensity, and minimising fire spotting potential over short to medium distances.

5.2 Purpose of Bushfire Buffer Zones

A B-zone may be created beyond an A-zone to provide additional fuel management to reduce the risk of bushfire and is often best utilised to complement an A-zone around a significant asset or settlement. However, it is not intended that B- zones will be created for single dwellings in rural areas.

- A B-zone is designed to:
    - reduce fire spread, intensity, and short-medium distance spotting
    - increase the area of reduced fire behaviour near significant assets
    - provide an area of potential advantage for firefighters to suppress a larger bushfire
    - reduce the impact of bushfire burning a whole large block of native vegetation or several adjacent smaller areas of native vegetation
    - reduce the potential for a bushfire to burn out of vegetated land into surrounding land.

5.3 Managing Bushfire Buffer Zones

B-zones should be maintained to ensure that the overall fuel hazard does not exceed High (as an average throughout the zone).

[8] See Landscaping for Bushfire – Garden Design and Plant Selection, Country Fire Authority, Victoria for more detail.

5.4 Specification for Bushfire Buffer Zones

5.4.1 General design principles of Bushfire Buffer Zones

- B-zones may complement an A-zone, where necessary or to replace an A-zone where keeping fuel levels below High is sufficient to protect the asset and may result in an lower environmental impact.
- The location of a B-zone should incorporate existing fuel reduced areas such as cleared areas, roads, golf courses, and ovals where available.
- A B-zone should be wide enough that a majority of short-medium distance spotting will not occur beyond the zone. Recommended zone width is:
    - Grassland – up to 20 m
    - Grassland with scattered trees – up to 20 m or 2x tree height (whichever is greater)
    - Heathland/Coastal Scrub/Shrubland – up to 100 m
    - Mallee – up to 1000 m
    - Forest/Woodland (no stringybark trees present) – up to 500 m
    - Forest/Woodland (stringybark trees present) – up to 1000 m
- The width of a B-zone can vary between 20 m and 1000 m depending on the vegetation type, fuel hazard levels, expected fire behaviour, and available control lines. Other factors influencing width may include topography (aspect and slope), the size and extent of native vegetation and environmental assets, known or expected fire paths or fire behaviour, and the level of risk to assets (including human settlement, cultural, or biodiversity).

5.5 Other general conditions

- The distances used for measurement of B-zone width are to be measured on the horizontal plane (i.e. map distance, not including slope).
- A B-zone is not intended to be used for the creation of the 20 m NVC defendable space.
- When planning and implementing B-zones, consideration must be given to avoiding or reducing any impact to environmental values and assets, including MNES under the EPBC Act and the principles of the NV Act.

5.5.1 Bushfire Buffer Zone Vegetation management

Fuel levels within a B-zone are to be managed so that:

- overall fuel hazard does not exceed High (as an average throughout the zone)
- potential spotting and fire intensity in the zone is reduced to provide a suppression advantage to assist in containing bushfires within defined areas
- spotting, fire intensity, and spread in the zone is reduced for safer access for firefighters
- spotting, fire intensity, and spread in the zone is reduced to provide strategic fuel reduction for a landscape, reserve, or large vegetation block
- by implementing B-zones, a range of activities could achieve the required fuel reduction, including but not limited to, prescribed burning, targeted woody weed control, selective thinning, or mechanical treatment. The selection of treatment method will be influenced by the effectiveness of the technique, the environmental impact of the activity, and cost of the operation.

6 CONSERVATION ZONES

6.1 Definition of Conservation Zones

C-zones are defined areas where fire management activities are carried out to maintain and enhance environmental assets and ecological systems. These areas may include native vegetation, significant trees, endangered species, and ecological communities.

6.2 Purpose of Conservation Zones

The primary management objective in a C-zone is to assist in the conservation of species, populations, ecological communities, or cultural heritage values, through the application of appropriate fire regimes.

Burning objectives may include:

- age class management to manage fire regimes in line with the EFMG relevant for the area (in the absence of a specific local/regional EFMG, the statewide EFMG will apply)
- weed management
- threatened species/communities management – to conserve significant flora, fauna, habitat, and other natural assets (e.g. MNES under the EPBC Act, rated species under the National Parks & Wildlife Act 1972) in the landscape
- habitat/vegetation management to maintain suitable habitat for the conservation of all flora and fauna that occurs in the landscape**.**

6.3 Specification for Conservation Zones

6.3.1 Ecological Fire Management Guidelines

Agency Ecological Fire Management Guidelines (EFMG) for South Australia (DEWNR 2013; FSA 2015) guide fire management activities within C-zones and native vegetation, including minimum and maximum intervals, intensity, frequency, spatial parameters, and seasons of fire (known as Thresholds of Potential Concern). More regionally specific EFMG may be defined within the relevant approved fire management plan.

All C-zone fire management activities are subject to individual approvals under the FES Act and the NV Act.

6.3.2 General design principles of Conservation Zones

- To complement natural landscape features and age classes.
- To ensure areas of land are managed to conserve environmental and ecological assets.
- To enable prescription burning in conservation areas, limited to ecological/environmental burning activities as described by the EFMG.
- To define areas on public lands where fire management is undertaken for conservation objectives.
- To enable fire management on private land, for conservation objectives, on request by a landholder.

7 STRATEGIC FUEL MANAGEMENT ZONES

7.1 Definition of Strategic Fuel Management Zones

An S-zone is an area where the primary fire management objective is the reduction of bushfire risk/s to life, property, and the environment to a defined residual risk rating.

7.2 Purpose of Strategic Fuel Management Zones

The purpose of the S-zone is to reduce bushfire risk to life, property, and the environment. The S-zone provides an alternative risk management strategy to A- and B-zones by allowing fire and land managers to tailor the fire management strategies to reduce the bushfire risk through pre-determined performance criteria. This is different to the standardised overall fuel hazard threshold management approach of Moderate and High for A- and B-zones respectively (see above).

7.2.1 Strategic Fuel Management Zone in mixed land use

- To inhibit the rate of spread and reduce the intensity of bushfires across private lands and non-conservation areas, and to provide for strategic suppression opportunities whilst complying with NV Act requirements and the EFMG for any areas of native vegetation within the S-zone.

7.2.2 Strategic Fuel Management Zone in a Conservation Area

- To mitigate a specified bushfire risk in a locally tailored manner whilst maintaining or enhancing environmental assets in accordance with Thresholds of Potential Concern described in the EFMGs.
- To manage for a mosaic of fuel reduced areas (with the intent of treating discrete areas within the zone) to inhibit the rate of spread and reduce the intensity of bushfires within a conservation area, and to provide for strategic suppression opportunities.

7.3 Specification for Strategic Fuel Management Zones

7.3.1 General design principles of Strategic Fuel Management Zones

- Fire management activities in S-zones are undertaken to achieve a defined objective and performance measure to mitigate a bushfire risk identified in the risk assessment.
- The design of S-zones is to be targeted towards inhibiting the rate of spread and reducing the intensity of bushfires to life, property, and environment assets.
- An S-zone differs from A- and B-zones in that treatments are not driven by fuel loads within the zone exceeding a standardised overall fuel hazard threshold.
- The S-zone may be of any size or shape as deemed appropriate to mitigate the identified risk e.g. loss of an entire reserve in a single event.
- Bushfire risk mitigation treatments within a S-zone will consider local landforms, vegetation, fuel loads and arrangement, land uses, and environmental assets to deliver treatments that achieve the performance criteria of the fire management strategy.
- In general, prescribed burning within an S-zone is not intended to be undertaken across the whole S-zone during a single event, but applied in a rotational or a strategically opportunistic manner to capitalise on the ability to join fire scars and/or natural features, while meeting defined vegetation age class or habitat requirements.
- S-zones do not need to extend from or have regard to an A-zone, B-zone, C-zone or X-zone.

7.3.2 Strategic Fuel Management Zone width

The spatial extent of an S-zone is determined by the location and risk reduction objective. The spatial extent does not identify the total treatable area but an area where treatments can occur within a mosaic cycle, and should, therefore, be of a width that allows for multiple treatments that do not occur within the same footprint.

The width of any single fire management activity within an S-zone is not defined rigidly as there may not be fixed tracks and may need to burn to a natural break such as a fire scar, lake, or

other boundary. However, a single S-zone proposed treatment that is greater than 1000 m in width should be justified in the environmental assessment of an operational plan that supports the delivery of a fire management strategy identified in an approved fire management plan.

8 EXCLUSION ZONES

8.1 Definition of Exclusion Zones

The purpose of Exclusion zones (X-zones) is to specify areas where human induced fire is to be excluded for a nominated period. Reasons include:

- environmental impact to or loss of e.g. fire sensitive species or ecological communities, erosion, water quality
- impact to, or loss of, cultural values and assets
- economic impacts e.g. to apiarists, water supply, infrastructure
- scientific purposes
- other special purposes (justification required).

X-zones communicate to the fire and land manager/s and response agency/agencies the location of values or assets that respond negatively to planned fire (both prescribed and backburning). This allows these values and assets to be adequately considered during the implementation of fire management activities or bushfire suppression.

The excluded area can be temporary (e.g. a moratorium on burning a locality), for the period of an approved fire management plan (3-5 years), or permanent. The status of an X-zone is reviewed at the time of the plan's review, as identified in the X-zone's data, or following an event such as a large bushfire.

9 UNZONED AREAS

Unzoned areas are those areas of land not defined as an A-, B-, C-, S-, or X-zone and are not managed for a particular fuel reduction or fire management objective. However, if fire management activities occur in areas that are not zoned, the land manager must conduct the activities in accordance with the principles and regulations of the NV Act, FES Act, and EFMGs.

10 Overview of objectives in Fire Management Zones

Table 1 outlines the main objectives of each fire management zone, as a fire management strategy endorsed by this standard. This applies to all fire management activities, including burning and non-burning implementation methods.

Table 1. Overview of objectives in Fire Management Zones

ZONE TYPE	LIFE AND PROPERTY OBJECTIVES	ENVIRONMENTAL/ECOLOGICAL OBJECTIVES
Defendable space	Property preparedness by landholders through the NVC 20 meter exemption to reduce bushfire risk to life and property	No exemptions apply to the risk mitigation or the maintenance or enhancement of environmental assets.
Asset Protection Zones	To reduce bushfire risk to life and property by maintaining overall fuel hazard level so as not to exceed Moderate.	To reduce bushfire risk to environmental assets by maintaining overall fuel hazard level so as not to exceed Moderate.
Bushfire Buffer Zones	To reduce bushfire risk to life and property by maintaining overall fuel hazard level so as not to exceed High.	To reduce bushfire risk to environmental assets by maintaining overall fuel hazard level so as not to exceed High.
Strategic Risk Management Zones	A strategically tailored fire management strategy utilizing existing landform features and fire scars to reduce the bushfire risk to life and property through pre-determined performance criteria.	A strategically tailored fire management strategy utilizing existing landform features and fire scars to reduce the bushfire risk to environmental assets through pre-determined performance criteria.
Conservation Zones	C-zones are not applicable to reduced bushfire risk to life, property, and the environment.	C-zones are for the maintenance and enhancement of environmental assets through the application of fire to achieve: • weed management • threatened species/communities management • habitat vegetation management • age class management.
Exclusion Zones	Exclusion of human induced fire to reduce: • impact to or loss of cultural values and assets • economic impacts e.g. apiarists, water supply, infrastructure • other special purposes (justification required).	Exclusion of human induced fire to reduce: • environmental impact or loss e.g. fire sensitive species or ecological communities, erosion, water quality
Unzoned areas	Area not strategically zoned, treatments area are subject to individual approvals under the FES Act and the NV Act.	Area not strategically zoned, treatments area are subject to individual approvals under the FES Act and the NV Act.

11 APPROVALS PROCESS FOR NEW AND AMENDED ZONES

11.1 Zones that are part of an approved fire management plan

The approval for FMZs is covered by two pieces of state legislation, comprising the following categories:

- Fire management strategies (A-, B- or S-zones) to reduce bushfire risk to life, property, and the environment are approved under the:
    - *Fire and Emergency Services Act 2005*:
        - Division 7A, 73A – Bushfire Management Area Plans, or
    - The *Native Vegetation Regulations 2017*:
        - Part 3, Division 3, Regulation 9(1) – a plan for the management of bushfires approved by the NVC or developed in accordance with a standard operating procedure determined or approved by the Council, or
- Fire management strategies (C- or X-zones) to maintain or enhance environmental/ecological assets are approved under:
    - The *Native Vegetation Regulations 2017:*
        - Part 3, Division 4, Regulation 11 – an approved Vegetation Management plan.

A-, B-, C-, S-, and X-zones that are contained within an approved fire management plan are approved for implementation, when accompanied by an approved environmental assessment and operational plan as required by the applicable BMAP or the NVC.

- Permits to Burn or local EPA/Council permits may be required for the conduct of activities like prescribed burning or pile burning.
- Where the treatment may impact MNES under the EPBC Act, the relevant BMC will need to undertake an assessment as required under this Act.
- Actions or treatments on DEW-managed land are covered by DEW's EPBC Strategic Assessment and are assessed in the DEW Environmental Assessment process.

11.2 Process for the proposal of new, amended, or the removal of, a Fire Management Zone in an approved fire management plan

Proposals for the addition, amendment, or removal of FMZs should be discussed with the relevant CFS Regional Prevention Officer and/or land manager.

Endorsement of A-, B-, C-, S- and X-zones is to be sought by:

- the relevant BMC, and then approval sought from the SBCC, or
- through the NVC under NV Reg 3.

In order for the approval of new A-, B-, C-, S- and X-zones, a spatial representation of the proposed zone and the following minimum data in Table 2 is required.

Table 2. Minimum data requirements for spatially defining the proposal of a Fire Management Zone

ID	Zone type	Asset at risk	Assets at risk description	Assets to consider within zone type	Zone Owner	Zone Status
Unique identifier	Select one of the following: • A-zone • B-zone • S-zone • C-zone • X-zone	Select one of the following: • Life • Property • Environment • Life and Property • Life and Environment • Property and Environment • Life, Property and Environment	Free text field limited to 255 characters. Describes the assets at risk from bushfire	Describe known assets that may be impacted by risk mitigation strategy	Agency name; Private Company name; Private landholder	Select one of the following: • Draft • Approved
EXAMPLES						
306	*A-zone*	*Life and Property*	*Property located along Range Rd North*	*None known*	*Private landholder*	*Approved*
B2020_AMLR	*B-zone*	*Life, Property and Environment*	*Life and Property located within Penneshaw.* *Environmental assets located within Baudin CP. (Using multiple assets in life, property and the environment)* *B-zone with risk reduction outcomes for property and environment. This zone reduces risk of fire spreading from an ignition source from Penneshaw and impacting on the environmental assets identified within the park. Furthermore, the B-zone reduces the risk of a fire igniting from lightning within the park, spreading to Penneshaw and impacting life and property.*	*Threatened bird habitat. Maintain Allocausirna feeding habitat. Selectively thin fuels contributing significantly to the overall fuel hazard.*	*DEW*	*Draft*
2130099	*S-zone*	*Property*	*Property located within Houghton community*	*Threatened flora identified within the North East section of the zone. Actively growing between May - July. Responds positively to Autumn prescribed burn. Exclude known locations from mechanical treatments.*	*CFS*	*Draft*
HE3	*C-zone*	*Environment*	*Threatened fauna habitat is senescing. Fire is required to stimulate regeneration of habitat*	*Burn in 2 fire events because of limited SBB and heath habitat (i.e. a single fire event would trigger EPBC Act). Not before 6 years from HE1 burn.*	*FSA*	*Approved*
E-33	*X-zone*	*Environment*	*Threatened fire sensitive wetland*	*None known*	*SAW*	*Draft*
A-08	*X-zone*	*Apiarist*	*Area leased to apiarists*	*None known*	*DEW*	*Draft*
5698001	*X-zone*	*Cultural*	*Information is withheld (sensitive information)*	*None known*	*Private landholder*	*Draft*

REFERENCES

Australian Standard AS3959 – 2009 & amendment 3 2011 *Construction of buildings in bushfire-prone areas*

AFAC 2012, *Bushfire Glossary*, Australasian Fire and Emergency Services Authorities Council, East Melbourne, <http://www.afac.com.au/docs/corporate/bushfire-glossary.pdf?sfvrsn=4>.

Ecological Fire Management Guidelines for South Australia (DEWNR 2013)

Ellis, S, Kanowski, P & Whelan, R 2004, *COAG National Inquiry on Bushfire Mitigation and Management*, Commonwealth of Australia, Canberra.

Fire and Emergency Services Act 2005

Guideline for Ecological Burn Planning (FSA 2015)

Native Vegetation Act and Regulations 1991

Overall Fuel Hazard Guide for South Australia - Department for Environment Water and Natural Resources, 2012

GLOSSARY OF ACRONYMS AND FIRE MANAGEMENT TERMINOLOGY

TERM	DEFINITION
Asset/s	Anything valued by people which includes houses, crops, forests and, in many cases, the environment.
Operational bushfire management	All those activities directed to prevention, detection, damage mitigation, and suppression of bushfires. Includes bushfire legislation, policy, administration, law enforcement, community education, training of fire fighters, planning, communications systems, equipment, research, and the multitude of field operations undertaken by land managers and emergency services personnel relating to bushfire control.
Continuous fuels	Significant areas of connected fuels (e.g. cropping land, grasslands, native vegetation), which allows a fire to have an uninterrupted run across the landscape.
Ecological burning	A form of prescribed burning. Treatment of vegetation in nominated areas to achieve specified ecological objectives.
Environmental assessment	Completed for all prescribed burns (as part of the Prescribed Burn Plan) and other fire management works where native vegetation is being cleared and is not exempt under the *Native Vegetation Act 1991*. The EA process considers cultural sites and objects (scar trees, middens), heritage sites (state listed buildings), significant recreational and amenity values, environmental assets, landscapes and the recent fire regime.
Environmental assets	Non-built assets and values including threatened species, ecological communities, significant habitat elements (such as tree hollows), soil, water, and other values which are valued for non-monetary reasons.
Fuel hazard	A fuel complex, defined by volume, type, condition, arrangement, and location, that determines the degree of ease of ignition and of resistance to control.
Fire management	All actions associated with the management of fire-prone land, including the use of fire to meet land management goals and objectives.
Fire management activity /activities	Individual actions associated with the management of fire-prone land, including the use of fire, mechanical/chemical clearance, and installing, upgrading, and maintaining infrastructure, to meet land management and ecological goals and objectives.
Fire management plan	A plan of management developed to guide land manager/s on appropriate strategies and treatments to reduce bushfire and land management risks identified through a risk assessment process. Typically this is a CFS Bushfire Management Area Plan, as well as other plans for the management of bushfires approved by the Native Vegetation Council under the *Native Vegetation Regulations 2017*.
Fire management strategies	A strategy chosen and designed to guide fire management activities to achieve a modified risk level (residual risk).
Fire Management Zones (FMZ)	Made up of A-, B-, C-, S- & X-zone, these are a strategic area of management defined spatially through approved strategic fire management planning. FMZs identify where fire management activities are approved to occur, and where they should be targeted / prioritised.
Fire suppression	The activities connected with restricting the spread of bushfire following its detection and making it safe.
Fuel	Any material such as grass, leaf litter, and live vegetation, which can be ignited and sustains a fire. Fuel is usually measured in tonnes per hectare.
Fuel management	Modification of fuels by prescribed burning, or other means.

TERM	DEFINITION
High risk areas	Areas which may be designated as high risk under a risk assessment process where there is a combination of probability and consequence resulting in a risk rating of high or above in relation to potential impacts of fire on life, property, and/or the environment.
Mechanical removal	Physical modification of flammable material to reduce fuel hazard levels through selective logging, thinning, clearing, slashing, mowing, and trimming of vegetation using machinery or equipment.
Matters of National Environmental Significance	A matter protected under environmental law – the *Environment Protection and Biodiversity Act 1999*. The matters of national environmental significance protected under national environment law affected by fire management in South Australia include: • listed threatened species and communities; • listed migratory species; • Ramsar wetlands of international importance; • national heritage places;
Overall fuel hazard	The overall fuel hazard is defined as the sum of the influences of bark fuel, elevated fuel and surface fine fuel (DEWNR 2012).
Prescribed Burn Plan	The plan, which is approved for the conduct of prescribed burning. It contains a map identifying the area to be burnt and incorporates the specifications and conditions under which the operation is to be conducted.
Prescribed burning	The controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity, and rate of spread required to attain planned resource management objectives.
Risk assessment	Used in fire management planning to assist in evaluating the threat to life, property, and environmental assets posed by bushfire and also to aid in developing strategies and actions for risk mitigation. Considers Likelihood and Consequence to determine an overall risk rating through a matrix.
Spotting	The ignition of spot fires from sparks or embers.

Unless otherwise indicated, definitions have been sourced from the AFAC Bushfire Glossary (AFAC 2012), or developed for the purpose of this Standard.