

3.3 Fire Management Zoning

1. BACKGROUND

Fire management zones will be used for fire management planning on Department of Environment, Water and Natural Resources- (DEWNR) managed land and on other land included in fire management plans. Zoning will be determined considering the level of risk (assessed using the DEWNR Fire Policy and Procedure – Risk Assessment) and the activities considered appropriate to mitigate the risk to life, property, and the environment.

DEWNR Fire Management Zoning is 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.

2. SCOPE

This procedure applies to all DEWNR staff involved in the fire management planning process and all regional staff involved directly or indirectly in implementing the recommendations of a fire management plan.

3. OBJECTIVES

DEWNR shall ensure that:

- a standard approach is applied to the application of fire management zoning on DEWNR-managed lands;
- the zoning process is undertaken as part of the DEWNR fire management planning project management procedure;
- zoning is informed by the risk assessment process, as described in the DEWNR risk assessment in fire management planning procedure using AS3959:2009;
- zoning is consistent with and complements Bushfire Management Area Plans, prepared in accordance with the *Fire and Emergency Services Act 2005*; and
- management actions are implemented to meet the requirements of each zone and communicated to stakeholders.

4. PROCEDURE DETAILS

Zoning Principles

Three fire management zones will be used (Figure 1):

- Asset Protection zone (A-zone; Figure 2);
- Bushfire Buffer zone (B-zone; Figure 3); and
- Conservation-Land Management zone (C-zone; Figure 4).

The principles to be applied to each zone type are provided in Table 1.

Revegetation within A- and B-zones will be managed in accordance with the prescribed fuel hazard levels for that zone. Any future revegetation must take the fire management zoning and strategies into consideration and be planned in conjunction with the relevant District Manager and the Region's Fire Management Officer.

DEWNR should ensure that:

- regular (usually annual) inspections are undertaken and audits of fuel hazard levels (including weeds) are carried out within A- and B-zones to ensure that each zone does not exceed the prescribed maximum fuel hazard level;
- strategies in A- and B-zones are regularly reviewed and monitored for effectiveness during the life of the fire management plan; and
- effectiveness of objectives and strategies are also reviewed at the end of the life of the plan, as per DEWNR Fire Policy and Procedure – Fire Management Planning Project Management.

All zoning identified as part of the fire management planning process is referred to the CFS for integration into Bushfire Management Area Plans.

Refer to the *Overall Fuel Hazard Guide for South Australia* for information on fuel hazard assessment (DENR, 2011).



Figure 1: Zoning illustrated

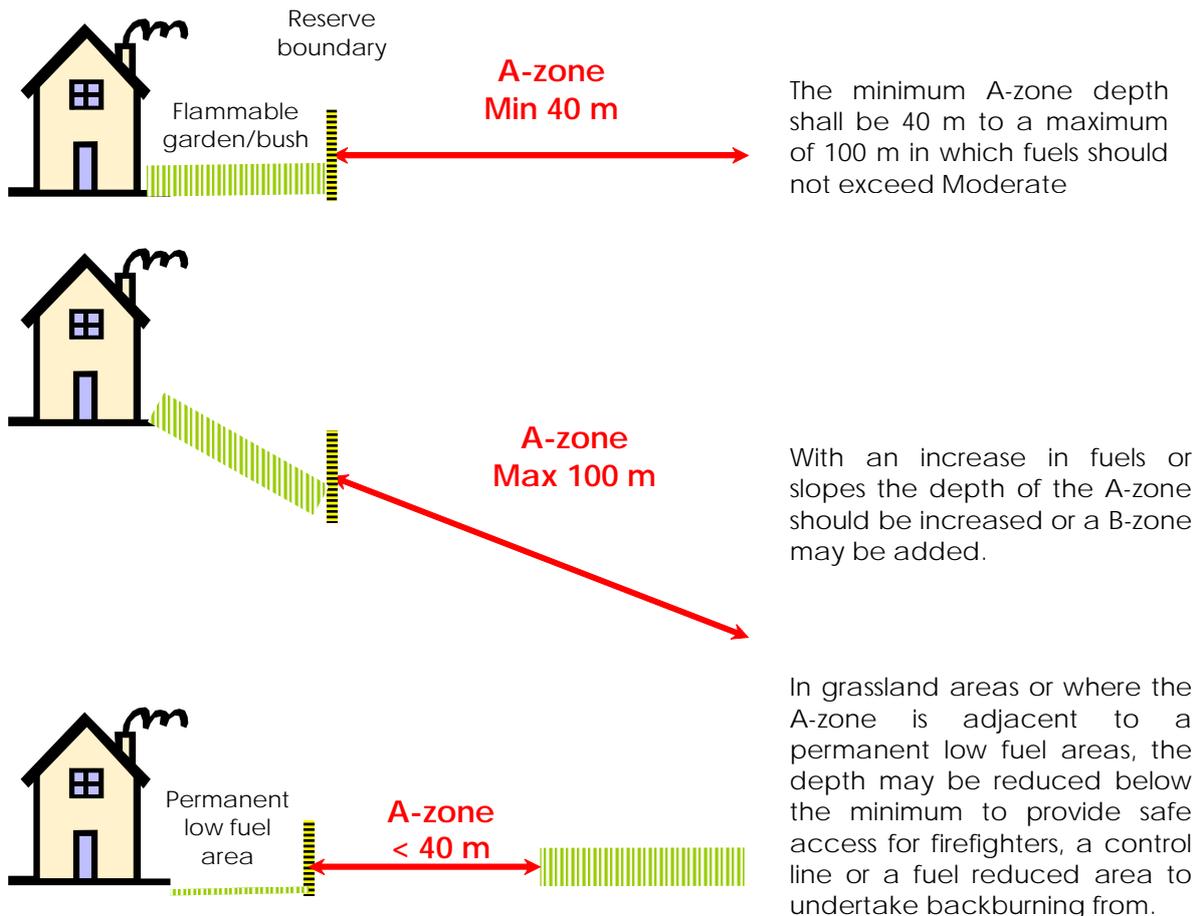
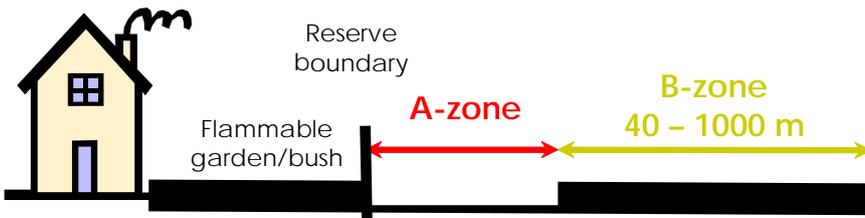
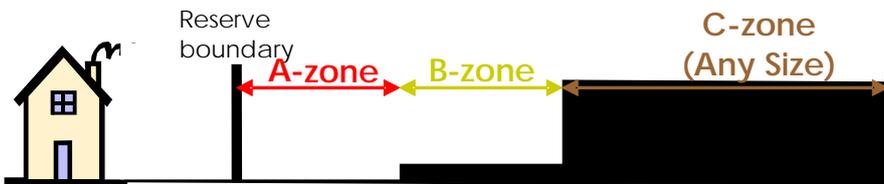


Figure 2: A-zone illustrated



A B-zone may occur without an A-zone if there is a permanent low-fuel area of 40m between the asset and the reserve boundary (e.g. irrigated area (oval), main road). Fuels should not exceed High.

Figure 3: B-zone illustrated



The C-zone is the default zone. It includes all of the reserve not in an A or B zone.

Figure 4: C-zone illustrated

Table 1: Fire Management Zoning Principles

	A-zone (Asset Protection Zone)	B-zone (Bushfire Buffer Zone)	C-zone (Conservation-Land Management Zone)
Purpose	Aims to provide the highest level of protection to human life and highly valued built assets, by implementing the most intensive fuel management strategies.	May apply to areas in close proximity to assets requiring protection from fires in rural areas or urban interface, to complement an A-zone. B-zones may be situated without an A-zone if there is a permanent low fuel area 40 m wide between the asset and the reserve boundary (e.g. oval, main road, grazed area). A B-zone may also be used to provide strategic fuel reduced areas, which may include firebreaks in or around a reserve.	The default zone, used for zoning all other areas that are not otherwise zoned A- or B-. This may include areas of native vegetation, natural and cultural heritage features, grazing areas, leases, salt lakes, plantations, revegetation sites, etc.
Objectives	<ul style="list-style-type: none"> To provide a buffer from radiant heat damage, flame contact and short-distance ember attack to property/built assets, owners and occupiers and firefighters protecting assets. To reduce fire behaviour and provide a control line for the suppression of bushfires as safely and efficiently as possible (note: usage of tracks is the responsibility of the Incident Management Team during an incident). To provide a pre-emptive high level of protection to human life and built assets. To provide access, wherever safe and practicable, between properties and the bushland interface. 	<ul style="list-style-type: none"> To assist in reducing bushfire intensity, ember attack and spotting potential. To provide a suppression advantage to assist in containing bushfires within defined areas. To enhance safe access for firefighters. To provide strategic fuel reduction for a landscape, reserve, district or region. To allow the achievement of conservation management objectives outlined in a reserve management plan or fire management plan. 	<ul style="list-style-type: none"> To assist in the conservation of species, populations, ecological communities, or cultural heritage values, through the application of appropriate fire regimes (Ecological Fire Management Guidelines). To reduce the likelihood of contiguous vegetation burning in a single fire event through the implementation of strategic fuel reduction across the landscape. To manage fire to meet reserve management objectives. To improve fire management knowledge and information through the implementation of research projects.

	A-zone (Asset Protection Zone)	B-zone (Bushfire Buffer Zone)	C-zone (Conservation-Land Management Zone)
Width	<p>A-zones should have a minimum width of 40 metres and should be guided by the Bushfire Attack Level, as described in the Australian Standard 3959-2009 (<i>Construction of buildings in bushfire-prone areas</i>), taking into consideration the slope, vegetation type, accessibility, and the practicalities of implementing fire management activities in the zone.</p> <p>The A-zone width may be decreased with caution and in exceptional cases. The justification for decreasing an A-zone to less than 40 metres will need to be documented in the fire management plan and supported by the risk assessment.</p>	<p>The width of a B-zone is likely to vary between 40 and 1000 metres depending on the fuel hazard levels, expected fire behaviour and available control lines. Other factors may include topography (aspect and slope); the extent of native vegetation and the size of the reserve; known or expected fire paths or fire behaviour; and the level of risk to assets (including rural, cultural or biodiversity assets) identified by the risk assessment.</p>	<p>The width of the C-zone will vary as it represents the area that is not otherwise zoned (i.e. not in A-zone or B-zone).</p>
Prescription for fuels	<p>The Overall Fuel Hazard will not exceed Moderate (as an average throughout the zone). Fine fuel at ground and near surface levels should be at low to moderate levels, and discontinuous to reduce the potential for a fire to carry across the zone at, or close to, ground level.</p>	<p>The Overall Fuel Hazard will not exceed High (as an average throughout the zone).</p>	<p>EFMG for vegetation communities inform fire management activities within the C-zone. EFMG are defined within the fire management plan and recommend fire regimes based on likely fire responses of species, populations and ecological communities in the plan area. This will include information on five aspects of fire regime: frequency, interval, intensity, season and spatial parameters. Refer to the <i>Ecological Fire Management Guidelines for South Australia</i> (DENR, 2012).</p>
Management strategies	<p>Slashing, mowing, selective fine fuel removal, incorporating track or firebreak construction and burning are acceptable methods of fuel management in this area. Within bushland in this zone, selective shrub removal, thinning or clearing of woody weeds may be possible, as part of an approved Fire Management Plan. Fuel reduction by prescribed burning or other techniques should be undertaken when fuel hazard levels exceed prescribed limits.</p>	<p>Fuel management will be primarily undertaken by prescribed burning to achieve desired fuel levels. Fuel reduction will be undertaken when fuel levels exceed prescribed limits.</p>	<p>Prescribed burning in the C-zone is not limited to ecological fire management and can be used for research or cultural management purposes, and strategic fuel management across the landscape (<i>landscape protection burning</i>).</p>

	A-zone (Asset Protection Zone)	B-zone (Bushfire Buffer Zone)	C-zone (Conservation-Land Management Zone)
Complementary strategies	Access tracks may be constructed in A-zones to improve access for asset protection or to improve access within or around reserves. The construction of radiation barriers such as walls and earth mounds could also be considered as options to modify the risk of damage and therefore reduce the width of the zone.	Access tracks may be constructed in B-zones to improve fire-fighter safety when undertaking fire management activities and to maximise suppression opportunities.	
Implementation	Reduce the overall fuel hazard below Moderate and treat >70% of the fuel across >70% of the zone.	Reduce the overall fuel hazard below High and treat >70% of the fuel across >70% of the zone.	As C-zone burning covers a range of objectives, the strategies for implementation will depend on the desired outcome, as provided for in the FMP or relevant EFMS. Burning for landscape protection should ensure that: <ul style="list-style-type: none"> the relevant FMP objectives and strategies are met; and minimum fuel levels are achieved by reducing the overall fuel hazard to below High for >50% of the planned burn area.

5. ROLES AND RESPONSIBILITIES

The **Chief Executive** has the ultimate responsibility for the effective implementation of this procedure.

Fire Management, Partnerships and Stewardship, is responsible for the implementation and review of this procedure and ensuring that the resources, information and training are made available for staff to implement this procedure.

The **Manager, Fire Management** will ensure that:

- DEWNR Regions and stakeholders are aware of this procedure and its requirements;
- the implementation of this procedure is adequately monitored for its effectiveness; and
- the procedure is reviewed and updated.

The **Senior Fire Management Officer – Planning**, Fire Management is responsible for:

- providing support on any aspects of zoning in fire management planning;
- ensuring zoning strategies are reflective of the level of risk;
- ensuring that the application of zoning is consistent across the state, and with the definitions contained within this procedure; and
- ensuring that zoning is communicated to Bushfire Management Area Committees and incorporated into Bushfire Management Area Plans.

Regional Managers are responsible for providing appropriate resources to support the development of zoning strategies.

The **Fire Management Officer – Planning**, Fire Management (or the appointed Planner) is responsible for coordinating the development of zoning objectives and strategies, including:

- applying zoning to address identified risks and consistent with the objectives of this procedure;
- collaborating with the Regional Fire Management Officer and the Planning Team to develop the objectives and zoning; and
- ensuring the plan clearly articulates the zoning.

Regional Fire Management Officers are responsible for development of zoning objectives and strategies collectively with the Planner, and also:

- justifying the zoning;
- engaging the regional staff in the development of objectives and zoning; and
- communicating zoning strategies to Bushfire Management Area Committees.

Regional staff are responsible for having input into the development of zoning objectives and strategies, as requested by the Regional Fire Management Officer.

6. ASSOCIATED DOCUMENTS

[Fire Management Plans](#)

7. REFERENCES

DEWNR Fire Policy and Procedure – Project Management

DEWNR Fire Policy and Procedure – Risk Assessment

DEWNR Fire Policy and Procedure – Prescribed Burning

DEWNR Fire Policy and Procedure – Fuel Hazard Assessment

DENR (2011) [Overall Fuel Hazard Guide for South Australia](#). Department of Environment and Natural Resources, Government of South Australia, Adelaide.

Ellis, S., Kanowski P. & Whelan, R. (2004) COAG National Inquiry on Bushfire Mitigation and Management. Commonwealth of Australia, Canberra, p124 and p126.

Standards Australia (2009). AS 3959:2009 Construction of buildings in bushfire-prone areas. Standards Australia, Sydney.