

# Fire Management Plan

*Karnu Drive Environmental Reserve, Yandina.*



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## Introduction

This fire management plan has been prepared to address community safety and the maintenance of ecological values in Karnu Drive ER (the reserve). The reserve is located to the east of Yandina.

## Legislative requirements

### Qld Fire and Emergency Services Act (1990)

Sunshine Coast Council (SCC) and its corporatised entities as well as all other entities which are owned and/or managed on behalf of SCC and who are responsible for the management of land, are considered to be a land occupier under the *Fire and Emergency Services Act 1990* (s67). The *Fire and Emergency Services Act 1990* is the head of power for the Qld Fire and Emergency Services (QFES) who administers the provisions of the Act and Regulations.

The definition of a land occupier under the act is:

*“occupier of land” includes, where there is no person in actual occupation of the land, the person charged by the owner or by law with the management of the land.*

The act also defines the term occupier.

*“occupier”, used with reference to any premises, means the person in actual occupation or, if there is no such person, the owner.*

Section 67 of the Act requires SCC on becoming aware of a fire burning on land it occupies to take all reasonable steps to extinguish or control the fire and report the fire and its location to a fire officer as soon as possible.

The act also requires SCC to obtain a permit to burn from the closest QFES station or fire warden prior to conducting any burns within their property.

## Local Laws - SCC

Sunshine Coast Council Local Law No. 3 (Community Health and Environmental Management) 2011 and Sunshine Coast Council Subordinate Local Law No. 3 (Community Health and Environmental Management) 2011 are the local laws that regulate fires in urban areas. It applies specifically to fires that do not require a permit under the Fire and Rescues Service Act. All burns undertaken by Council will be within the QFES permit system so the local laws do not apply.

## Site description

### *Location*

The property is described as Lot 29 on RP860591, Lot 19 on SP168789 and Lot 20 on SP168789. The size of the combined properties is approximately 10 hectares (see Map 1). Access to the reserve is via a 4WD track from Karnu Drive and Skybolt Road.

### *Landscape*

The dominant landscape features are the steep vegetated slopes and an ephemeral creek, which runs through the reserve from west to east.

### *Vegetation*

Version 8 Regional Ecosystem mapping identifies two RE's within the reserve. The following information on these RE's has been obtained from the Department of Environment and Heritage Protection. Vegetation mapping for the reserve is presented in Map 2. The northwestern parcel has non-remnant vegetation and regrowth.

**12.12.15** - *Corymbia intermedia* +/- *Eucalyptus propinqua*, *E. siderophloia*, *E. microcorys*, *Lophostemon confertus*. Other canopy species include *E. acmenoides*, *E. moluccana*, *Angophora subvelutina* and occasional vine forest species. Patches of *Eucalyptus pilularis* sometimes present. Occurs on Mesozoic to

Proterozoic igneous rocks. This RE is listed as “Least Concern”.

Fire management guidelines for this RE are;

SEASON: Summer to winter.

INTENSITY: Plan for low to moderate. Unplanned occasional high intensity wildfire will occur.

INTERVAL: 4-8 years maintains a healthy grassy system. 8-20 years for shrubby elements of understorey.

STRATEGY: Aim for 40-60% mosaic burn. Needs disturbance to maintain RE structure (eucalypt overstorey with open understorey of predominantly non-rainforest species).

ISSUES: Frequent fire is needed to maintain understorey integrity, keeping more mesic species low in the profile of the understorey so that other species can compete. It is essential that wildfires are not the sole source of fire in this ecosystem. High intensity fires occur periodically through time, however frequent low to moderate intensity fires will create the disturbance required to keep the understorey diverse. A follow-up burn soon after a high intensity wildfire can be considered to reduce germinating mesic species. This RE may contain a high number of rare and threatened plant species which require appropriate fire management.

**12.12.23** - Woodland to open-forest generally with *Eucalyptus tereticornis* ± *E. eugenioides*. Other species present, vary from place to place but commonly include *Corymbia intermedia*, *Eucalyptus acmenoides* ± *E. biturbinata*, *E. longirostrata*, *E. melliodora*, *Corymbia trachyphloia*, *Lophostemon confertus*, whipstick *Lophostemon* (supplejack), *Angophora subvelutina*, *E. crebra* and *Allocasuarina torulosa*. Occurs at higher altitudes on granite hills and ranges. This RE is listed as “least concern”.

No detailed flora surveys have been undertaken within the reserve. There are

minor infestations of *Melinis minutiflora* (Molasses grass), these are being treated by contract herbicide application. The northwestern parcel is heavily infested in some areas and contains degraded regrowth vegetation.

SEASON: Summer to winter. INTENSITY: Plan for low to moderate. Unplanned occasional high intensity wildfire will occur.

INTERVAL: 4-8 years maintains a healthy grassy system. 8-20 years for shrubby elements of understorey.

STRATEGY: Aim for 40-60% mosaic burn. Needs disturbance to maintain RE structure (eucalypt overstorey with open understorey of predominantly non-rainforest species).

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### **Fauna**

No detailed fauna surveys have been undertaken in the reserve. Site inspection shows evidence of fauna such as scats, tree scratching and soil disturbance have been observed. It is likely that a range of fauna is present within the reserve given the size and nearby areas of extensive vegetation. Surveying of fauna populations is recommended.

### **Summary of Ecological Issues**

Most of the reserve is dominated by grassy open forest, which will require fairly

regular fires. In addition there are some rainforest species present along the ephemeral creek, which will require protection from fire if they are to persist in the long-term.

Much of the surrounding landscape has been cleared for pasture and for rural residential development. There are however, larger areas of remnant vegetation including Maroochy Forest Reserve 3 to the northwest and Mt Ninderry Environmental Reserve to the south. Connectivity between these areas may be reduced with future rural residential development.

## Fire hazard

### ***State Planning Policy - Fire Hazard Assessment Methodology***

The State Government replaced State Planning Policy (SPP01/03) with a new single SPP in 2013. This SPP also includes state-wide mapping of bushfire hazards.

The SPP is predominantly to be referred to with respect to new development within Queensland. The SPP mapping data provides a trigger for local governments to investigate and consider the relevant interest and does not automatically preclude development. The mapping is amended from time to time to ensure the most recent state information is available.

The Sunshine Coast Council Planning Scheme 2014 includes bushfire hazard mapping that was prepared using the old methodology from SPP 1/03. Both mapping products show the reserve has a mixture of medium and high to very high bushfire hazard areas as well as low hazard areas where the vegetation is dominated by rainforest species. Both mapping products are provided below in Maps 3a & 3b.

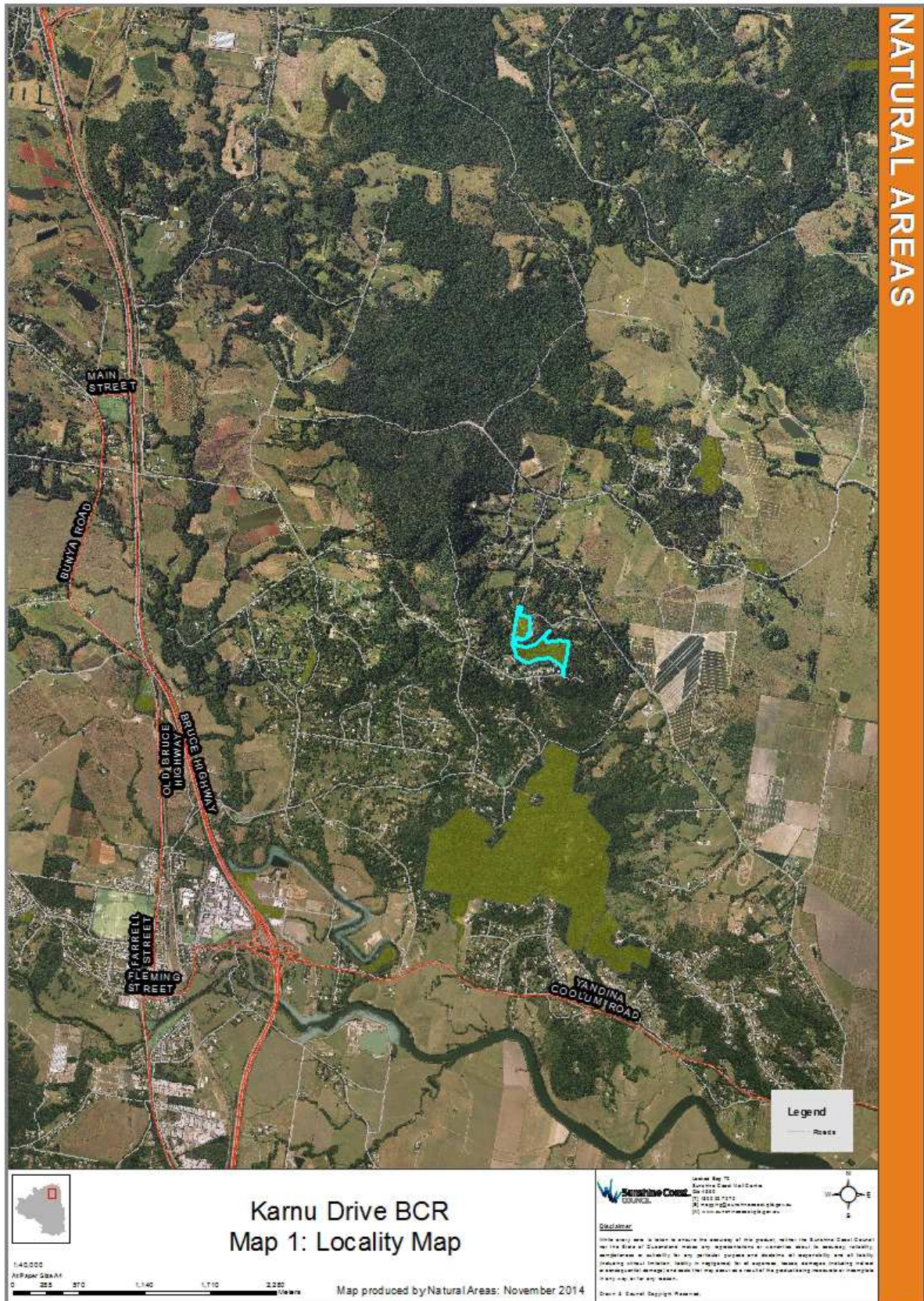
### Other considerations

There are some large vegetated land parcels to the northwest and south of the reserve, which increases the potential for landscape scale bushfires to enter the reserve. There are 10 properties situated

above the reserve on Karnu Drive. These properties are at risk from a wildfire moving rapidly up the steep slopes. Whilst there is a fire trail below their northern boundaries, most of these properties have between 20-80 metres of remnant vegetation between the houses and the boundaries of the reserve. Prescribed burns will require cooperation with these residents. A similar hazard will also apply to 13 neighbouring properties on Skybolt Road.

Overall the fire hazard has been assessed as being high, given the steep slopes and flammable vegetation within the reserve.

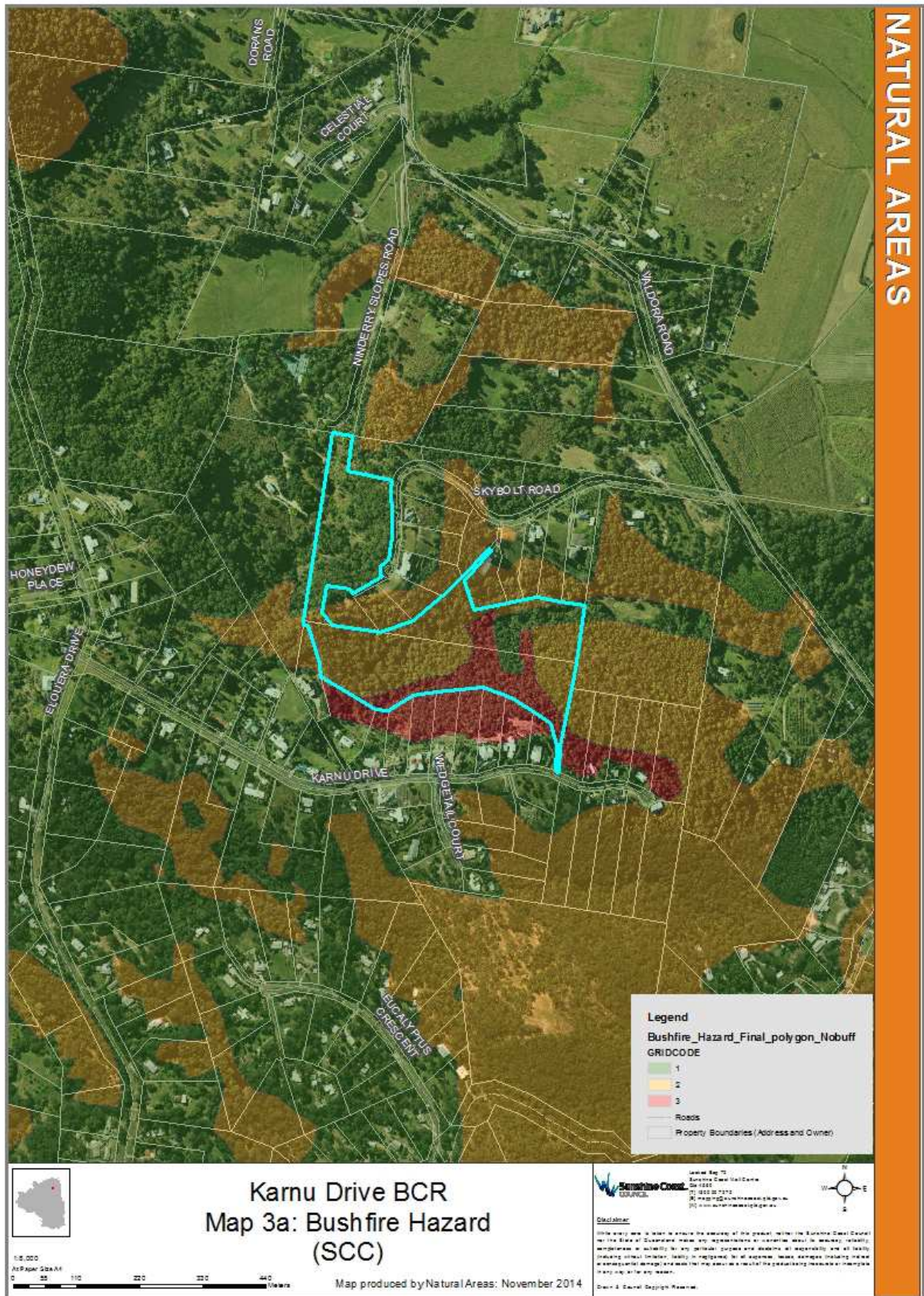
Map 1 - Locality Map



Map 2 - Vegetation Map

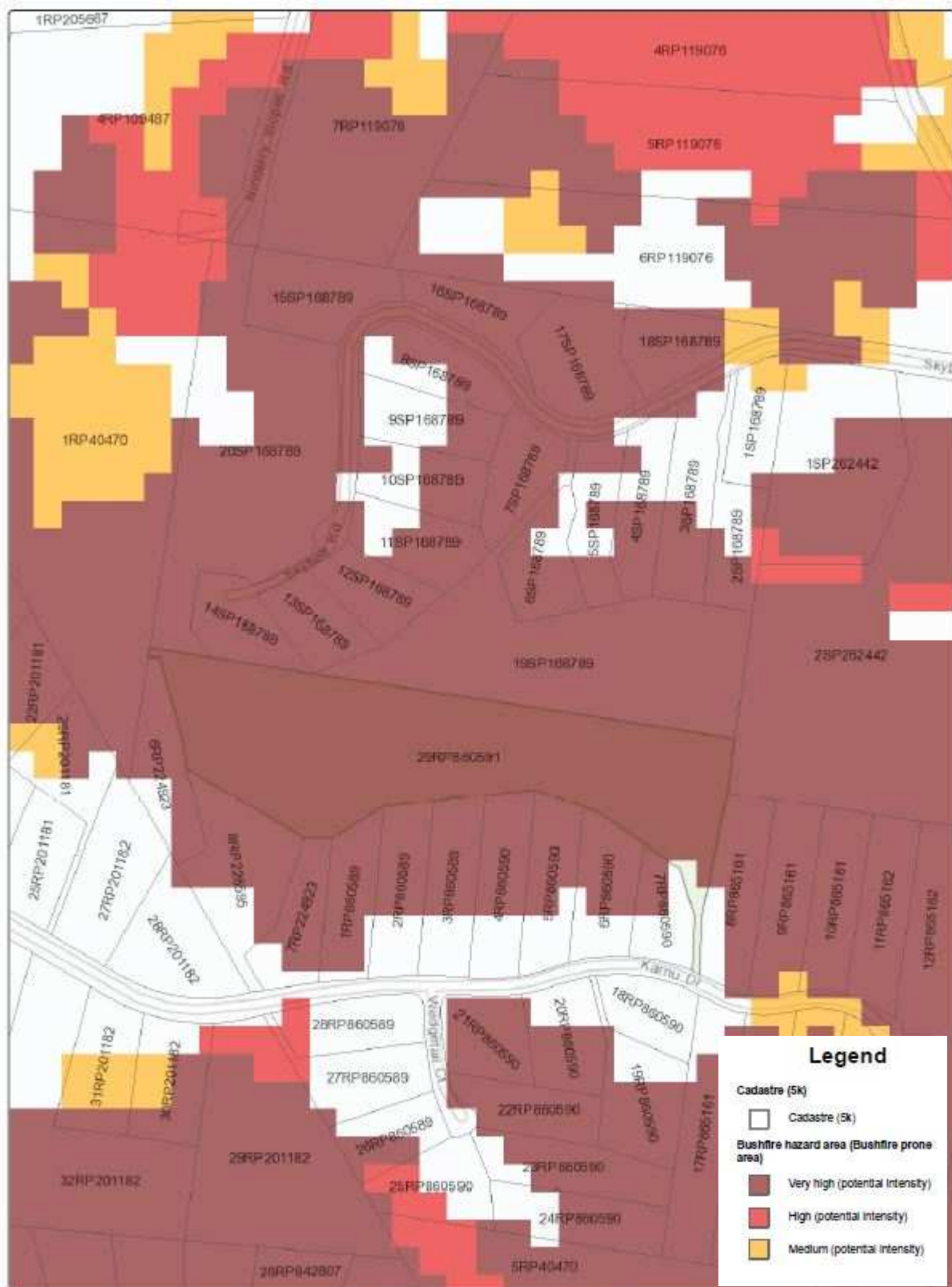


Map 3a - Bushfire Hazard Map (SCC)





Map 3b - Bushfire Hazard Map (SPP)



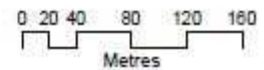
Department of  
State Development  
Infrastructure and Planning  
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**State Planning Policy**  
Local government development assessment

Date: 25/11/2014

Disclaimer:

This map has been prepared with due care based on the best available information at the time of publication. The department holds no responsibility for any errors, inaccuracies or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties. Please note whilst Bushfire Hazard Areas have not been triggered they may still apply.



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## **Planning methodology**

### ***Field assessment***

The site assessment was undertaken in conjunction with the vegetation survey and other information such as slope, fuel loads and aspect and dominant species associations.

### ***Fire Management Units***

Fire Management Units (FMU) are those areas within which fire can be managed to achieve management objectives.

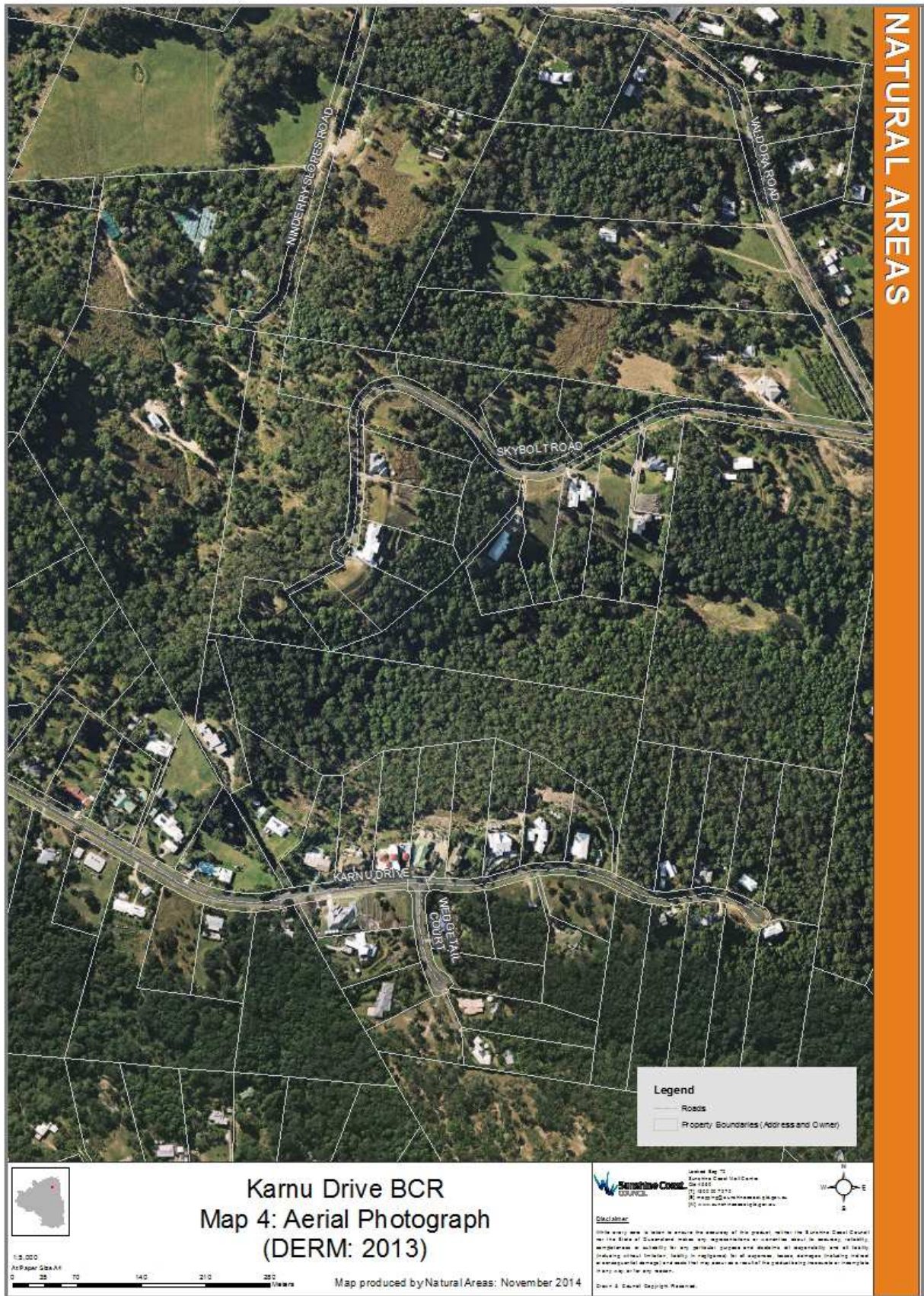
The FMUs are defined by existing firebreaks, fire trails, internal tracks and property boundaries.

The FMUs have been identified in Map 5.

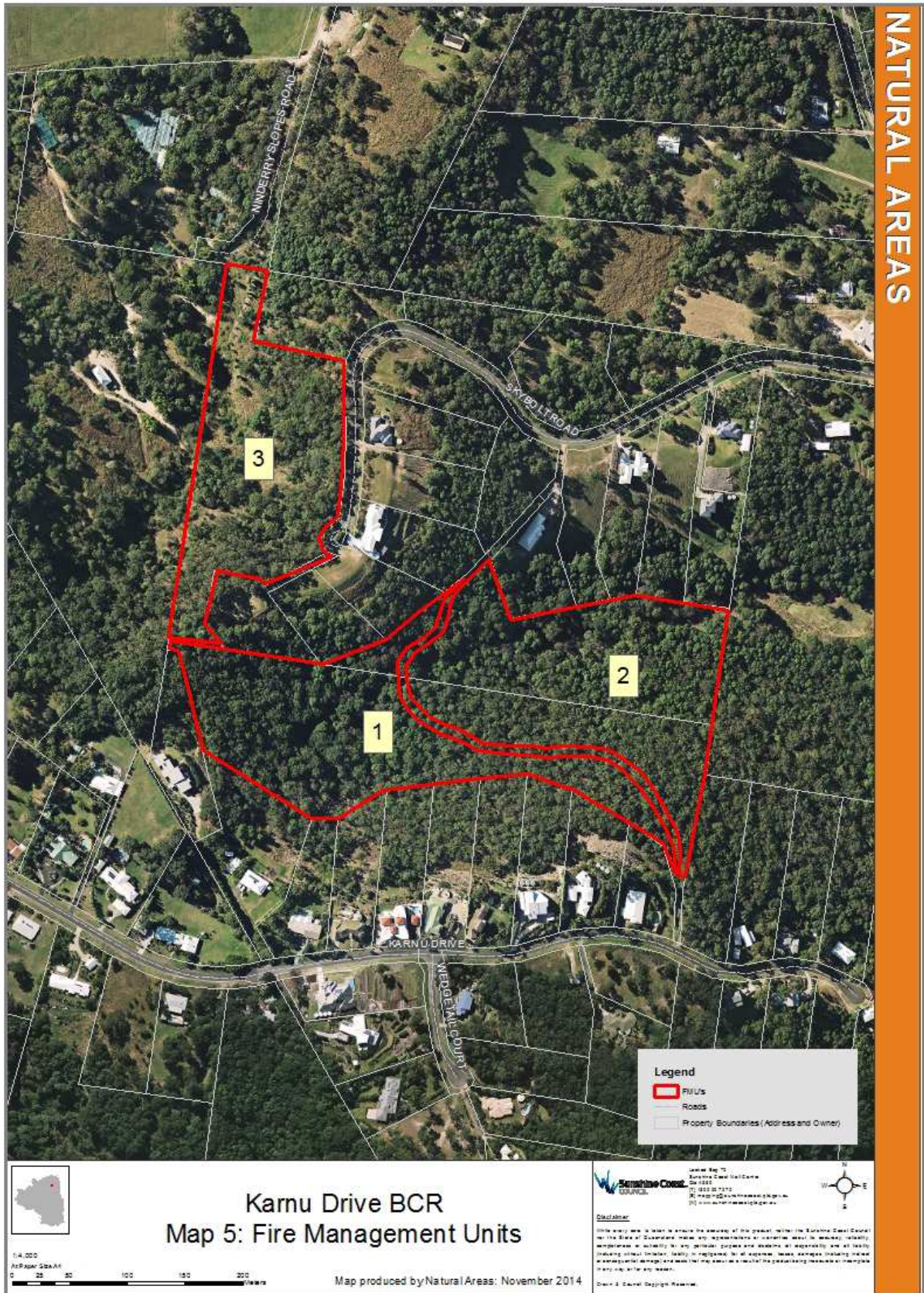
The fire management units allow for the development of management objectives which have relevance to either:

- Property protection,
- Protection of sensitive and significant vegetation or habitats; and
- Management of appropriate fuel loads.

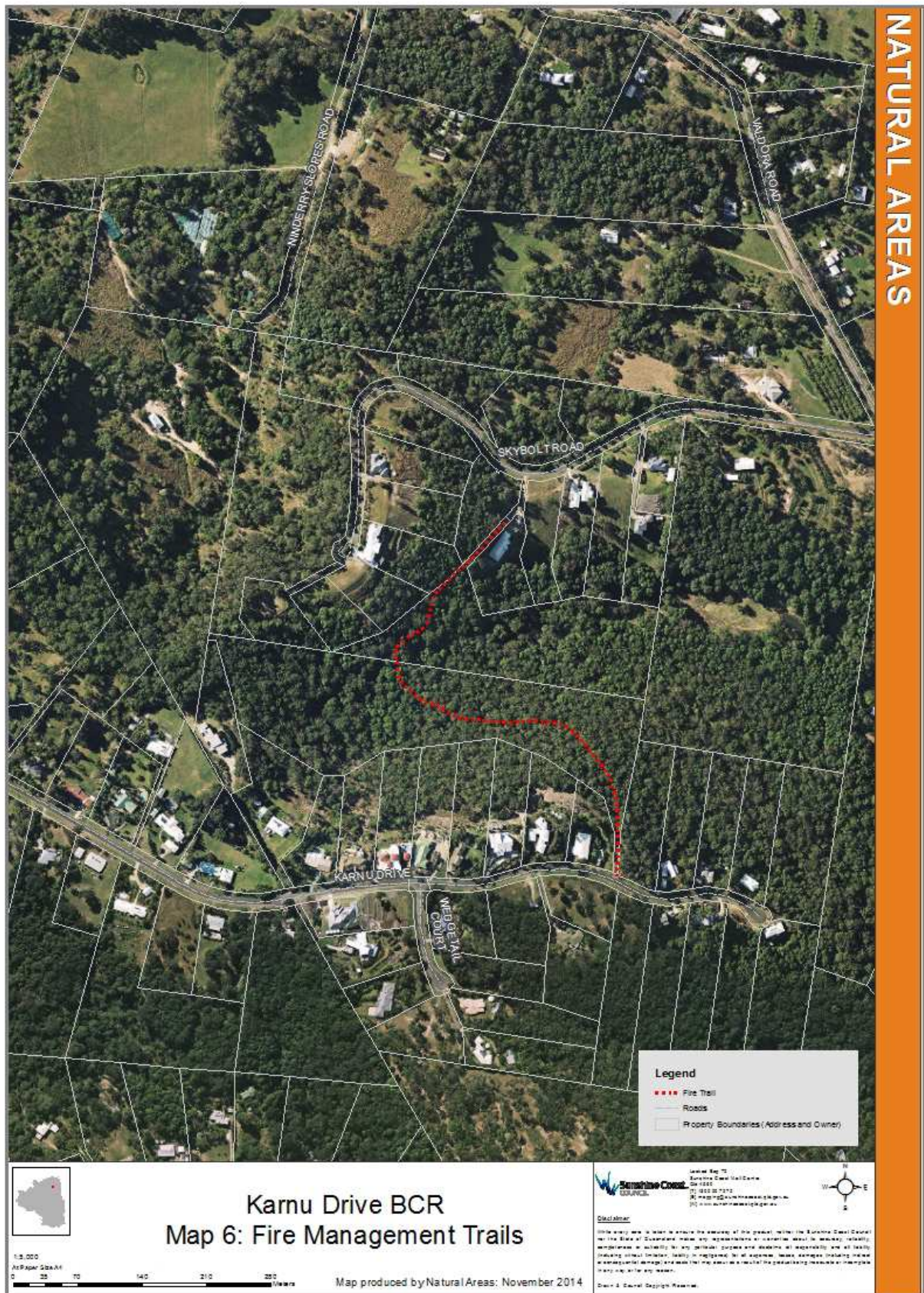
### Map 4 -Aerial Photograph



### Map 5 - Fire Management Units



# Map 6 - Fire Management Trails



## Fire Management Units - Management Prescriptions

Block Number	Management Unit 1
Description	<p>This management area is located in the south-western portion of the reserve.</p> <p>The area has a good cover of vegetation although some small areas impacted by <i>Melinis minutiflora</i>; these are being treated with herbicide.</p> <p>The management area is bounded on western and southern sides by private property. The eastern and northern boundaries are a rock lined 4WD track that runs through to Skybolt Road (see Map 5).</p>
Access to FMU	Access is via Karnu Drive. A rock lined 4WD track runs through to Skybolt Road.
Water sources	There are no fire hydrants in the area. Water may be available from adjacent private properties. Firefighting water can be obtained from the water tank in Leach Park opposite Waterfall Road.
Vegetation communities	This area is dominated by RE 12.12.23 - <i>Eucalyptus tereticornis</i> , <i>E. eugenioides</i> woodland on crests, upper slopes and elevated valleys on Mesozoic to Proterozoic igneous rocks, with a small portion of RE 12.12.15 - <i>Eucalyptus siderophloia</i> , <i>E. propinqua</i> , <i>E. acmenioides</i> open forest on near coastal hills on Mesozoic to Proterozoic igneous rocks.
Management objectives	<ul style="list-style-type: none"> <li>➤ Manage all biodiversity values within the unit;</li> <li>➤ Manage as a burning unit with fire frequencies between 5-15 years to protect the ecological values of the reserve, maintain a grassy understorey and protect adjacent private properties.</li> </ul>
Management prescriptions	<ol style="list-style-type: none"> <li>1. Undertake planned burns every 5-15 years to maintain ecological values. These burns will also need to include adjacent privately owned bushland areas.</li> <li>2. Extinguish all unplanned fires should they commence within the open forest/woodland components of the Management Unit.</li> </ol>
Burning regime	Burning unit (5-15 years)

Block Number	Management Unit 2
Description	<p>This management area is located in the south-eastern portion of the reserve.</p> <p>The area has a good cover of vegetation although there are some small areas impacted by <i>Melinis minutiflora</i>, these are being treated with herbicide.</p> <p>The management area is bounded on western and southern sides by a rock lined 4WD track that runs from Karnu Drive to Skybolt Road, to the east and north by private properties (see Map 5).</p>
Access to FMU	Access is via Skybolt Road. A rock lined 4WD track runs from Karnu Drive to Skybolt Road.
Water sources	There are no fire hydrants in the area. Water may be available from adjacent private properties. Firefighting water can be obtained from the water tank in Leach Park opposite Waterfall Road.
Vegetation communities	This area is dominated by RE 12.12.15 - <i>Eucalyptus siderophloia</i> , <i>E. propinqua</i> , <i>E. acmenioides</i> open forest on near coastal hills on Mesozoic to Proterozoic igneous rocks.
Management objectives	<ul style="list-style-type: none"> <li>➤ Manage all biodiversity values within the unit;</li> <li>➤ Manage as a burning unit with fire frequencies between 10-25 years to</li> </ul>

	protect the ecological values of the reserve, particularly along the ephemeral creek.
Management prescriptions	<ol style="list-style-type: none"> <li>1. Undertake planned burns every 10-25 years to maintain ecological values. Allow fires to burn downhill and self extinguish as they enter into the ephemeral creek. These burns will also need to include adjacent privately owned bushland areas.</li> <li>2. Extinguish all unplanned fires should they commence within the open forest/woodland components of the Management Unit.</li> </ol>
Burning regime	Burning unit (10-25 years)

Block Number	Management Unit 3
Description	<p>This management area is located in the north-western portion of the reserve.</p> <p>The area consists of regrowth and non-remnant vegetation and is the most degraded by environmental weeds, particularly <i>Melinis minutiflora</i>.</p> <p>The management area is bounded on three sides by private property with some road frontage on the western side with Skybolt Road (see Map 5).</p>
Access to FMU	Access is via Skybolt Road. There are steep slopes only suitable for foot access.
Water sources	There are no fire hydrants in the area. Water may be available from adjacent private properties. Firefighting water can be obtained from the water tank in Leach Park opposite Waterfall Road.
Vegetation communities	This area is dominated by regrowth and non-remnant vegetation.
Management objectives	<ul style="list-style-type: none"> <li>➤ Consider rehabilitation activities to improve the biodiversity values within the unit;</li> <li>➤ Manage as a burning unit with fire frequencies between 10-25 years to protect adjacent private properties. Burns will required cooperation and access from neighbouring private properties.</li> </ul>
Management prescriptions	<ol style="list-style-type: none"> <li>1. Undertake planned burns every 5-15 years to protect adjacent private properties. These burns will also need to include adjacent privately owned bushland areas.</li> <li>2. Extinguish all unplanned fires should they commence within the open forest/woodland components of the Management Unit.</li> </ol>
Burning regime	Burning unit (10-25 years)

## General recommendations

- Fire management activities are to be focused along the southern boundary of the reserve to reduce risks to private properties on Karnu Drive and Skybolt Road.
- Liaison with neighbouring residents will be required to facilitate planned burns, as it is not practical to contain a burn within the reserve. It is also important to include the vegetation in the private properties on Karnu Drive and Skybolt Road to increase the effectiveness of any planned burning.
- Rehabilitation activities in FMU3 should be based on priority and available resources.

Action Required	By whom	Priority	Timeframe
Undertake hazard reduction burn in FMU1 and adjacent private property.	RFB and SCC	Medium	2015 - 2020
Liaise with adjacent residents.	SCC and RFB	High	To be coordinated prior to conducting hazard reduction burns