

Fire Management Plan

Mount Mellum Nature Refuge, Mount Mellum.



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Introduction

This fire management plan has been prepared to address community safety and the maintenance of ecological values in Mount Mellum NR (the reserve). The reserve is located to the west of Landsborough.

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 Emergency Services 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 2 on RP221886 and Lot 7 on RP210934. The size of the combined properties is approximately 38 hectares (see Map 1). The reserve can be accessed through two fire trails off Old Gympie Road.

Landscape

The dominant landscape features are slight to steep vegetated slopes, a number of rocky creek and gully lines, waterfalls, crests and ridges. The main creek line, situated in the mid to western sections of the reserve, flows in a northwest to southeast direction.

Vegetation

Version 8 Regional Ecosystem mapping identifies three RE's within the reserve. The following information on these RE's has been obtained from the Environmental Protection agency. Vegetation mapping for the reserve is presented in Map 2.

12.9-10.14 - *Eucalyptus pilularis* tall open forest with shrubby understorey. Other species include *Syncarpia glomulifera* subsp. *glomulifera*, *S. verecunda*, *Corymbia intermedia*, *Angophora woodsiana* and *Eucalyptus microcorys* in coastal areas and species of RE 12.9-10.5 in drier sub coastal areas. *Eucalyptus pilularis* sometimes extends

onto colluvial lower slopes. Occurs on Cainozoic and Mesozoic sediments especially sandstone. This RE is listed as "Least Concern".

12.9-10.14a - Open forest of *Eucalyptus grandis*, *Lophostemon confertus*, *E. microcorys*, *Syncarpia glomulifera* subsp. *glomulifera* +/- *E. pilularis*. Occurs on Cainozoic and Mesozoic sediments especially sandstone in wet gullies and southern slopes. This RE is listed as "Least Concern".

Fire management guidelines for both varieties of 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.

12.9-10.17d - Open forest generally containing *Eucalyptus siderophloia*, *E. propinqua*, *Corymbia intermedia*. Other characteristic species include

Lophostemon confertus, *Eucalyptus microcorys* and *E. acmenoides* or *E. portuensis*. Other species that may be present locally include *Corymbia trachyphloia* subsp. *trachyphloia*, *C. citriodora* subsp. *variegata*, *E. longirostrata*, *E. carnea*, *E. moluccana* and occasional vine forest species. Hills and ranges on Cainozoic and Mesozoic sediments. 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). Any moist sclerophyll that is relatively open with a mixture of grasses and shrubs should be a priority for fire management to retain RE structure.

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. Control of weeds is a major focus of planned burning in most areas. Careful thought should be given to maintaining ground litter and fallen timber habitats by burning only with sufficient soil moisture.

A detailed flora survey was undertaken in 2011 by Garry Thomas for Sunshine Coast Council with 230 native plant species identified. This includes 2 listed species. The Richmond Birdwing Vine (*Pararistolochia pravenosa*) listed in the Queensland Government's NCA 1992 as a 'Near Threatened' species and the Three-leaved Bosistoa (*Bosistoa transversa*) listed as 'Common' in the Queensland Government's NCA 1992 and as 'Vulnerable' in the Commonwealth Government's EPBC Act 1999.

It is unlikely that these two species would be impacted by both prescribed and unplanned fires as they occur primarily along the main creek line. The exact location of these species needs to be considered when undertaking any planned burns.

32 introduced species were also identified within the reserve. Most of these species are located along or near the access tracks extending from Old Gympie Road toward the mid-section of the reserve. Lantana is widespread throughout the reserve.

Fauna

No detailed fauna surveys have been undertaken in the reserve. In 2014 a Koala detection dog found evidence of Koalas in the reserve. Site inspection shows evidence of other fauna, such as the Glossy Black Cockatoo. *Allocasuarina littoralis* cones have been sighted chewed up on the ground under the female trees. 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. Most of the neighbouring properties are also dominated by grassy open forest. In addition there are some rainforest species present along the main gully and creek lines that may require

protection from fire if they are to persist in the long-term.

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 vegetated land parcels surrounding the reserve, which increases the overall area of vegetation available during a bushfire and the potential for landscape scale bushfires to enter the reserve.

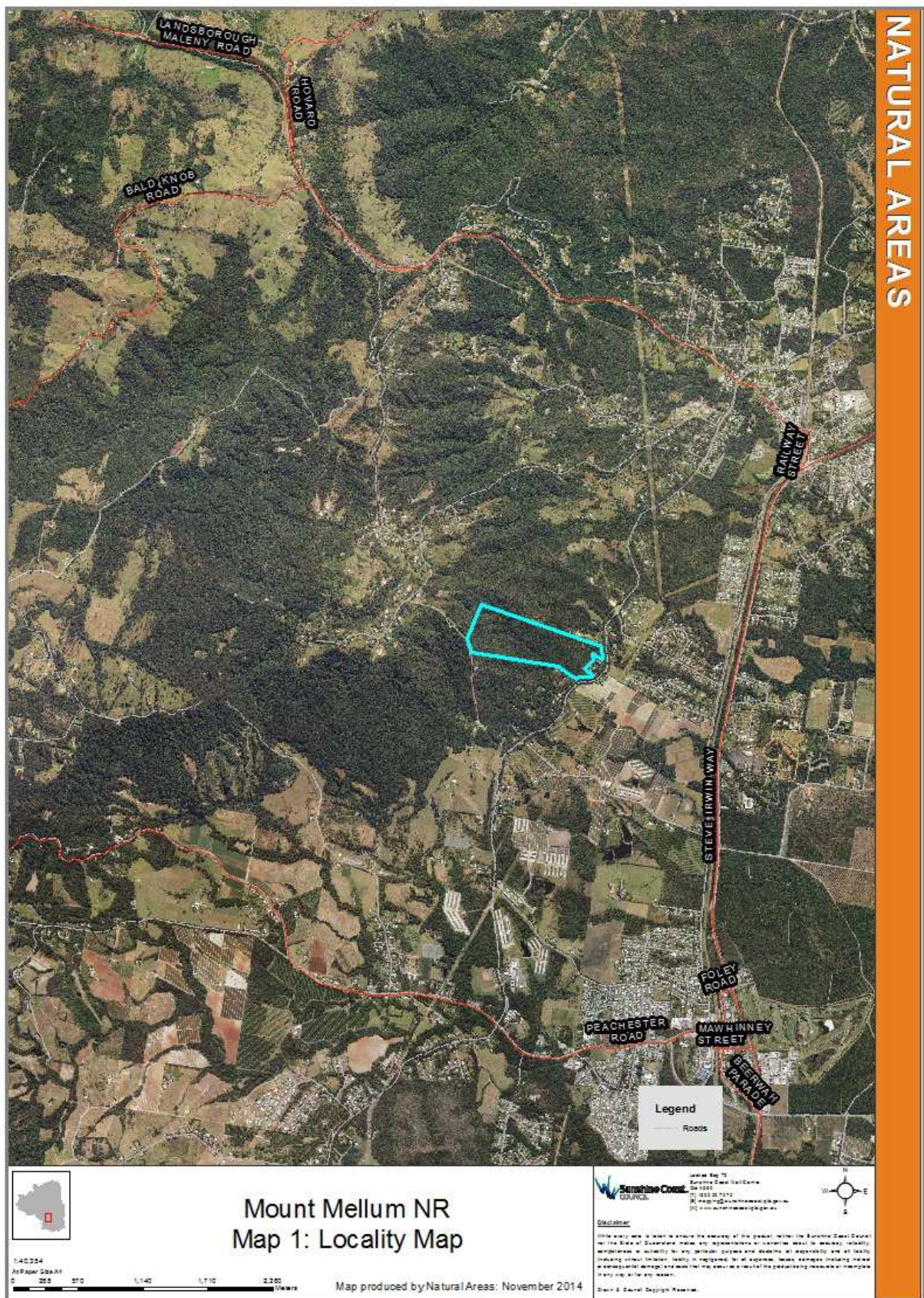
Overall the fire hazard has been assessed as being high, given the large size and steep slopes of the reserve. Whilst fires can and will occur within the reserve most adjacent residents are situated below the reserve which reduces the potential impacts of wildfire to life and property.

There is one private property located within the boundaries of the reserve. This property is accessed via Old Gympie Road.

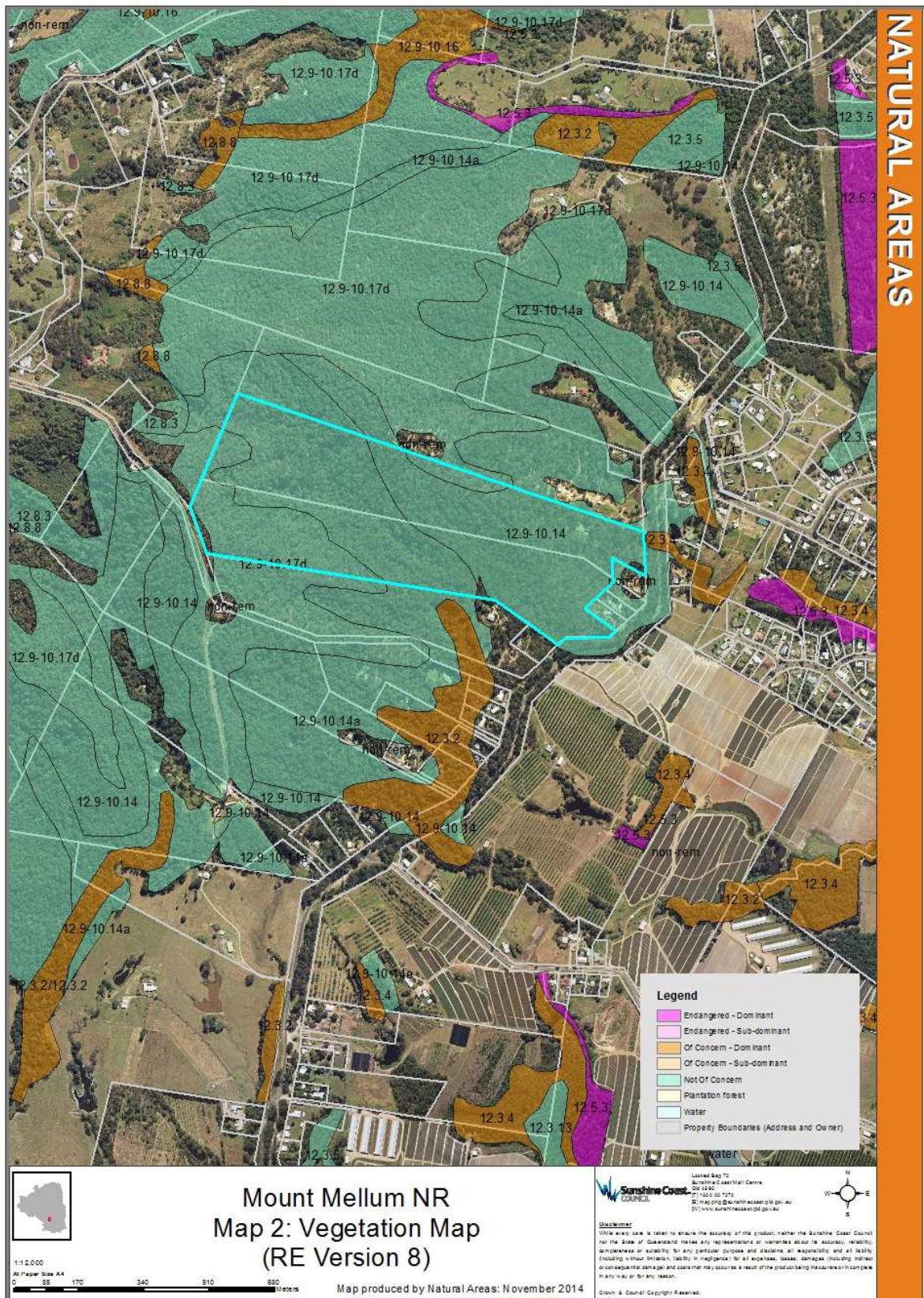
During the last prescribed burn in 2010 the landowner granted permission to Council access around the house to undertake the burn. There are 4 properties situated below the reserve on Old Gympie Road. These properties are at reduced risk from a wildfire moving downslope.

Prescribed burns in FMU2 and FMU3 will require cooperation with the property owners on the northeast, northwest and southern boundaries.

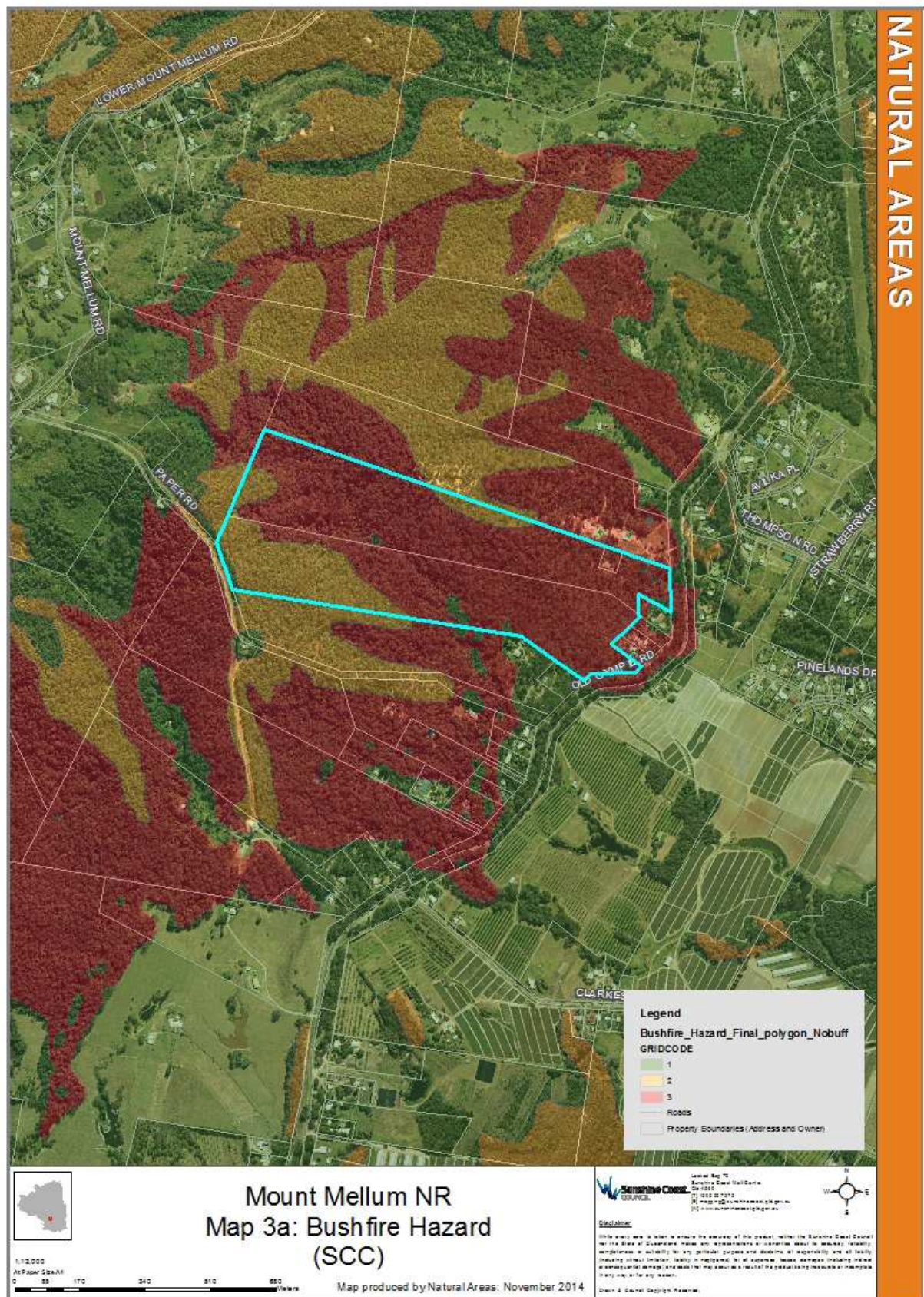
Map 1 - Locality Map



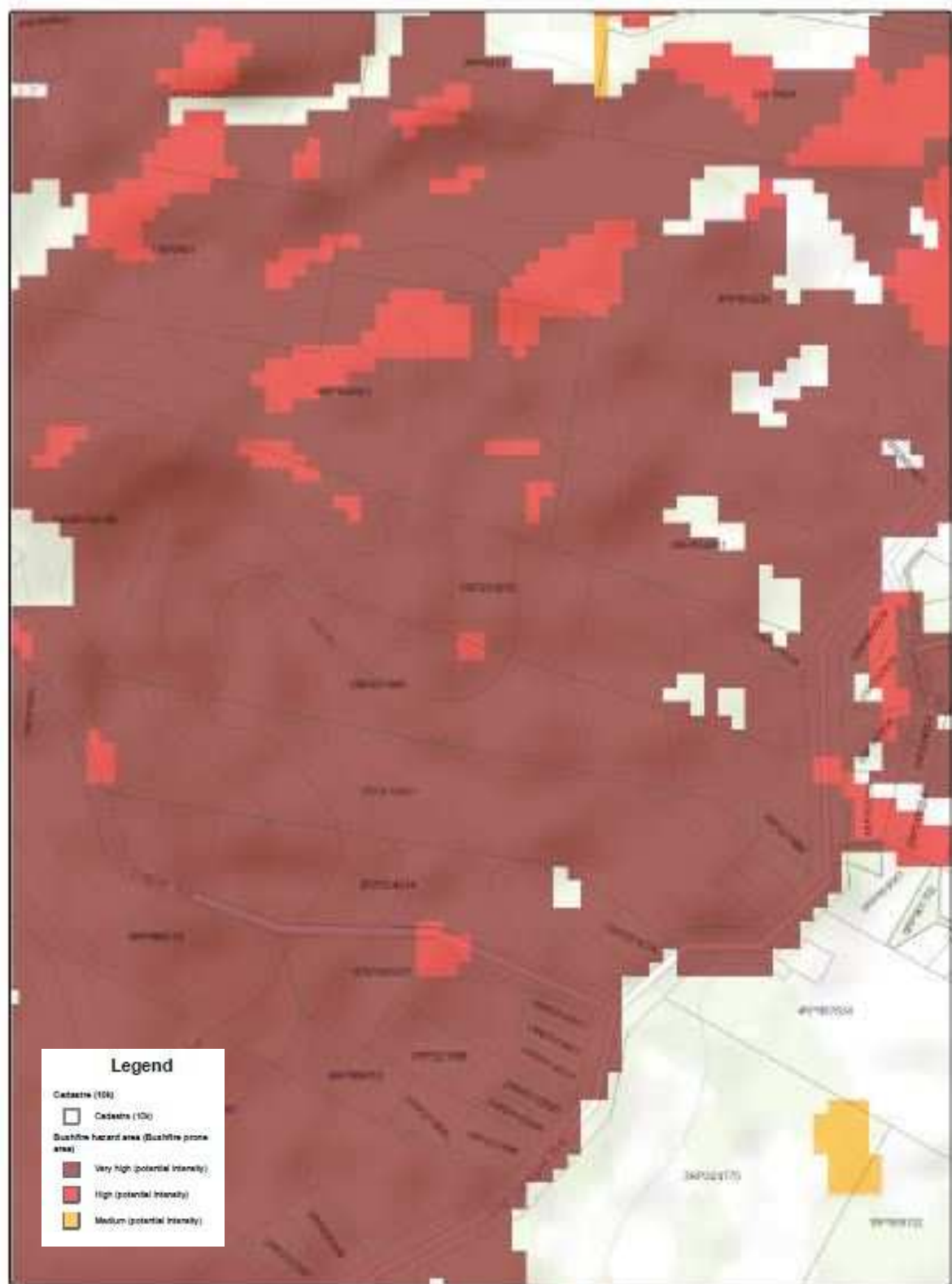
Map 2 - Vegetation Map



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: 28/11/2014

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

0 45 90 180 270 360
Metres

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

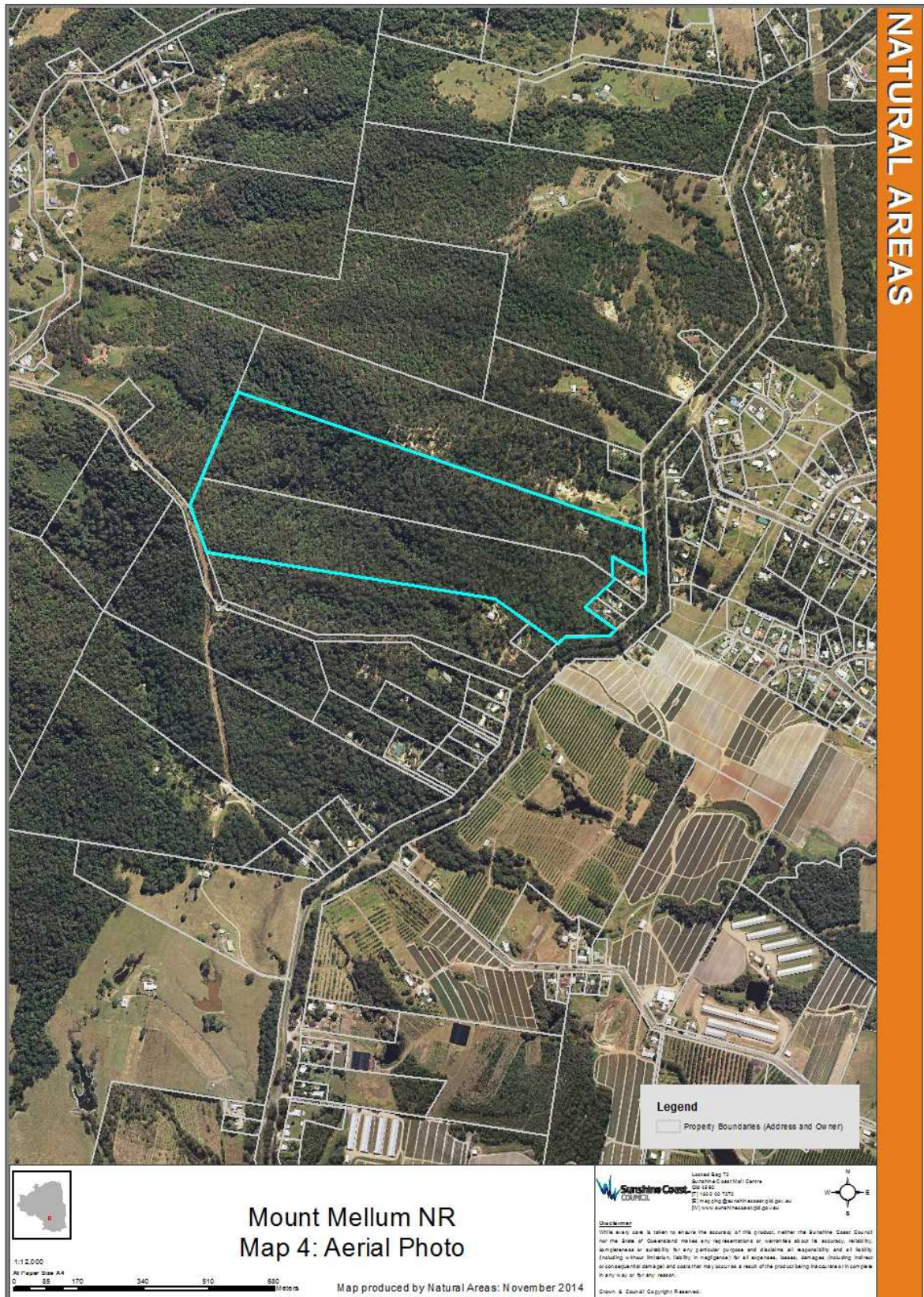
Fire Management Units (FMU) are those areas within which fire can be managed to achieve management objectives.

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.
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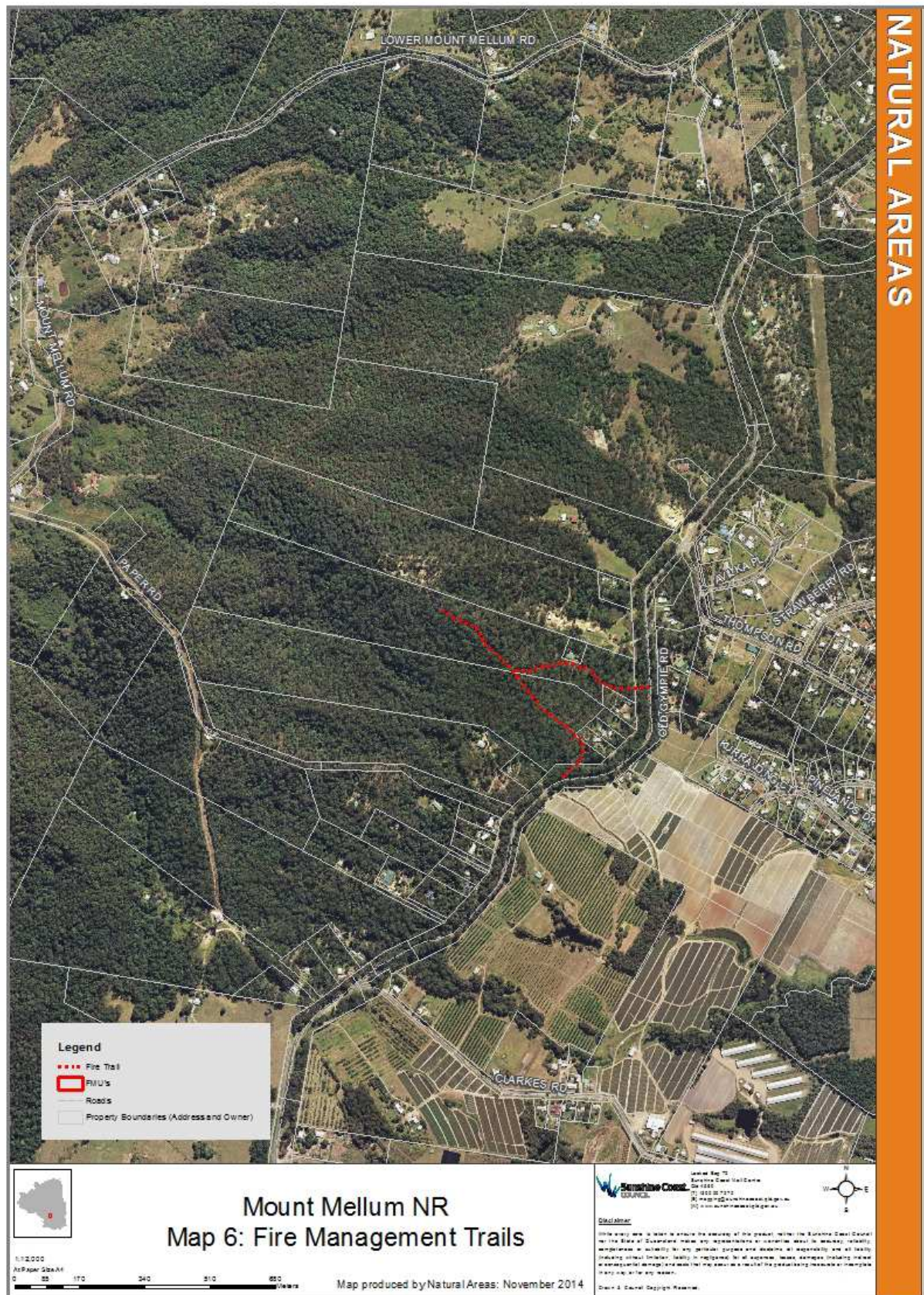
Map 4 -Aerial Photograph



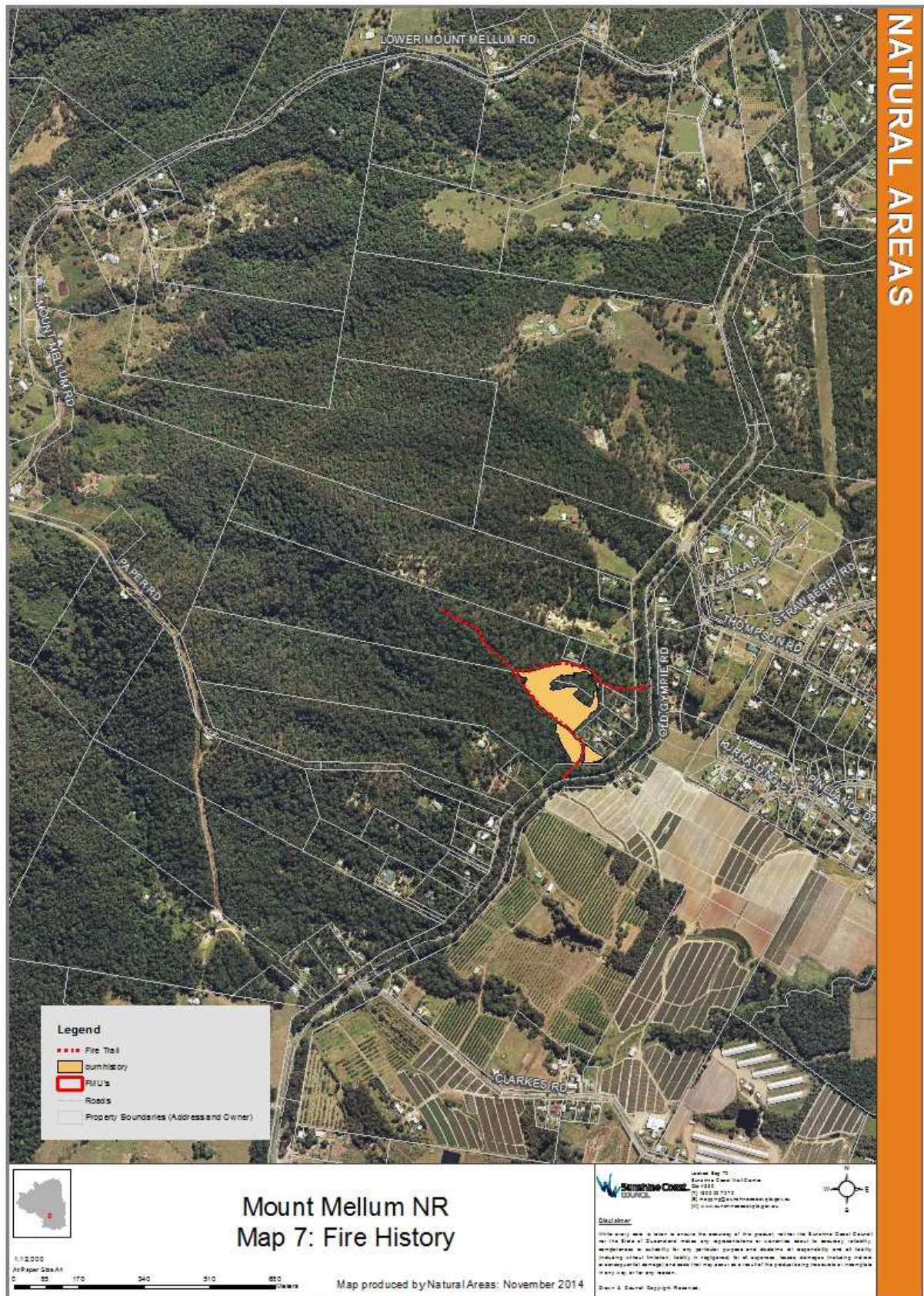
Map 5 - Fire Management Units



Map 6 - Fire Management Trails



Map 7 - Fire History



Fire Management Units - Management Prescriptions

Block Number	Management Unit 1
Description	<p>This management area is located in the eastern section of the reserve.</p> <p>The area has a good cover of vegetation with a grassy understorey.</p> <p>The management area is bounded on the eastern side by private property with some road frontage and by fire trails on the northern and western sides.</p>
Access to FMU	Access is via two fire trails off Old Gympie Road.
Water sources	There are fire hydrants on some local streets in the area. Water may also be available from adjacent private properties from pools or dams.
Vegetation communities	This area is dominated by RE 12.9-10.14 - <i>Eucalyptus pilularis</i> tall open forest on sedimentary rocks
Management objectives	<ul style="list-style-type: none"> ➤ Manage all biodiversity values within the unit; ➤ 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.
Management prescriptions	<ol style="list-style-type: none"> 1. Undertake planned burns every 5-15 years to maintain ecological values. 2. Extinguish all unplanned fires should they commence within the open forest/woodland components of the Management Unit. 3. Protect known Glossy-black Cockatoo feed trees during planned burns.
Burning regime	Burning unit (5-15 years) Last burnt in 2010.

Block Number	Management Unit 2
Description	<p>This management area is located in the northern section of the reserve.</p> <p>The area has a good cover of vegetation with a grassy understorey.</p> <p>The management area is bounded on the southern and western sides by the fire trail that runs from Old Gympie Road and to the north and east by private properties (see Map 5).</p>
Access to FMU	Access is via two fire trails off Old Gympie Road.
Water sources	There are fire hydrants on some local streets in the area. Water may be available from adjacent private properties from pools or dams.
Vegetation communities	<p>This area is dominated by RE 12.9-10.14 - <i>Eucalyptus pilularis</i> tall open forest on sedimentary rocks.</p> <p>A small portion of the area is RE 12.9-10.17d - <i>Eucalyptus acmenoides</i>, <i>E. major</i>, <i>E. siderophloia</i> +/- <i>Corymbia citriodora</i> subsp. <i>variegata</i> woodland on sedimentary rocks.</p>
Management objectives	<ul style="list-style-type: none"> ➤ Manage all biodiversity values within the unit; ➤ Manage as a burning unit with fire frequencies between 10-25 years to protect the ecological values of the reserve.
Management prescriptions	<ol style="list-style-type: none"> 1. Undertake planned burns every 10-25 years to maintain ecological values. These burns will also need to include adjacent privately owned bushland areas. 2. Extinguish all unplanned fires should they commence within the Management Unit.

Burning regime	Burning unit (10-25 years). Cooperation is required from residents on neighbouring properties as it is not practical to contain a burn within the reserve.
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Block Number	Management Unit 3
Description	<p>This management area covers the majority of the reserve from the western boundary off Paper Road to the southwest boundary off Old Gympie Road</p> <p>The area has a dense cover of Eucalypt vegetation, very steep slopes, creeks, ridges and rainforest gullies.</p> <p>The management area is bounded on three sides by private property with some road frontage on the western side with Paper Road (see Map 5).</p>
Access to FMU	Access is via Paper Road. There are steep slopes that may or may not be accessible by foot. Possibility of access via private property on northwest boundary with land owner's permission.
Water sources	There are fire hydrants on some local streets in the area. Water may be available from adjacent private properties from pool or dams.
Vegetation communities	<p>The lower section of this area is dominated by RE 12.9-10.14 - <i>Eucalyptus pilularis</i> tall open forest on sedimentary rocks.</p> <p>The middle section of this area surrounding the main gully is dominated by RE 12.9-10.14a - <i>Eucalyptus pilularis</i> tall open forest on sedimentary rocks.</p> <p>The upper section of this area is dominated by RE 12.9-10.17d - <i>Eucalyptus acmenoides</i>, <i>E. major</i>, <i>E. siderophloia</i> +/- <i>Corymbia citriodora</i> subsp. <i>variegata</i> woodland on sedimentary rocks.</p>
Management objectives	<ul style="list-style-type: none"> ➤ Manage all biodiversity values within the unit; ➤ Manage as a burning unit with fire frequencies between 10-25 years to maintain the ecological values of the reserve.
Management prescriptions	<ol style="list-style-type: none"> 1. Undertake planned burns every 10-25 years to maintain the ecological values of the reserve. These burns will also need to include adjacent privately owned bushland areas. 2. Allow fires to burn downhill and self-extinguish as they enter into the main gully.
Burning regime	Burning unit (10-25 years) Cooperation is required from residents on neighbouring properties as it is not practical to contain a burn within the reserve.

General recommendations

- Hazard reduction burns are to be focused in FMU1 to reduce the risk to private properties on Old Gympie Road.
- Cooperation is required from neighbouring properties to facilitate prescribed burns in FMU2 and FMU3, as it is not practical to contain burns in the units within the reserve.
- Prescribed burns will generally be undertaken to maintain ecological values within the reserve.

Action Required	By whom	Priority	Timeframe
Undertake hazard reduction burn in FMU1	SCC and RFB	Low	2015 - 2025
Undertake prescribed burn in FMU2, FMU3 and adjacent private property	SCC and RFB	Low	2020 - 2030
Liaise with adjacent residents.	SCC and RFB	Medium	To be coordinated prior to conducting prescribed burns in FMU2 or FMU3