

Fire Management Plan

*Annie Hehir Road Environmental Reserve,
Peachester.*



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Introduction

This fire management plan has been prepared to address community safety and the maintenance of ecological values in Annie Hehir Road Environmental Reserve (the reserve). The reserve is located to the northwest of Peachester.

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 4 on RP840233. The size of the property is approximately 45 hectares (see Map 1). The reserve can be accessed through a gated access trail off the unmade Annie Hehir Road.

Landscape

The dominant landscape features are moderate to very steep vegetated slopes, ridges and a number of gully lines, creek flats and terraces. The upper reaches of the Stanley River is the main water course which runs along the western boundary of the reserve. This main creek line flows in a northwest to southeast direction with several gullies entering from the north and northeast.

Vegetation

Version 8 Regional Ecosystem mapping identifies five 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.

12.3.1 - Complex to simple notophyll vine forest. *Waterhousea floribunda* is predominant fringing stream channels. Other species can include *Cryptocarya hypospodia*, *C. obovata*, *C. triplinervis*,

Argyrodendron trifoliolatum, *Ficus coronata*, *F. fraseri*, *F. macrophylla* forma *macrophylla*, *Aphananthe philippinensis*, *Elaeocarpus grandis*, *Grevillea robusta*, *Castanospermum australe* and *Syzygium francisii*. *Ficus racemosa* and *Nauclea orientalis* in north of bioregion. *Eucalyptus* spp. emergents (e.g. *E. grandis*) and *Araucaria cunninghamii*; less commonly *Agathis robusta* may also be present. Occurs on Quaternary alluvial plains and channels. This RE is listed as “Endangered”.

Fire management guidelines for this RE are;

STRATEGY: Do not burn deliberately. Protection relies on broad-scale management of surrounding country. May need active protection from wildfire in extreme conditions or after prolonged drought. Planned burns should not create a running fire into vine forest. Ensuring conditions of good soil moisture and moisture of litter in surrounding communities will limit fire behaviour/intensity.

ISSUES: Fire sensitive and not normally flammable. Some preliminary work suggests rainforest seedling germination from planned burning activities will assist the establishment of seedlings in newly burnt areas, especially due to smoke. There may be issues with lantana and other weeds from fire and other disturbance. Remnants may be limited by frequent fire at the margins; this requires further research.

12.12.1 - Notophyll and notophyll/microphyll vine forest, sometimes with *Archontophoenix cunninghamiana* and/or *Lophostemon confertus* closed forest. The plant families *Lauraceae*, *Myrtaceae* and *Elaeocarpaceae* are diagnostic of the type and *Pouteria queenslandica* is common in the northern half of the bioregion. *Araucaria cunninghamii* is often present on margins. Occurs in gullies on Mesozoic to Proterozoic igneous rocks especially granite and rhyolite. This RE is listed as “Of Concern”.

Fire management guidelines for this RE are;

STRATEGY: Do not burn deliberately. Protection relies on broad-scale management of surrounding country. May need active protection from wildfire in extreme conditions or after prolonged drought. Planned burns should not create a running fire into vine forest. Ensuring conditions of good soil moisture and moisture of litter in surrounding communities will limit fire behaviour/intensity.

ISSUES: Fire sensitive and not normally flammable. Some preliminary work suggests rainforest seedling germination from planned burning activities will assist the establishment of seedlings in newly burnt areas, especially due to smoke. There may be issues with lantana and other weeds from fire and other disturbance. Remnants may be limited by frequent fire at the margins; this requires further research.

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.

12.12.15a - *Eucalyptus grandis* and/or *E. saligna* tall open forest +/- vine forest understorey. Other canopy species include *E. microcorys*, *E. acmenoides*, *Lophostemon confertus*, *E. siderophloia*, *E. propinqua*, *Corymbia intermedia*. Occurs in wet gullies 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). It is unlikely that mosaic burns will be achievable because fire would most likely be of higher intensity (i.e., likely to be a wildfire) and is only likely to occur at long intervals (at least 20+ years) during prolonged dry periods. In exceptional circumstances, different localities containing this ecosystem could be burnt to ensure a continuum of habitat availability across the broader landscape. Using this strategy maximises the probability of spatial mosaics in the landscape.

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. There is evidence that suggests that infrequent high intensity fires sustain the eucalypt overstorey. Wet sclerophyll has been shown to be a moving ecotone between vine forest and moist/dry sclerophyll.

A detailed flora survey was undertaken in 2012 by Garry Thomas for Sunshine Coast Council with 291 native flora species identified. This includes 7 scheduled species. The Richmond Birdwing Vine (*Pararistolochia pravenosa*), Corky Cucumber (*Nothoalsomitra suberosa*), Senna (*Senna acclinis*) and Thready Barked Myrtle (*Gossia inophloia*) listed in the Queensland Government's *Nature Conservation Act 1992* as 'Near Threatened' species and Red Lilly Pilly (*Syzygium hodgkinsoniae*), Maroochy Nut (*Macadamia ternifolia*) and Romnalda (*Romnalda strobilacea*) listed in the

Queensland Government's *NCA 1992* and in the Commonwealth Government's *EPBC Act 1999* as 'Vulnerable'.

It is unlikely that these species would be impacted by both prescribed and unplanned fires as they occur primarily in the rainforest vegetation areas. The exact location of these species needs to be considered when undertaking any planned burns.

25 introduced species were also identified within the reserve. Several Class 3 'declared' species were observed along the main creek line, including Small-leaved Privet (*Ligustrum sinense*) and Green Wandering Jew (*Tradescantia fluminensis*). *Lantana camara* and Camphor Laurel (*Cinnamomum camphora*) are widespread throughout the reserve.

Fauna

A survey targeting threatened frog species was undertaken by Ed Meyer in late 2013 - early 2014. Ten (10) frog species were recorded in total, three (3) of those species are listed as threatened; The Giant Barred Frog (*Mixophyes iteratus*), Cascade Tree Frog (*Litoria pearsoniana*) and the Tusked Frog (*Adelotus brevis*).

Two seasonal fauna surveys (spring and autumn) were conducted by Native Foresters in 2014 to collect fauna inventory data and report on habitat condition. The surveys included terrestrial and arboreal mammals and reptiles. The surveys targeted Endangered, Vulnerable and Near Threatened (EVNT) species under the *EPBC Act (1999)* and *NC Act (1992)*. A total of 109 native species were identified including mammals, reptiles, birds, frogs and invertebrates. Twenty-three (23) mammal species, fourteen (14) micro-bat species, nineteen (19) reptile species and four (4) pest species were observed in the reserve.

Summary of Ecological Issues

A large portion of the reserve is dominated by tall open forest, which will

require periodic fire to maintain the open understorey. The neighbouring properties to the north, east and south of the reserve are also dominated by tall open forest.

Due to the diversity of fauna in the reserve it is essential to establish and maintain a range of habitat types. Where it is possible to burn safely, fire should be used to maintain the open forest structure. For areas where it is not possible to contain a burn within the reserve burning will be less frequent. This will result in a thicker vegetation and an established mid storey.

The areas dominated by gallery rainforest along the main creek line and the notophyll vine forest toward the middle of the reserve will require fire exclusion.

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.

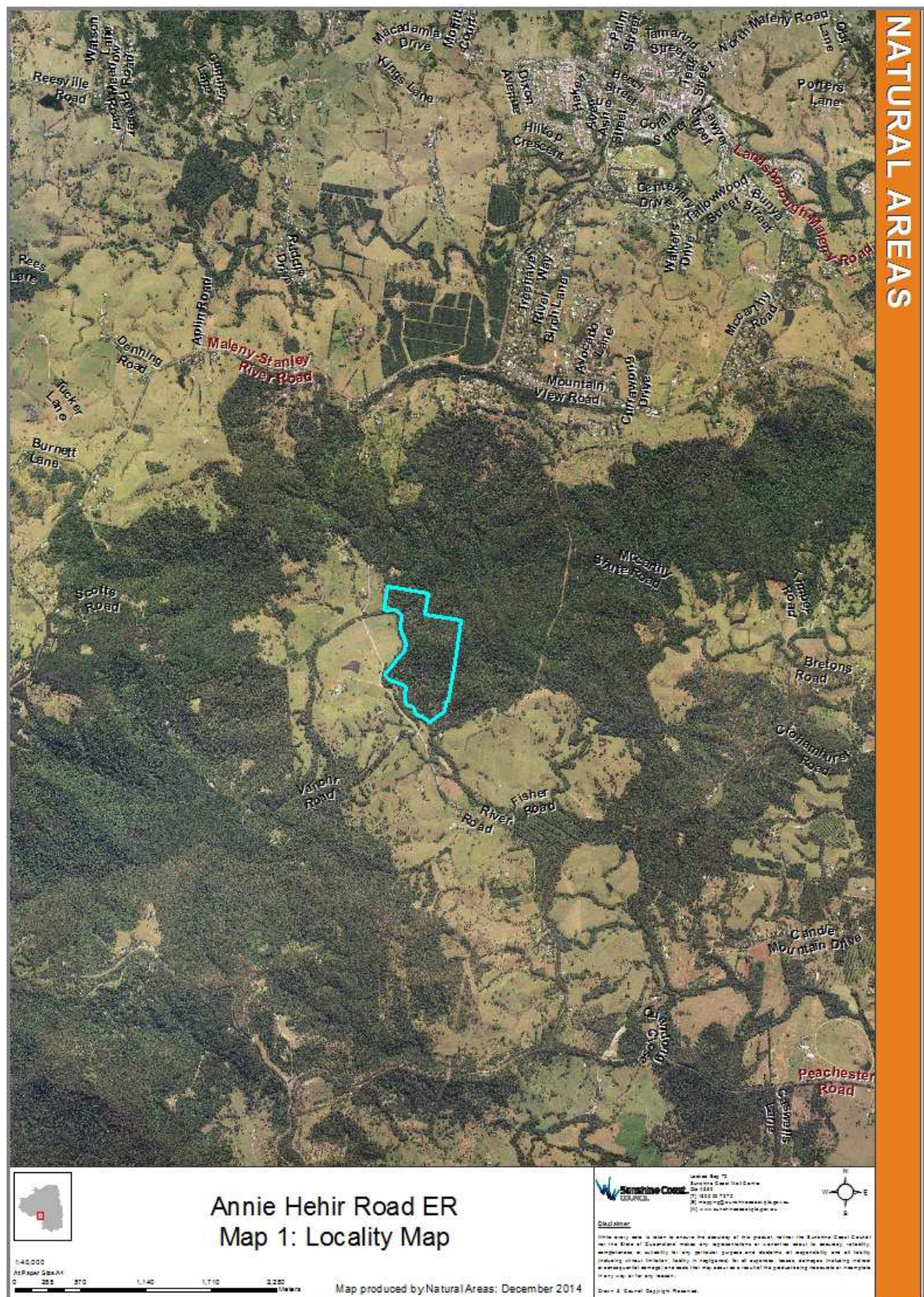
Other considerations

The reserve is surrounded by large vegetated land parcels to the north, east and southeast, which increases the overall area of vegetation available during a bushfire and the potential for landscape scale bushfires to enter the reserve. The reserve itself only makes up approximately 10% of the total surrounding vegetated landscape to the north & east, which includes the 360ha Glass House Mountains National Park.

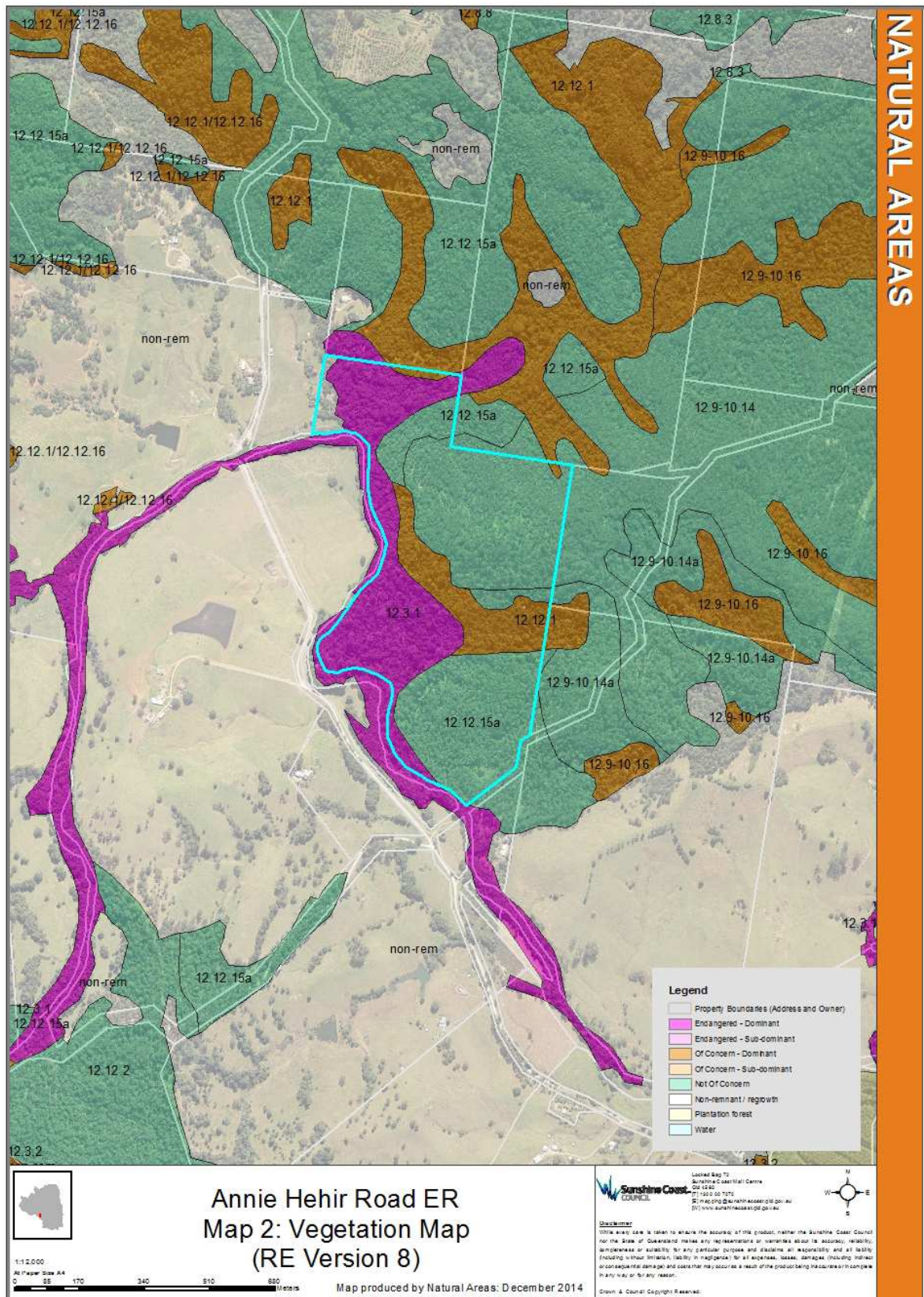
Overall the fire hazard has been assessed as being high, given the large size and steep slopes of the reserve. Whilst fires can and will occur within the reserve, the closest residents have River Road and Annie Hehir Road, the Stanley River and smaller creeks between their properties and the reserve. This reduces the potential impacts of wildfire to life and property.

Prescribed burns in some areas of the reserve will require cooperation with neighbouring property owners as burns cannot be contained within the reserve boundary due to the steep terrain.

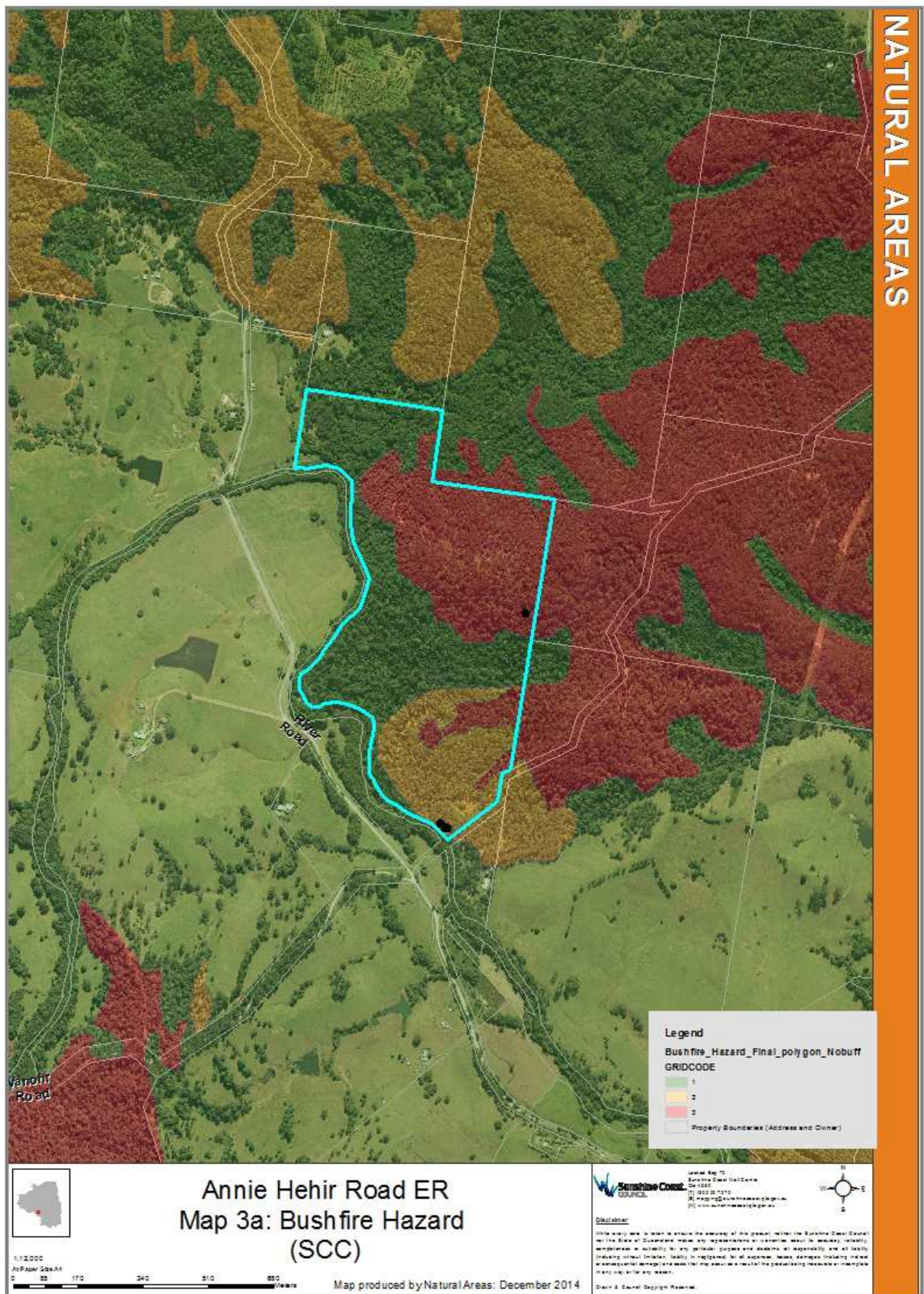
Map 1 - Locality Map



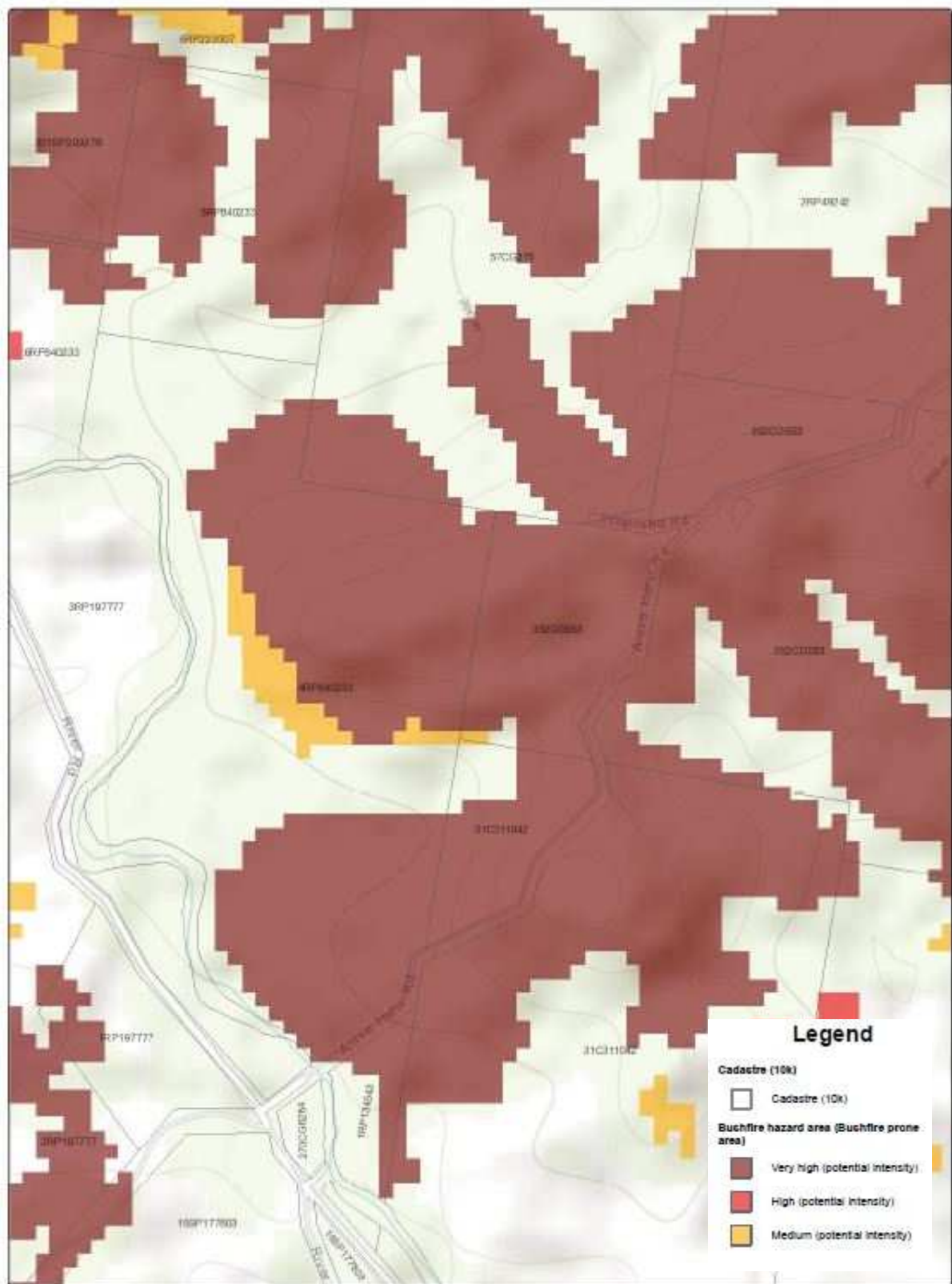
Map 2 - Vegetation Map



Map 3a - Bushfire Hazard Map (SCC)



Map 3b - Bushfire Hazard Map (SPP)



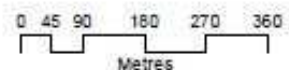
Department of
State Development
Infrastructure and Planning

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State Planning Policy
Local government development assessment

Date: 03/12/2014

Disclaimer:
This map has been prepared with due care based on the best available information at the time of publication. The department takes no responsibility for any errors, omissions or inaccuracies 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.



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 the management objectives.

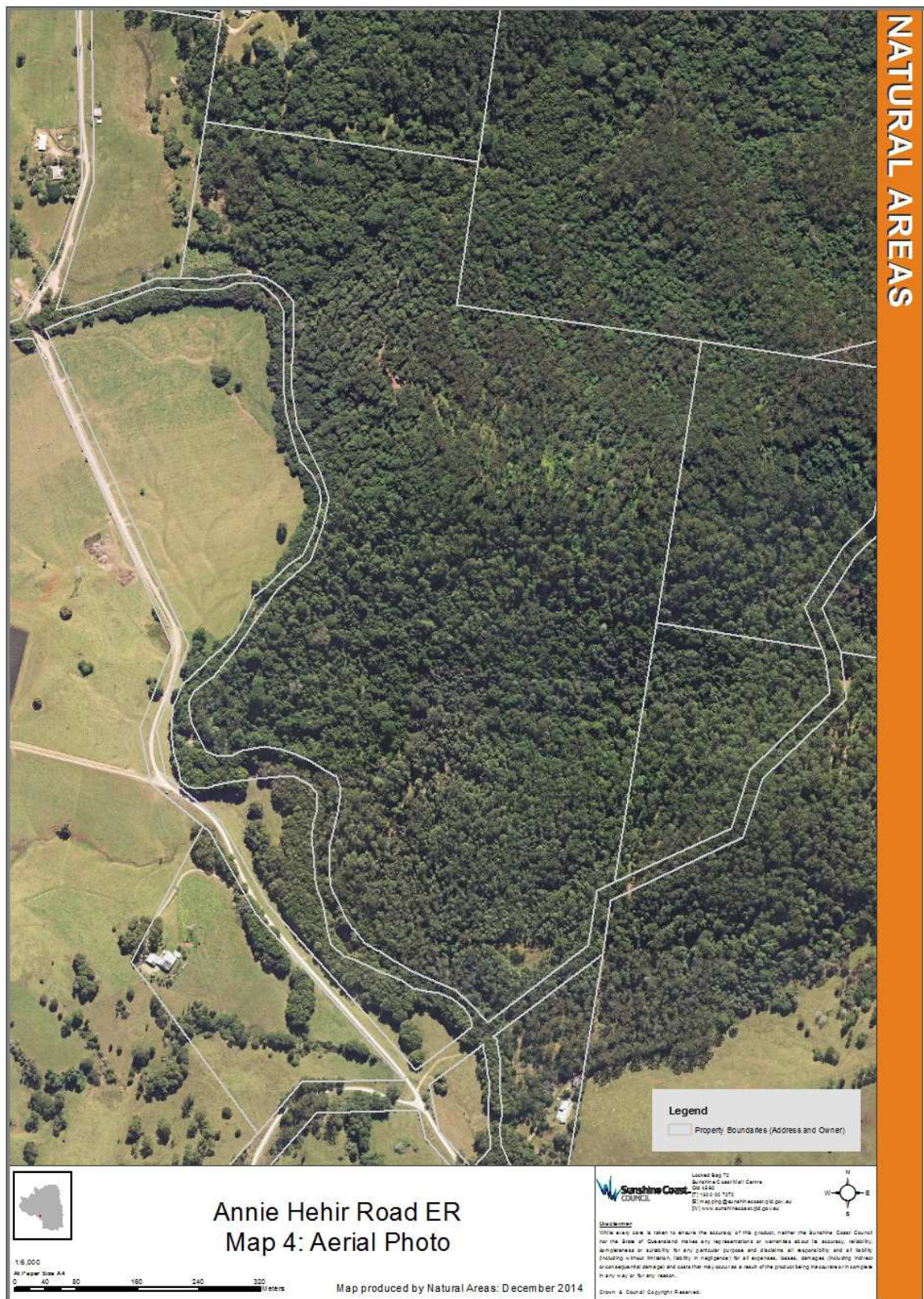
The FMUs are defined by existing firebreaks, fire trails, internal tracks and property boundaries.

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



Fire Management Units - Management Prescriptions

Block Number	Management Unit 1
Description	<p>This management area is located in the north western section of the reserve.</p> <p>The area has a good cover of vegetation with a grassy and shrubby understorey.</p> <p>The management area is bounded by the access trail to the north, east and south and by FMU5 to the west.</p>
Access to FMU	Access is via the access trail off Annie Hehir Road (unmade road).
Water sources	There are no fire hydrants in the area. Water may be available from dams on adjacent properties off River Road. Stanley River on the property boundary may provide water if it is flowing. A water truck may also be required.
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 5-10 years to protect the ecological values of the reserve and maintain the grassy and shrubby understorey.
Management prescriptions	<ol style="list-style-type: none"> 1. Undertake planned burns every 5-10 years to maintain ecological values. 2. Extinguish all unplanned fires should they commence within the Management Unit.
Burning regime	Burning unit (5-10 years).

Block Number	Management Unit 2
Description	<p>This management area is located in the north eastern section of the reserve.</p> <p>The area has a good cover of vegetation with a grassy and shrubby understorey.</p> <p>The management area is bounded to the north, east and west by the access trails and by FMU5 to the south (see Map 5).</p>
Access to FMU	Access is via the access trail off Annie Hehir Road (unmade road).
Water sources	There are no fire hydrants in the area. Water may be available from dams on adjacent properties off River Road. Stanley River on the property boundary may provide water if it is flowing. A water truck may also be required.
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 5-10 years to protect the ecological values of the reserve and maintain the grassy and shrubby understorey.
Management prescriptions	<ol style="list-style-type: none"> 1. Undertake planned burns every 5-10 years to maintain ecological values. 2. Extinguish all unplanned fires should they commence within the

	Management Unit.
Burning regime	Burning unit (5-10 years).

Block Number	Management Unit 3
Description	<p>This management area covers the northern section of the reserve. The area has a dense cover of Eucalypt vegetation, steep slopes, creeks, ridges and gullies.</p> <p>The management area is bounded to the north and east by private property and the west and south by the access trails (see Map 5).</p>
Access to FMU	Access is via the access trail off Annie Hehir Road (unmade road).
Water sources	There are no fire hydrants in the area. Water may be available from dams on adjacent properties off River Road. Stanley River on the property boundary may provide water if it is flowing. A water truck may also be required.
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 is RE 12.3.1 - Gallery rainforest (notophyll vine forest) on alluvial plains.</p> <p>A small portion is RE 12.12.15a - <i>Corymbia intermedia</i> +/- <i>Eucalyptus propinqua</i>, <i>E. siderophloia</i>, <i>E. microcorys</i>, <i>Lophostemon confertus</i> open forest on Mesozoic to Proterozoic igneous 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. Extinguish all unplanned fires should they commence within the Management Unit. 2. Allow fires to burn downhill and self extinguish as they reach the open forest/rainforest ecotone.
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.

Block Number	Management Unit 4
Description	<p>This management area is located on the eastern side of the reserve.</p> <p>The area contains notophyll vine forest and tall open forest on varied terrain of very steep slopes, ridges, creeks, and gullies.</p> <p>The management area is bounded by the access trail to the west and by private property to the north, south and east. (see Map 5).</p>
Access to FMU	Access is via the access trail off Annie Hehir Road (unmade road).
Water sources	There are no fire hydrants in the area. Water may be available from dams on adjacent properties off River Road. Stanley River on the property boundary may provide water if it is flowing. A water truck may also be required.
Vegetation communities	<p>This area is dominated by RE 12.12.15a - <i>Corymbia intermedia</i> +/- <i>Eucalyptus propinqua</i>, <i>E. siderophloia</i>, <i>E. microcorys</i>, <i>Lophostemon confertus</i> open forest on Mesozoic to Proterozoic igneous rocks.</p> <p>A small portion is mapped as RE 12.12.1 - Simple notophyll vine forest usually with abundant <i>Archontophoenix cunninghamiana</i> (gully vine forest)</p>

	on Mesozoic to Proterozoic igneous 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 10-25 years to maintain the ecological values of the reserve.
Management prescriptions	<ol style="list-style-type: none"> 1. Extinguish all unplanned fires should they commence within the Management Unit. 2. Allow fires to burn downhill and self extinguish as they reach the open forest/rainforest ecotone.
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.

Block Number	Management Unit 5
Description	<p>This management area covers the majority of the western side of the reserve from the southern entry off Annie Hehir Road to the northwest property boundary.</p> <p>The area is dominated by gallery rainforest, has steep slopes, ridges, creeks, and gullies.</p> <p>The management area is bounded to the east by the access trail and to the north, west & south by private property. There is some road frontage on the western side off River Road (see Map 5).</p>
Access to FMU	Access is via the access trail off Annie Hehir Road (unmade road).
Water sources	There are no fire hydrants in the area. Water may be available from dams on adjacent properties off River Road. Stanley River on the property boundary may provide water if it is flowing. A water truck may also be required.
Vegetation communities	This area is dominated by RE 12.3.1 - Gallery rainforest (notophyll vine forest) on alluvial plains.
Management objectives	<ul style="list-style-type: none"> ➤ Manage all biodiversity values within the unit; ➤ Manage as a non-burning unit to protect the ecological values of the reserve.
Management prescriptions	<ol style="list-style-type: none"> 1. Manage as a non-burning unit to maintain the ecological values of the reserve.
Burning regime	Non-burning unit

General recommendations

- Cooperation is required from property owners on neighbouring properties to facilitate prescribed burns in FMU3 & FMU4, as it is not practical to contain a burn within the reserve.
- Prescribed burns, where possible, will generally be undertaken to maintain ecological values within the reserve.

Action Required	By whom	Priority	Timeframe
Undertake prescribed burn in FMU1 or FMU2	SCC	Medium	2015 - 2025
Liaise with adjacent residents.	SCC	Medium	To be coordinated prior to conducting prescribed burns in FMU3 or FMU4