

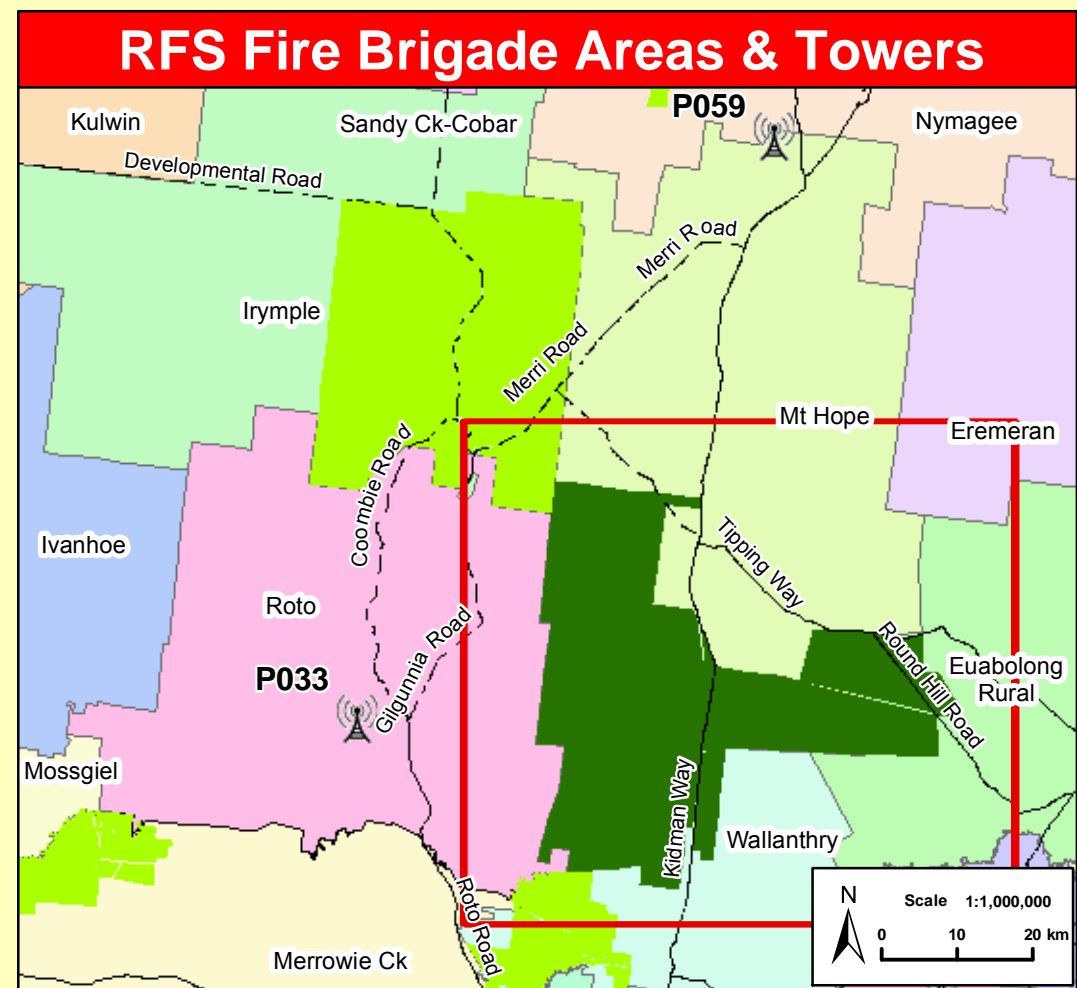
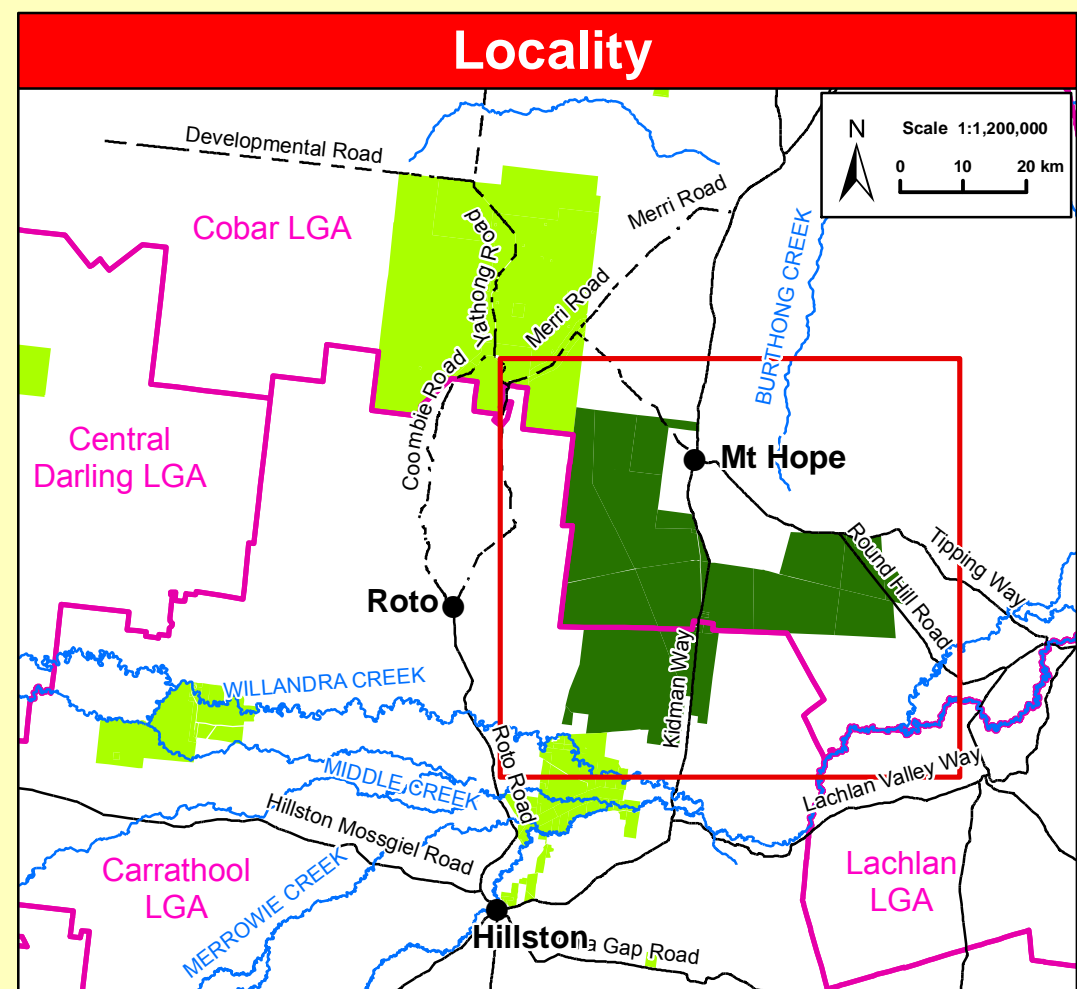
Nombinnie NR and SCA
Round Hill NR
Fire Management Strategy 2014
Mapsheet 1 of 2



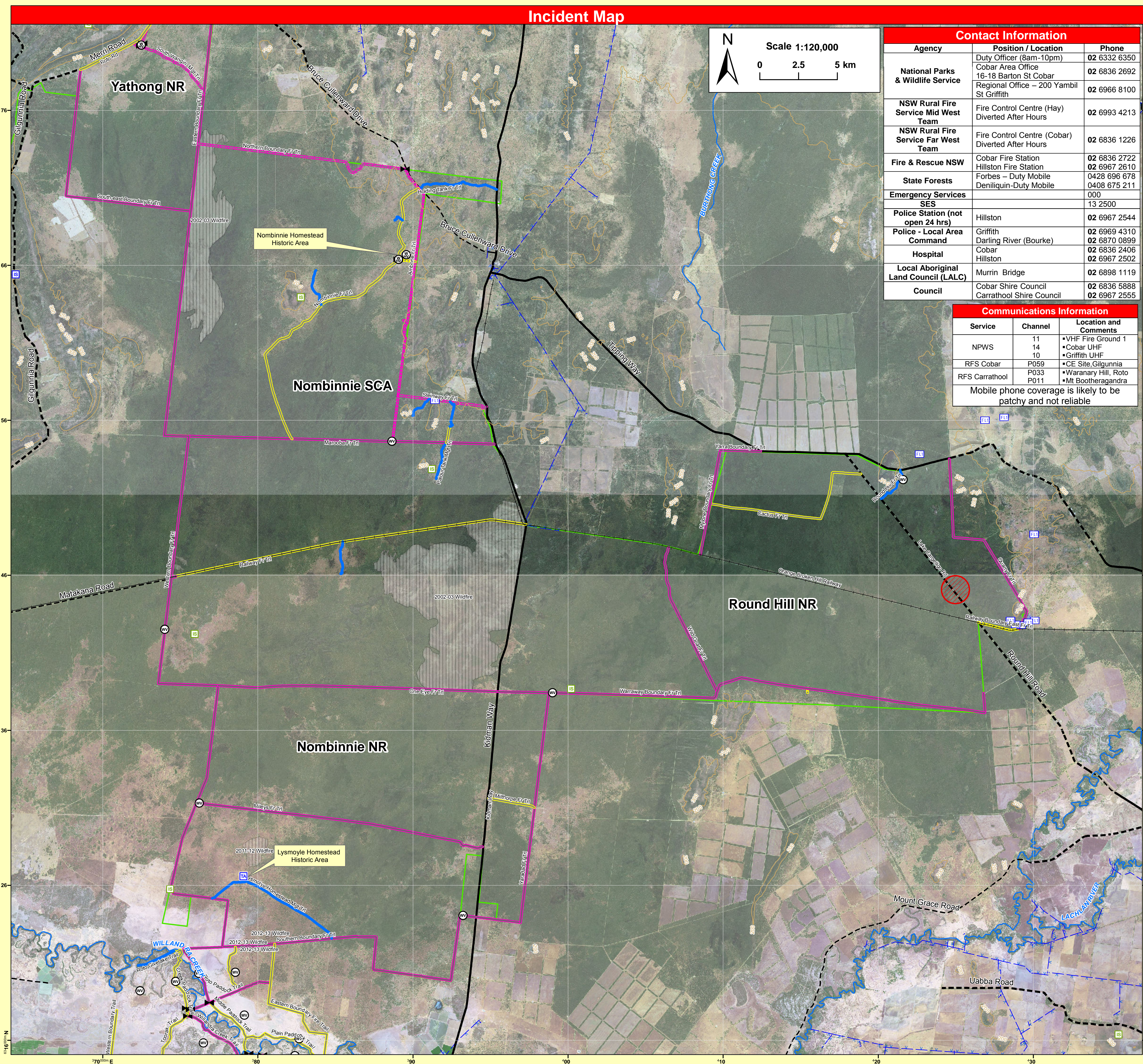
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 Contact: OEH PWG Regional Office, 200 Yambil St, Griffith NSW 2680 P.O. Box 1049 Griffith NSW 2680 ph. 02 6966 8100

ISBN: 978 1 74359 141 3 OEH: 2013/0397	Date: May 2014	Version No: 2
Map Details		Related Documents
Datum: Geocentric Datum of Australia (GDA) 1994 Projection: Map Grid of Australia (MGA) Zone 55 Data: Spot Satellite Imagery, 2005.	1:100k Topographic Maps: Mount Allen 8032, Kilparney 8132 1:50K: Oney Eye 8031-N, Euabolong 8131-N, Hillston 8031-S Scale: Noted scales are true when printed on A1 size paper	OEH Fire Management Manual 2013 - 2014.

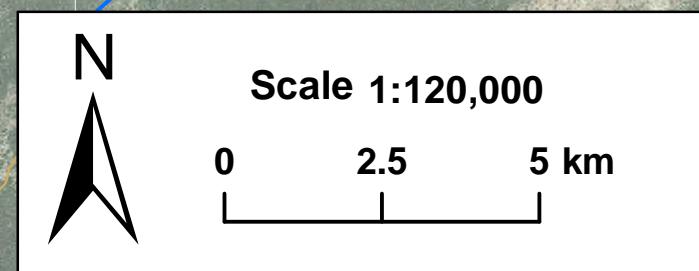
Fire Season Information	
Wildfires	<ul style="list-style-type: none"> The critical wildfire season generally occurs from October/November to March/April. Dry lightning storms frequently occur and typical fire weather conditions are winds from the west to the north, high day time temperatures and low humidity Particular care is required following periods of Winter rain and after periods of negative Southern Oscillation Indices.
Prescribed Burning	<ul style="list-style-type: none"> Prescribed burning should be undertaken before decreases in Autumn temperatures occur. Burning may also be undertaken during late Winter and early Spring and when ephemeral fuels pose a potential high fire threat. Care should be taken to ensure sufficient fuel is available to allow a low to moderate burn over most of the area identified.



NPWS Estate	Wildfire
River	Indigenous Site - IS2
Powerlines	Threatened Property
Gate	Threatened Flora
Contour-Elevation (m)	Machinery & Fire Exclusion Zone
Fire Trails BFCC Policy No. 2/2007	Water Point Helicopter & Vehicle
Cat 1 - Essential	Water Point Helicopter
Cat 1 - Important	Water Point Vehicle
Cat 9 - Essential	
Cat 9 - Important	
Dormant	
Roads and Trails	
Sealed Road - Two Lanes	
Unsealed Road - Two Lanes	
Unsealed Road - One Lane	



Incident Map



Contact Information		
Agency	Position / Location	Phone
National Parks & Wildlife Service	Duty Officer (8am-10pm)	02 6332 6350
	Cobar Area Office	02 6836 2692
	16-18 Barton St Cobar	
	Regional Office - 200 Yambil St Griffith	02 6966 8100
NSW Rural Fire Service Mid West Team	Fire Control Centre (Hay) Diverted After Hours	02 6993 4213
NSW Rural Fire Service Far West Team	Fire Control Centre (Cobar) Diverted After Hours	02 6836 1226
Fire & Rescue NSW	Cobar Fire Station Hillston Fire Station	02 6836 2722 02 6967 2610
State Forests	Forbes - Duty Mobile Deniliquin-Duty Mobile	0428 696 678 0408 675 211
Emergency Services	SES	000 13 2500
Police Station (not open 24 hrs)	Hillston	02 6967 2544
Police - Local Area Command	Griffith Darling River (Bourke)	02 6969 4310 02 6870 0899
Hospital	Cobar Hillston	02 6836 2406 02 6967 2502
Local Aboriginal Land Council (LALC)	Murrin Bridge	02 6898 1119
Council	Cobar Shire Council Carrathool Shire Council	02 6836 5888 02 6967 2555

Communications Information		
Service	Channel	Location and Comments
NPWS	11	<ul style="list-style-type: none"> VHF Fire Ground 1 Cobar UHF Griffith UHF
	14	
	10	
RFS Cobar	P059	<ul style="list-style-type: none"> CE Site, Gilginnia
RFS Carrathool	P033	<ul style="list-style-type: none"> Waranary Hill, Roto Mt Booteragandra
	P011	

Mobile phone coverage is likely to be patchy and not reliable

**Nombinnie NR & SCA
Round Hill NR
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Mapsheet 2 of 2**



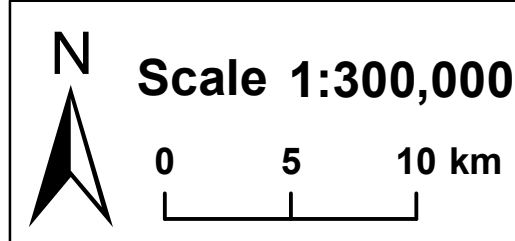
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Status of Biodiversity Thresholds

Evaluation of Biodiversity Thresholds	
Too Frequently Burnt	Fire thresholds have been exceeded. Species may become extinct due to insufficient time to mature and reproduce. <i>Protect from fire as far as possible.</i>
Vulnerable to Frequent Fire	The area will be too frequently burnt if it burns this year <i>Protect from fire as far as possible.</i>
Within Threshold	Within the threshold for vegetation in this area. Species have had sufficient time to mature and reproduce, and for habitats to develop. <i>A fire event is neither required nor should one necessarily be avoided.</i>

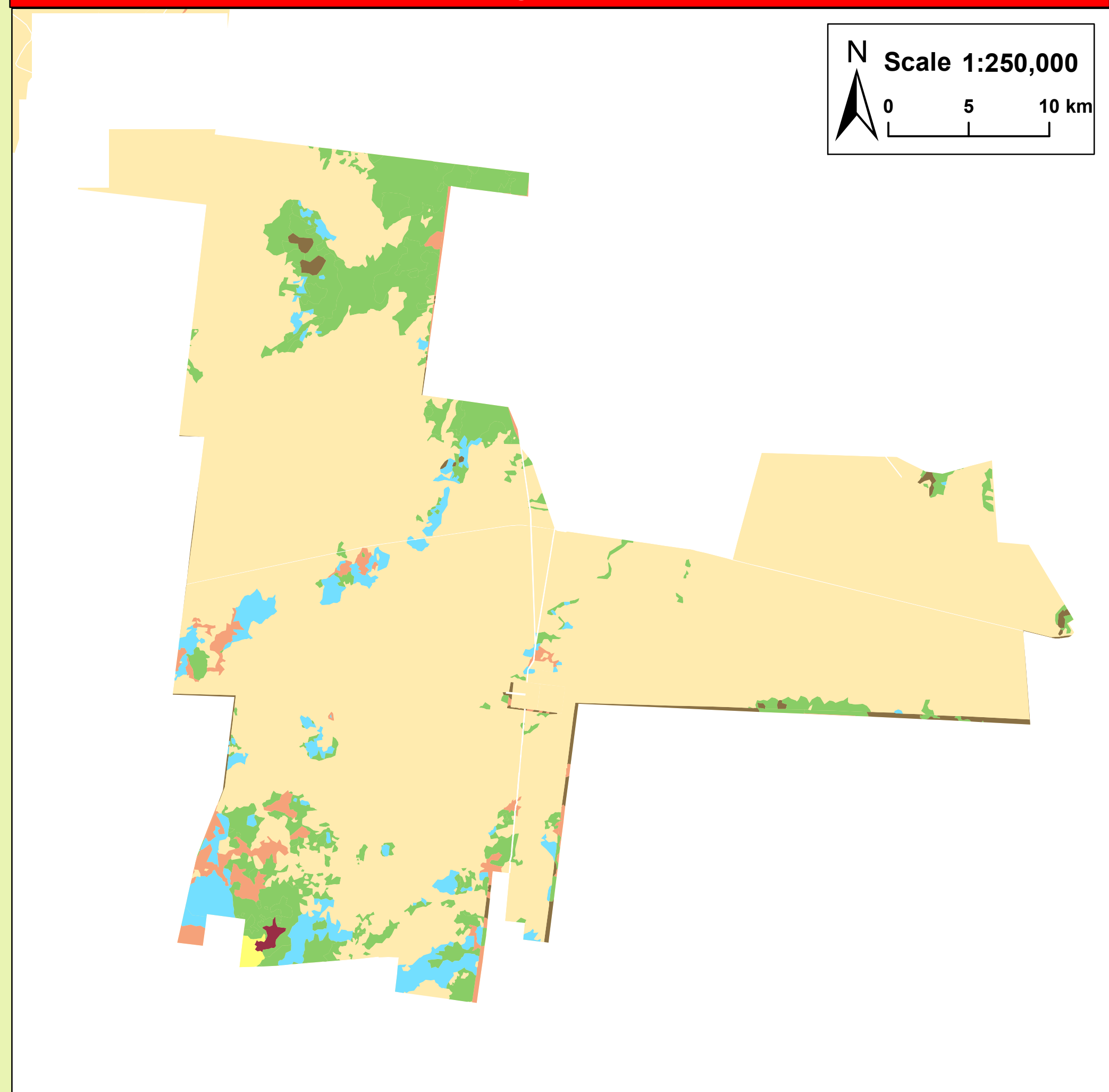
NB. Fire thresholds are defined for vegetation communities to conserve biodiversity.



Operational Guidelines

Brief all personnel involved in suppression operations on the following issues using the SMEACS format:	
General	Guidelines
Aerial Water Bombing	<ul style="list-style-type: none"> The use of bombing aircraft should support containment operations by aggressively attacking hotspots and spot-overs. The use of bombing aircraft without the support of ground based suppression crews should be limited to very specific circumstances. Where practicable foam should be used to increase the effectiveness of the water. Ground crews must be alerted to water bombing operations.
Aerial Ignition	<ul style="list-style-type: none"> Aerial ignition may be used during back-burning or fuel reduction operations where practicable, but only with the prior consent of NPWS Senior Officer, Section 44 delegate or as prescribed in an operational burn plan. Aerial ignition will only be undertaken by accredited navigators & bombardiers. The pattern for aerial ignition will be specified in the IAP during fire suppression. Utilise aerial ignition to rapidly burn out large areas where required.
Back-burning	<ul style="list-style-type: none"> Temperature and humidity trends must be monitored carefully to determine the safest times to implement back-burns. Generally, when the FDI is Very High or greater, back-burning should commence when the humidity begins to rise in the late afternoon or early evening, with a lower FDI back-burning may be safely undertaken during the day. Where practicable, clear a 1m radius around dead and hollow bearing trees adjacent to containment lines prior to back-burning, or wet down these trees as part of the back-burn ignition. Use parallel containment lines when applicable. All personnel must be fully briefed before back-burning operations begin.
Command & Control	<ul style="list-style-type: none"> Standard Incident Management Systems are to be applied. The first combatant agency on site may assume control of the fire, but then must ensure the relevant land management agency is notified promptly. On the arrival of other combatant agencies, the Incident Controller will consult with regard to the ongoing command, control and incident management team requirements as per the relevant BFMC Plan of Operations.
Containment Lines	<ul style="list-style-type: none"> Construction of new containment lines should be avoided, where practicable, except where they can be constructed with minimal environmental impact. For new containment lines IMT to liaise with and receive consent from a Senior NPWS officer prior to construction. Use parallel containment lines when applicable. All containment lines not required for other purposes should be closed at the cessation of the incident. All personnel involved in containment line construction should be briefed on both natural and cultural heritage sites in the location. Containment line construction using earthmoving equipment must be in accordance with the earthmoving guidelines contained within the RFMS.
Earthmoving Equipment	<ul style="list-style-type: none"> Earthmoving equipment may only be used with the prior consent of a senior NPWS officer, and then only if the probability of its success is high. Earthmoving equipment must always be guided and supervised by an appropriately experienced person, and accompanied by a support vehicle. When engaged in direct or parallel attack this vehicle must be a fire fighting vehicle. Containment lines constructed by earthmoving equipment should consider the protection of drainage features, observe the Threatened Species and Cultural Heritage Operational Guidelines, and be surveyed, where possible, to identify unknown cultural heritage sites. Earthmoving equipment must not leave tracks or create new tracks in Machinery Exclusion areas as marked on the Incident Map of a RFMS. Earthmoving equipment must be washed down, where practicable, prior to it entering NPWS estate and again on exiting NPWS estate. Where multiple items of earthmoving equipment are being used, the IMT should consider the establishment of a Plant Operations Manager.
Fire Suppression Chemicals	<ul style="list-style-type: none"> Use of wetting and foaming agents (surfactants) is permitted on the reserve. The use of fire retardants are only permitted with the prior consent of the senior NPWS officer and should be avoided where reasonable alternatives are available. Exclude the use of surfactants and retardants within 50m of watercourses, dams and swamps. Areas where fire suppression chemicals are used must be mapped and the used product's name recorded. The Threatened Species Operational Guidelines are to be observed.
Rehabilitation	<ul style="list-style-type: none"> Where practicable, containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation.
Smoke Management	<ul style="list-style-type: none"> The potential impacts of smoke and possible mitigation tactics must be considered when planning for wildfire suppression and prescribed burning operations. If smoke becomes a hazard on local roads or highways, the police and relevant media must be notified. Smoke management must be in accordance with relevant RTA traffic management guidelines.
Visitor Management	<ul style="list-style-type: none"> The reserve may be closed to the public during periods of extreme fire danger or during wildfire suppression operations. Areas of the reserve may be closed for prescribed burning operations.
Water	<ul style="list-style-type: none"> Multiple rainfall fed water points throughout the reserve. Suggests water cart from Hillston or Cobarr. This could then be replenished from Mt Hope, Hillston or Cobarr. 50, 100 and 200km respectively. There are some concrete tanks on the reserve that can be and are normally filled at the start of the bushfire danger period. A warning however that when the water level gets low NPWS Cat 9's will have trouble priming and pumping out of them.
WARNINGS	<ul style="list-style-type: none"> Beware of overhead powerlines.

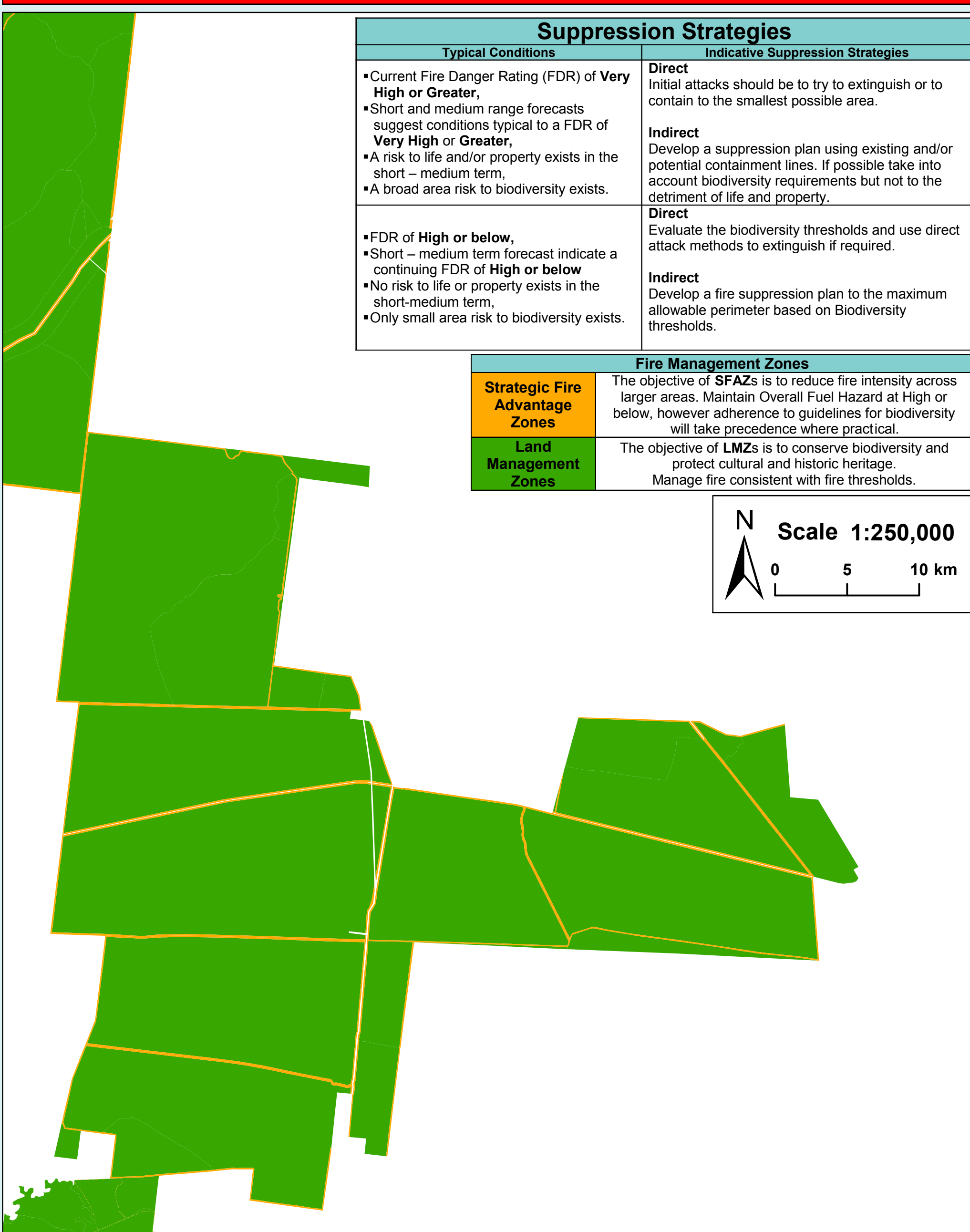
Vegetation



Threatened Sites Guidelines

Site	Guidelines
Aboriginal Cultural Heritage Site Management	
IS1	<ul style="list-style-type: none"> Do not cut down trees As far as possible protect the site from fire Use of foams, wetting agents & retardant is acceptable.
IS2	<ul style="list-style-type: none"> Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites Sites may be burnt by bushfire, backburn or prescribed burn without damage.
IS3	<ul style="list-style-type: none"> Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. Avoid water bombing which may cause ground disturbance. Permission required from Aboriginal Cultural Heritage Officer or Aboriginal community.
FL1	The FL1 on the map represents known locations for the Curly bark Wattle. Avoid fire in known locations and only allow earthmoving equipment to construct containment lines around known communities + 50m
The Critically Endangered Holly Leaved Grevillia exists in 3 locations in the round Hill NR as marked by exclusion zones on the Incident Map. Please consult with the National Parks & Wildlife Service Mid West Area / Regional office at 200 Yambil st for more information. Ph 02 6966 100	
Threatened Fauna Management	
Many threatened or vulnerable species have been seen in this reserve and consideration should be used when planning response to wildfire as well as planning prescribed burn activities. These species include	
Vulnerable - Chestnut Quail-thrush, Curly Bark Wattle, Gilberts Whistler, Greater Long Eared Bat, Grey Crowned Babbler, Hooded Robin, Inland Forest Bat, Little Eagle, Little Pied Bat, Major Mitchell's Cockatoo, Shy Heathwren, Southern Ningui, Southern Scrub robin, Speckled Warbler, Spotted Harrier, Striated Grasswren, Varied Sitta lila, White-fronted Chat, Western Blue-tongue Lizard	
Endangered - Malleefowl, Marble faced Delma	
Critically Endangered - Red-tailed Whistler, Holly-leaved Grevillia.	

Bushfire Risk Management Strategies

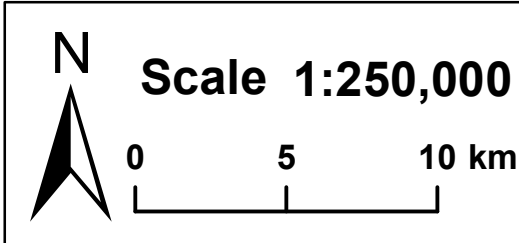


Suppression Strategies

Typical Conditions	Indicative Suppression Strategies
<ul style="list-style-type: none"> Current Fire Danger Rating (FDR) of Very High or Greater, Short and medium range forecasts suggest conditions typical to a FDR of Very High or Greater, A risk to life and/or property exists in the short - medium term, A broad area risk to biodiversity exists. 	<p>Direct Initial attacks should be to try to extinguish or to contain to the smallest possible area.</p> <p>Indirect Develop a suppression plan using existing and/or potential containment lines. If possible take into account biodiversity requirements but not to the detriment of life and property.</p>
<ul style="list-style-type: none"> FDR of High or below, Short - medium term forecast indicate a continuing FDR of High or below No risk to life or property exists in the short-medium term, Only small area risk to biodiversity exists. 	<p>Direct Evaluate the biodiversity thresholds and use direct attack methods to extinguish if required.</p> <p>Indirect Develop a fire suppression plan to the maximum allowable perimeter based on Biodiversity thresholds.</p>

Fire Management Zones

Strategic Fire Advantage Zones	The objective of SFAZs is to reduce fire intensity across larger areas. Maintain Overall Fuel Hazard at High or below, however adherence to guidelines for biodiversity will take precedence where practical.
Land Management Zones	The objective of LMZs is to conserve biodiversity and protect cultural and historic heritage. Manage fire consistent with fire thresholds.



Vegetation Map Legend

Broad Vegetation Class	Vegetation Type	Biodiversity Thresholds	Fire Behaviour
Semi-arid Woodlands (Shrubby sub-formation)	Belah Woodlands (Belah/Wilga/Pine/R. Wood/Kurrajong)	An interval between fire events less than 15 years should be avoided. There is no maximum interval between fire events specified for this vegetation type as there was insufficient data to give definite intervals.	Fire runs can potentially slow when entering this type of vegetation depending on the amount of Belah present in the system.
Semi-arid Woodlands (Shrubby sub-formation)	Pine Box Woodlands (Box/Pine/Ironwood/ Gum Coolibah)	An interval between fire events less than 15 years should be avoided. There is no maximum interval between fire events specified for this vegetation type as there was insufficient data to give definite intervals.	Generally Low to Medium fire intensity except during ephemeral conditions. Where a high continuous grass layer is present the fire intensity can be very high.
Semi-arid Woodlands (Shrubby sub-formation)	Sandplain Mallee Shrubland (E. socialis, E. dumosa, E. gracilis)	An interval between fire events less than 15 years should be avoided. There is no maximum interval between fire events specified for this vegetation type as there was insufficient data to give definite intervals.	Mallee woodlands fire intensity ranges from moderate to high and is largely influenced by ephemeral growth. Backburning may be difficult in years with low ephemeral fuels. Crown fires are likely in high to very high and above fire danger periods in the Mallee areas.
Semi-arid Woodlands (Shrubby sub-formation)	Mallee on hills and footslopes (E. viridis, E. morrisii, E. dwyeri)	An interval between fire events less than 15 years should be avoided. There is no maximum interval between fire events specified for this vegetation type as there was insufficient data to give definite intervals. Fire may be considered as a useful tool to stimulate regeneration as much of this community consists of mature trees.	Mallee can generally be less dense which can give rise to a more dense grass cover. If this is the case expect fire to run more easily.
Semi-arid Woodlands (Grassy sub-formation)	Black Box Woodland	An interval between fire events less than 9 years should be avoided. There is no maximum interval between fire events specified for this vegetation type as there was insufficient data to give definite intervals.	Generally Low to Medium fire intensity except during ephemeral conditions. Where a high continuous grass layer is present the fire intensity can be very high.
Arid Shrublands (Chenopod Subformation)	Nitre Goosefoot	An interval between fire events less than 9 years should be avoided. There is no maximum interval between fire events specified for this vegetation type as there was insufficient data to give definite intervals.	Fire intensity greatly dependant on ephemeral conditions
Grassy Woodlands	Scattered Trees, Mostly previously cleared revegetation area	An interval of fire events less than 8 years should be avoided. There is no maximum interval for this area as it is undergoing revegetation and as such will need to be assessed using OFH data and inspection.	High intensity fast moving fire once grasses have cured. Fire behaviour is dominated by winds, both speed and direction. Even in very low fuel, grass fires can be erratic and fast moving. In ephemeral years fire intensity will be higher and in drought years minimal growth will result in moderate fire behaviour but potentially still fast moving depending on weather conditions at the time. Potential spotting from trees.
Ephemeral Conditions	Ephemeral fuel conditions occur after consecutive years of effective rainfall and significant flooding events. This in turn leads to the growth and build up of fine surface fuels such as grasses and herbs, which can create a continuous fuel load across all of the above vegetation communities. As a result expect higher fire intensity.		
Drought Conditions	During drought conditions and when vegetation communities are visibly stressed it will be very difficult to undertake prescribed burning across many communities as the surface fuels will be very low. Wildfires are likely to be difficult to control due to extreme conditions during the day and areas of low fuel that are difficult to back-burn in under night-conditions.		
Mosaic Burning	This reserve may not have experienced fire over an extended period of time, therefore a mosaic approach to fire management with post fire recovery and response assessments should be undertaken. Apply fire in a pattern across the reserve that allows gaps in both time and space. Small versus large areas, scattered and variable times between fires in any location. If possible leave some areas of each vegetation community unburnt, as an end stage and reference site.		

Fire History

Prescribed Burn History	Strip Burns that have been previously conducted are not shown on the incident map but may be beneficial as areas of low fuel when responding to wildfire. It should be noted that these areas have been light in a strip off the trails therefore extending the area of SFAZ. Nombinnie - South of One Eye fire trail in 2013 and some parts in 2009 - North and South of Mileys fire trail in 2013, - West of Kidman Way between One eye and Mileys Trails in 2011 Round Hill - North of Warraway Boundary Trail between Yaradad trail and the Eastern park boundary - East of Wild Goat fire trail between the most southerly point and 6344300N in 2010
Wildfire History	The whole reserve has seen fire over the last 55 years with 2 very large fires to make note of. 1. In 1957/1958 the whole reserve saw wildfire 2. In 1984/1985 around 90% of the reserve saw wildfire except for NE of Nombinnie NR The recent fire history is mapped on the Incident map with 5 fires in the last 11 years. Mt Nombinnie to the North (2480Ha), Matakana in the middle (6500Ha), to the South there is Nombinnie (250Ha), Willandra Ck (30Ha) and Scrubby fire (6Ha).