

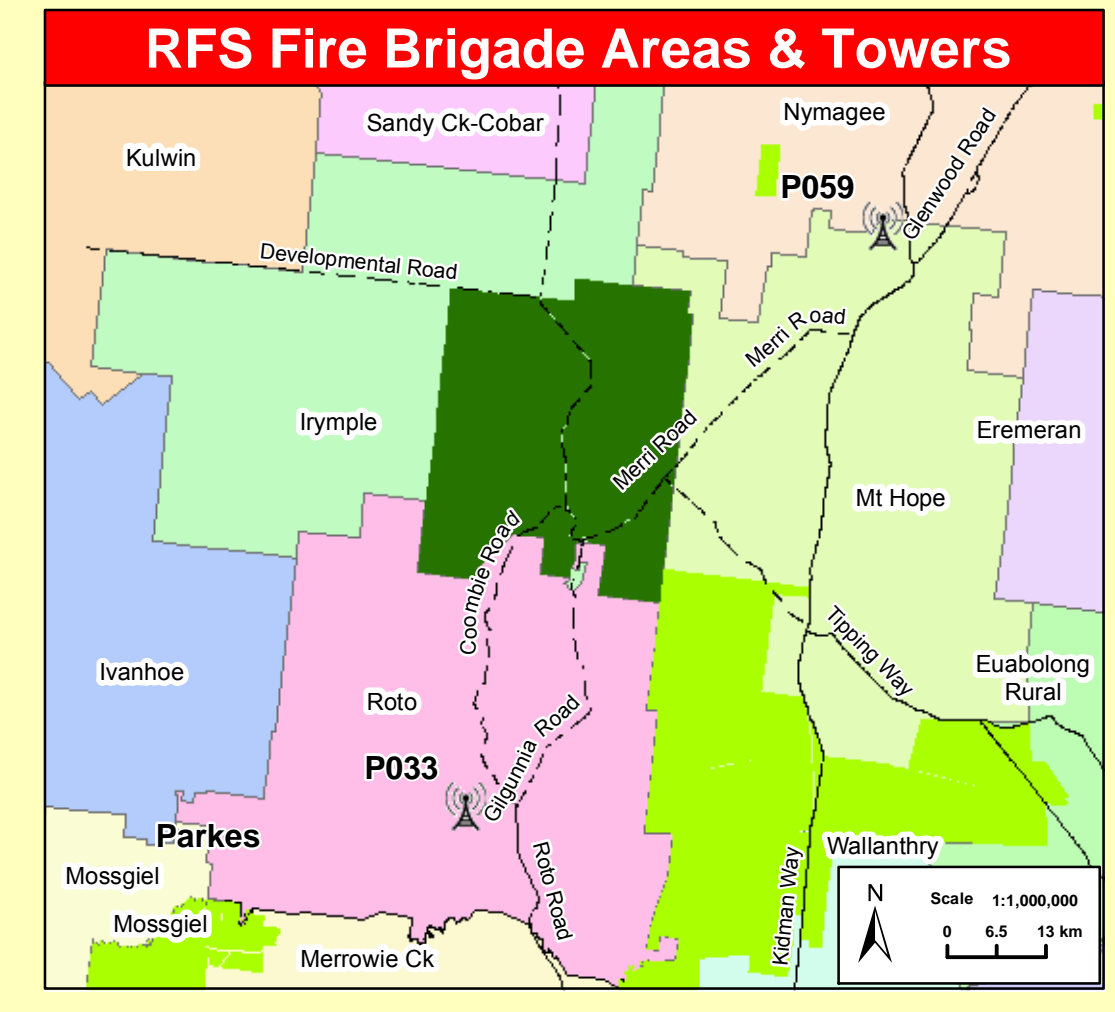
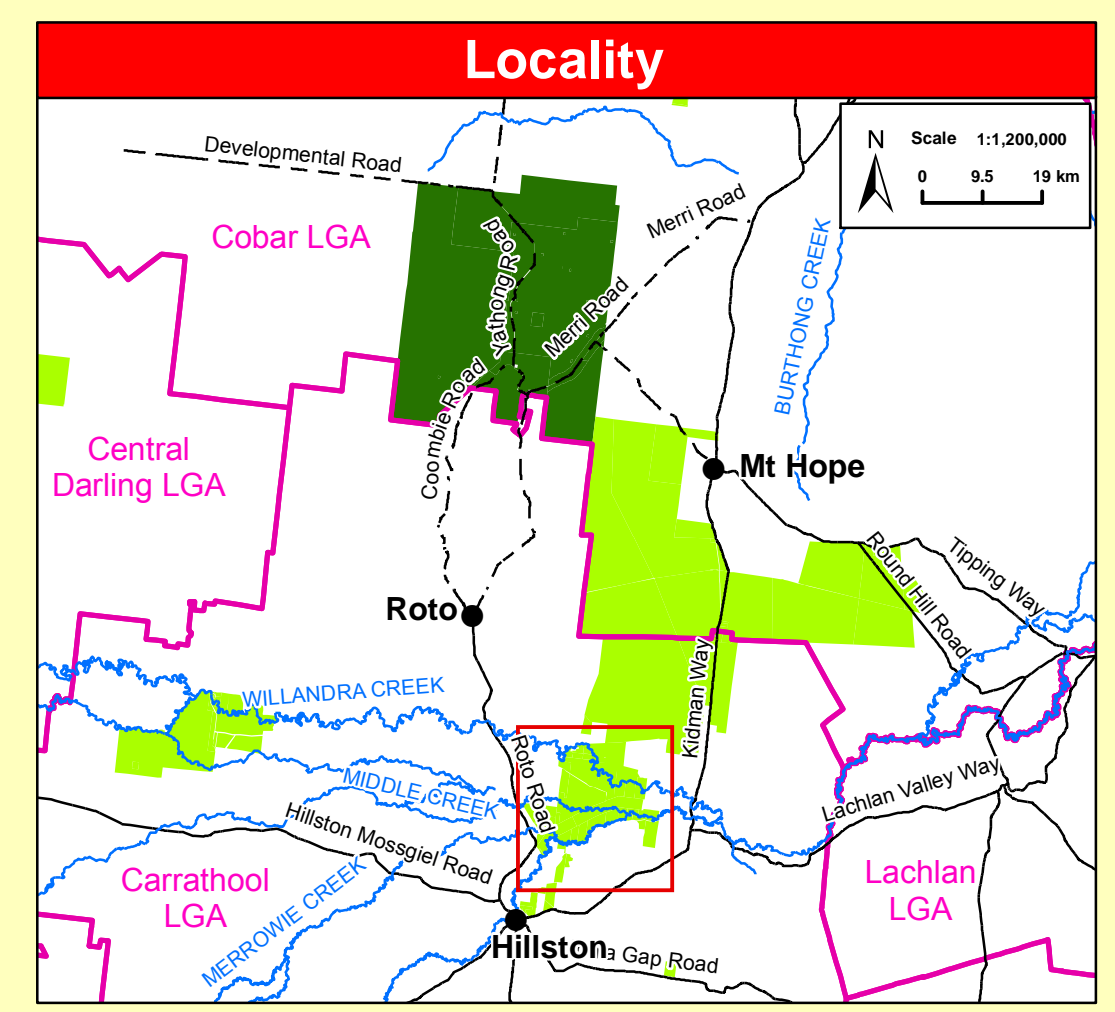
Yathong Nature Reserve
Fire Management Strategy 2014
 Mapsheet 1 of 2



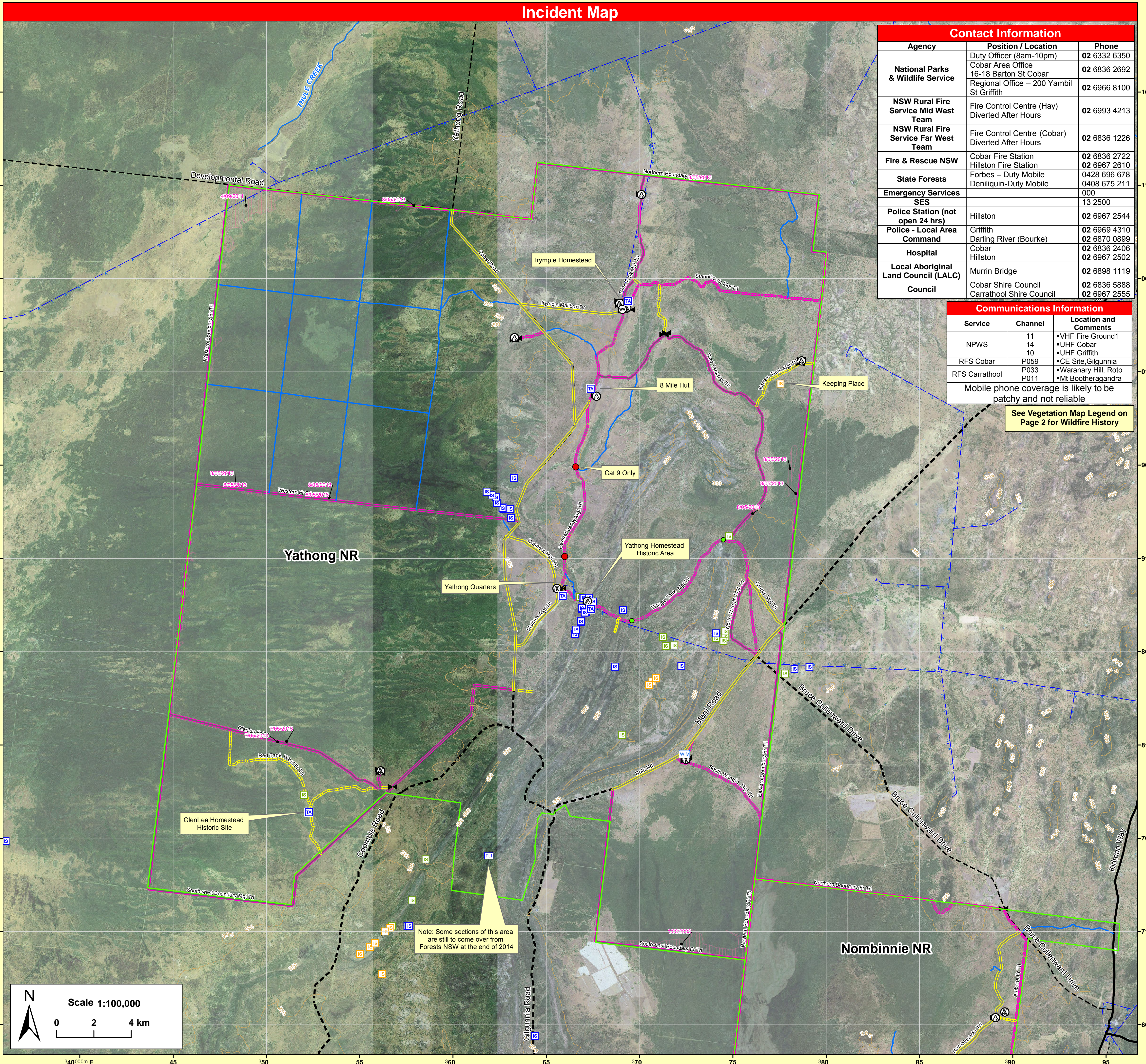
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Contact: OEH PWG Regional Office: 200 Yambil St, Griffith NSW 2680 P.O. Box 1049 Griffith NSW 2680 ph. 02 6966 8100	
ISBN: 978 1 74359 142 0 OEH: 2013/0398	Date: May 2014
Map Details	
Datum: Geocentric Datum of Australia (GDA) 1994 Projection: Map Grid of Australia (MGA) Zone 55 Data: Spot Satellite Imagery: 2005.	Version No: 2
Related Documents	
1:100k Topographic Maps: Keewong 7933, Lachlan Downs 8033 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	Sealed Road - Two Lanes
River	Unsealed Road - Two Lanes
Powerlines	Unsealed Road - One Lane
Gate	Site Management (see guidelines)
Contour-100m	Indigenous Site - IS1
Prescribed Burn	Indigenous Site - IS2
Fire Trails BFCC Policy No. 2/2007	Indigenous Site - IS3
Cat 1 - Essential	Curly Bark Wattle
Cat 1 - Important	Water Point - Vehicle
Cat 7 - Important	Water Point Helicopter & Vehicle
Cat 9 - Essential	Threatened Asset
Cat 9 - Important	
Dormant	
Eroded Creek Crossing	
Rollovers Between These Points	



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)	02 6993 4213
NSW Rural Fire Service Far West Team	Fire Control Centre (Cobar)	02 6836 1226
Fire & Rescue NSW	Hillston Fire Station	02 6836 2722
	Diverted After Hours	02 6967 2610
State Forests	Forbes - Duty Mobile	0428 696 678
	Denilquin-Duty Mobile	0408 675 211
Emergency Services	SES	000
		13 2500
Police Station (not open 24 hrs)	Hillston	02 6967 2544
Police - Local Area Command	Griffith	02 6969 4310
	Darling River (Bourke)	02 6870 0899
Hospital	Cobar	02 6836 2406
	Hillston	02 6967 2502
Local Aboriginal Land Council (LALC)	Murrin Bridge	02 6898 1119
Council	Cobar Shire Council	02 6836 5888
	Carrathool Shire Council	02 6967 2555

Communications Information		
Service	Channel	Location and Comments
NPWS	11	VHF Fire Ground 1
	14	UHF Cobar
	10	UHF Griffith
RFS Cobar	P059	CE Site, Gilgunnia
RFS Carrathool	P033	Waranary Hill, Roto
	P011	Mt Bootheragandra

Mobile phone coverage is likely to be patchy and not reliable

See Vegetation Map Legend on Page 2 for Wildfire History

Yathong Nature Reserve Fire Management Strategy 2014 Mapsheet 2 of 2

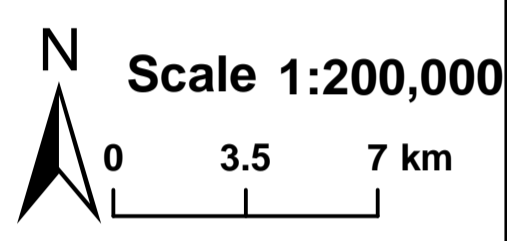
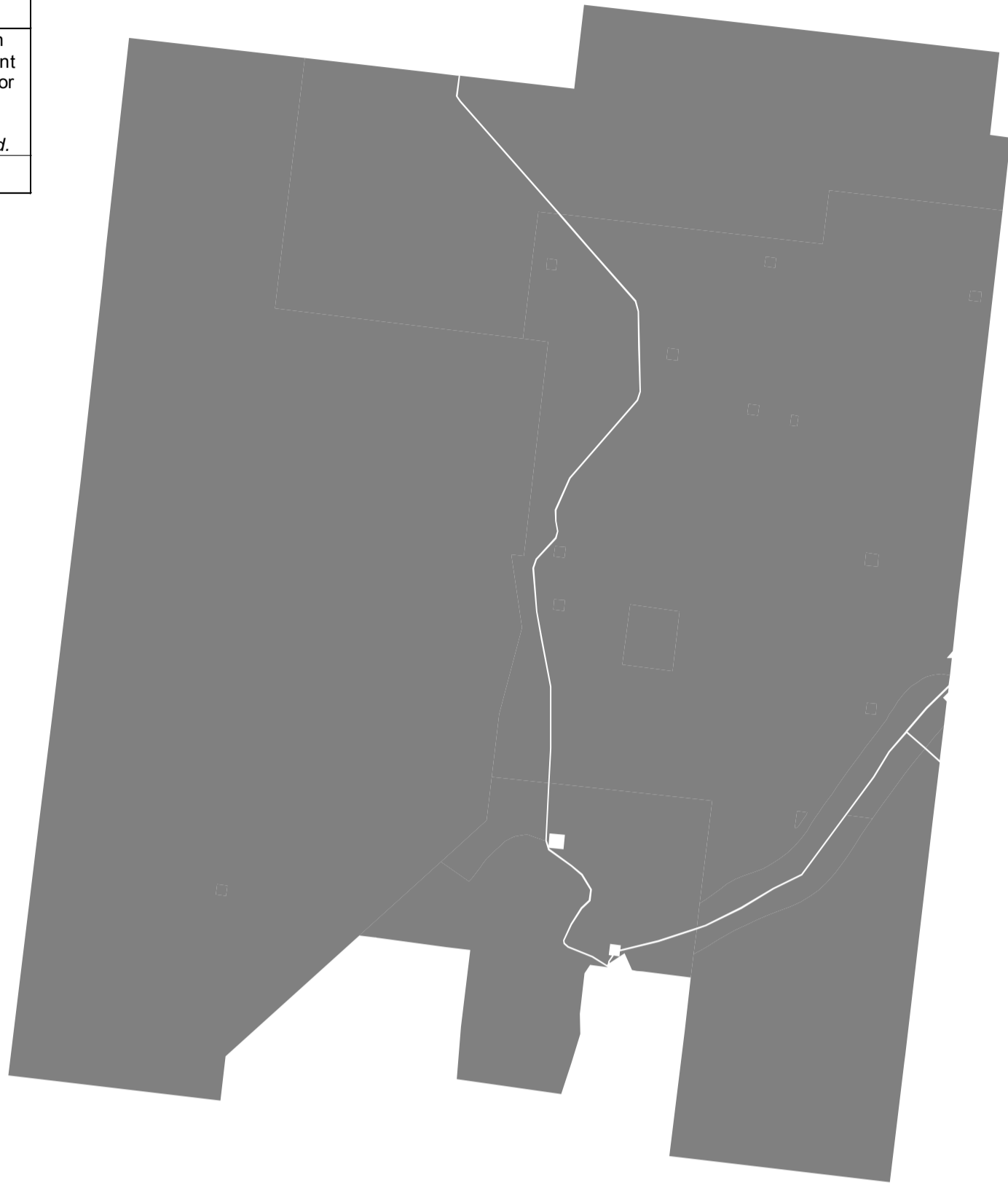


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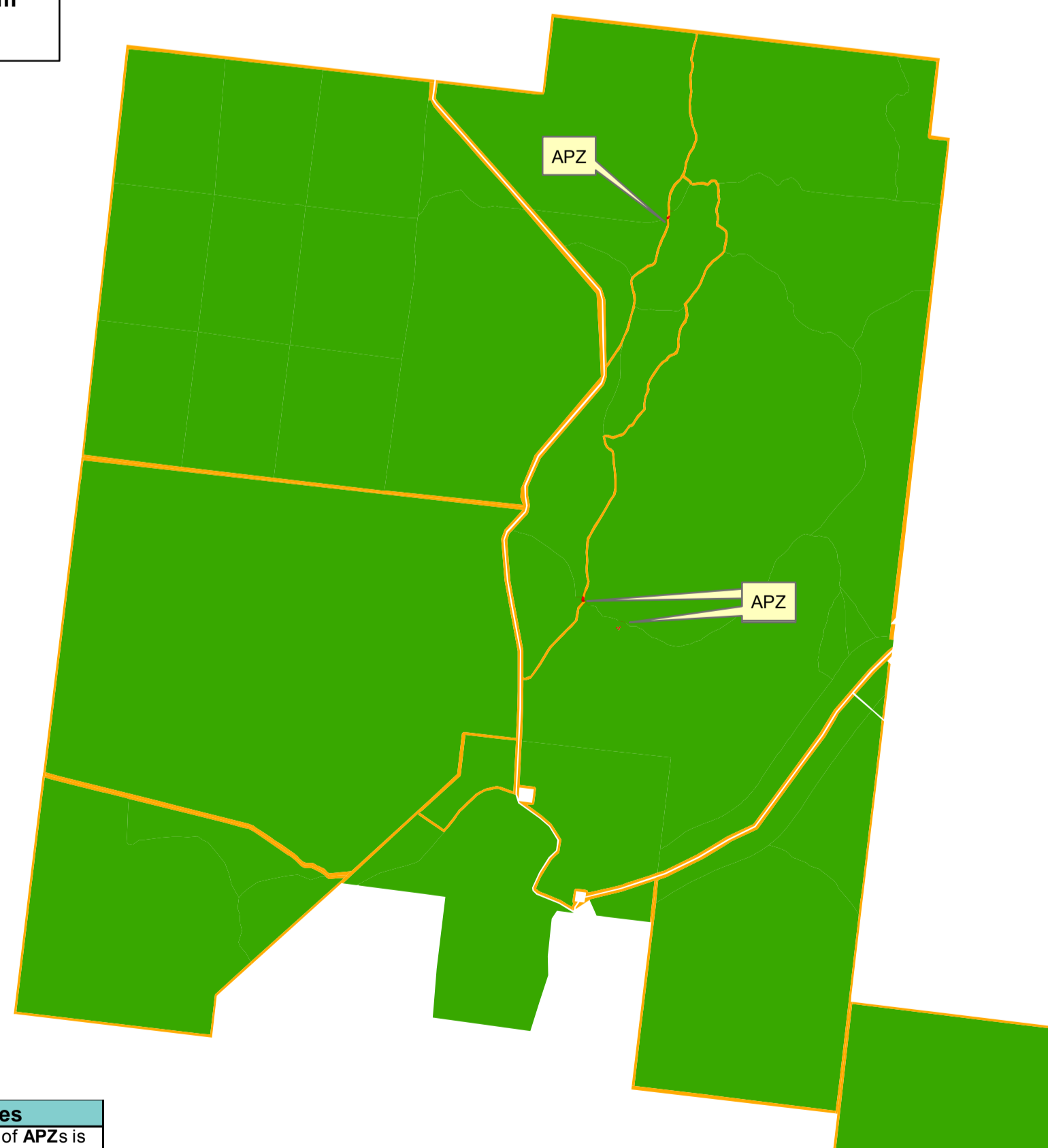
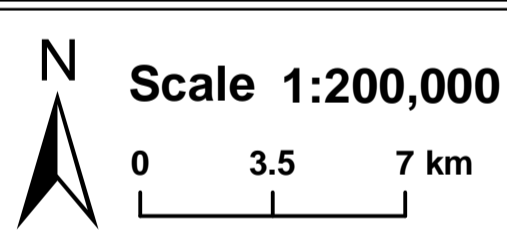
Status of Biodiversity Thresholds

Evaluation of Biodiversity Thresholds	
Vulnerable to Frequent Fire	The area will be too frequently burnt if it burns this year. • Protect from fire as far as possible.
Within Threshold	Within the threshold for vegetation in this area. Species have had sufficient time to mature and reproduce, and for habitats to develop. • A fire event is neither required nor should one necessarily be avoided. NB. Fire thresholds are defined for vegetation communities to conserve biodiversity.



Threatened Sites Guidelines	
Site	Guidelines
Aboriginal Cultural Heritage Site Management	
IS1	• Do not cut down trees • As far as possible protect the site from fire • Use of foams, wetting agents & retardant is acceptable.
IS2	• 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. • A Sacred Keeping Place Can be seen on the Incident Map in the North West section of the reserve. This has been designated IS2
IS3	• 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
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 Heathwhren, Southern Ningau, Southern Scrub robin, Speckled Warbler, Striated Grasswren, Varied Sittella, White-fronted Chat, Western Blue-tongue Lizard. Endangered - Malleefowl, Marble faced Delma, , Critically Endangered - Red-lored Whistler	

Bushfire Risk Management Strategies



Fire Management Zones	
Asset Protection Zones	The objective of APZs is the protection of human life and property. This will have precedence over guidelines for the management of biodiversity. Maintain Overall Fuel Hazard at Moderate or below.
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.

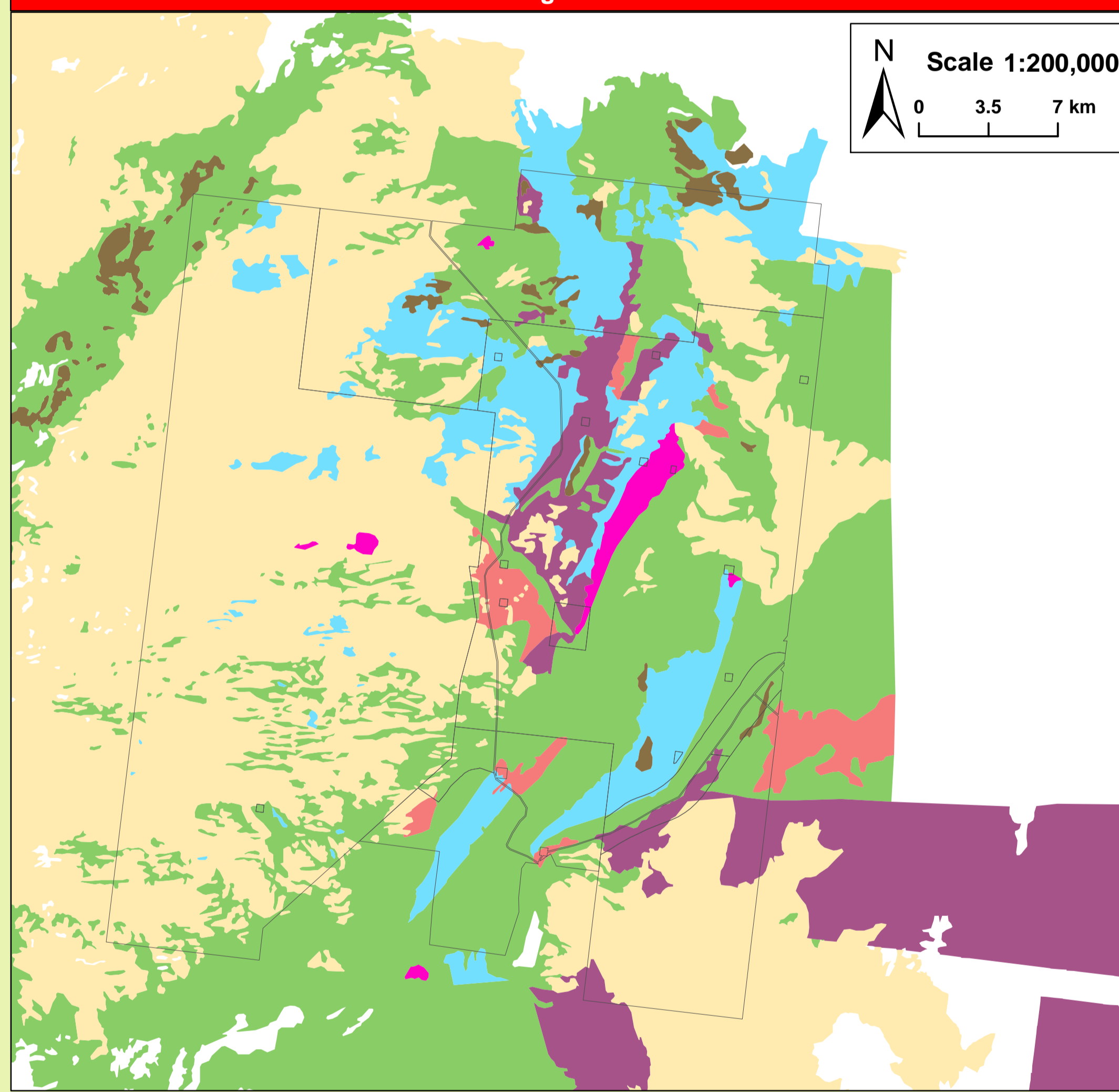
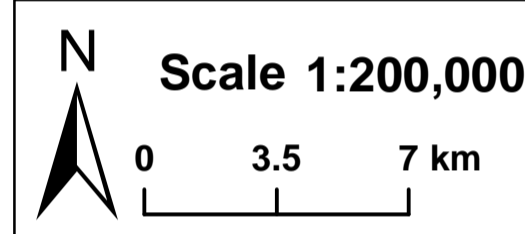
Suppression Strategies	
Typical Conditions	Indicative Suppression Strategies
<ul style="list-style-type: none"> Current Fire Danger Rating (FDR) of Very High or Greater, Short and medium range forecasts suggest conditions typical to a FDR of Very High or Greater, A risk to life and/or property exists 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> <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>
<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. 	

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 BFMG 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"> Construction of new containment lines should be avoided, where practicable, except when they can be constructed with minimal environmental impact. New containment lines require the prior consent of a senior NPWS officer. When constructing containment lines, steep and rocky areas and locations adjacent to riparian (creeks or streams) or significant drainage lines should be avoided. All personnel involved in containment line construction should be briefed on the protection of the reserve's natural and cultural assets. Containment line construction using earthmoving equipment must be conducted in accordance with this RFMS, the OEH FMM and sedimentation and erosion control measures must be implemented in accordance with both OEH and DLWC fire trail construction guidelines and standards and the PWG Roads Policy (Manual). Containment lines not required for other purposes should be closed immediately at the cessation of the incident.
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 user 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"> There are 9 rainfall fed water points throughout the reserve. Suggest 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. Chemicals storage sheds are located at both the homestead and the quarters. Bulk fuel is stored at the Homestead (Diesel) and also at the quarters (Aviation Fuel) Beware of any gas bottles on the reserve Beware of erosion mounds on the Wagga Tank Mt Tril as indicated on the Incident between GR 370380 - 375392

Vegetation



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.	Low to Medium fire intensity dependant on ephemeral conditions
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.
Arid Shrublands (Acacia Sub-formation)	Mulga	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.	Low to Medium fire intensity dependant on ephemeral conditions
Grassy Woodlands	Pine/Box	An interval between fire events less than 8 years and greater than 40 years should be avoided.	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.
Grassy Woodlands	Scattered Trees, Revegetated 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.	
Fire History	The whole reserve has seen fire over the last 55 years with 2 very large fires to make note of. 1. In 1974/1975 fire season a large fire went through the whole park only with the exception of the portion south of Merri Rd, Next to Nombinnie NR 2. At Christmas 1984 around 2/3 of the park burnt and this wildfire extended a long way to the North of the reserve. Strip burns have been conducted recently along some fire trails and associated SFAZ areas and these are mapped on the incident map.		
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 fire 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 verses 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.		