Bungonia State Conservation Area & Part Morton National Park (West of Shoalhaven River) Fire Management Strategy July 2006

This Map should be used in conjunction with topographic maps and ground reconnaissance during incidents and the development of incident action plans.

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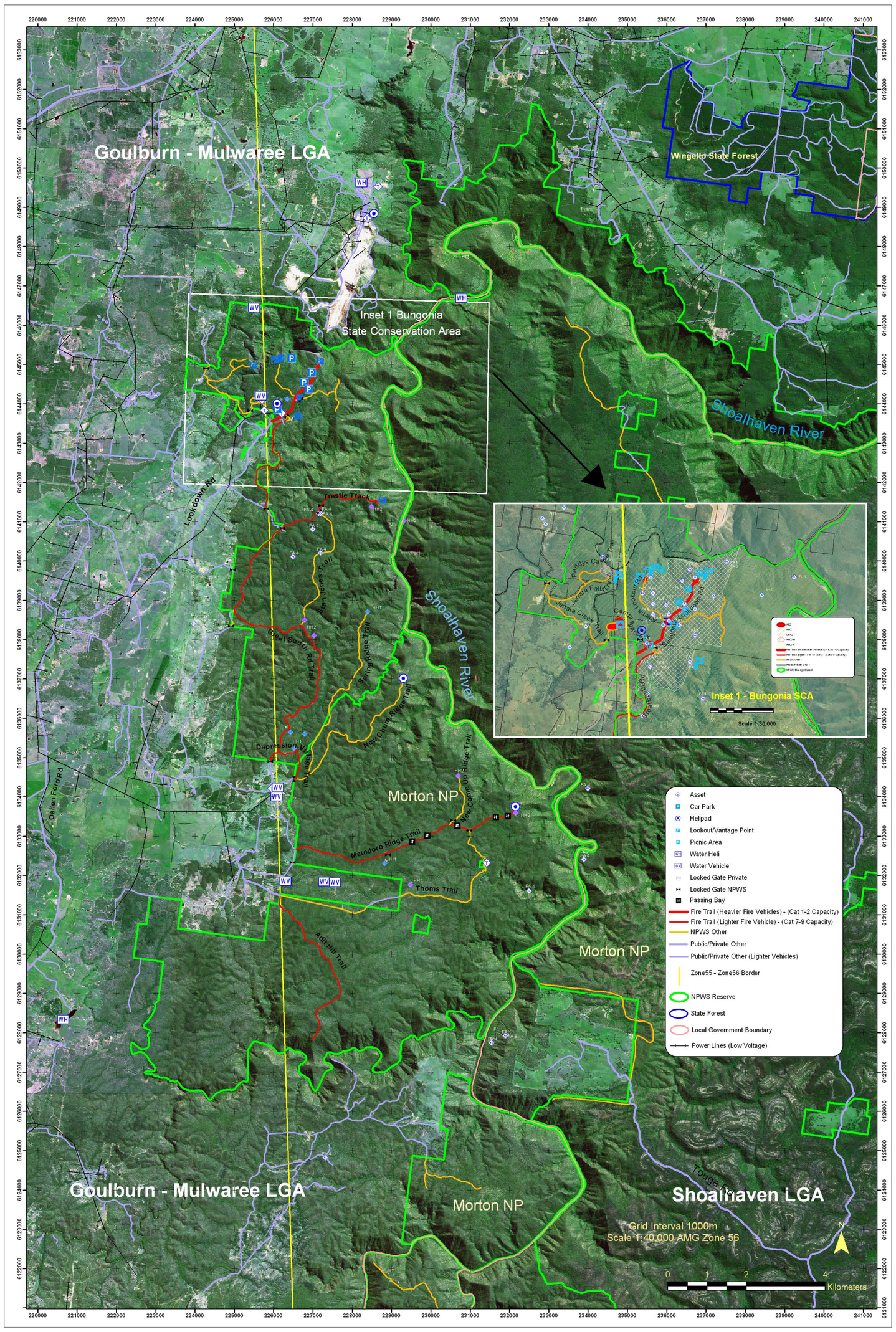
Grid Interval 1000m
Scale: 1:40,000 - AMG Zone 56

Please forward comments on this plan to:
sc.fireplans@environment.nsw.gov.au
or NPWS Highlands Area Office, Yarrunga Nowra Rd, Fitzroy Falls 2577



CONTACT INFORMATION

Emergency Calls - Fire, Ambulance, Police

Call "000" stating service required

National Parks & Wildlife Service NSW		(Dept.of Environment & Conservation)
Emergency Contact		
Business Hours - 0830-1630 Mon.-Fri.		4423 2170
After Hours / All areas		**1800 629 104**
Local NPWS Area Office Lookdown Rd Bungonia	Bungonia	4844 4277
South Coast Regional Office 55 Graham St. Nowra NSW 2541		4423 2170
Rural Fire Service		
Goulburn/Mulwaree Fire Control Centre		
Emergency calls		6226 3100
Business Calls		4822 2900
For Brigade Contact No.s - Contact Fire Control		
RFS Brigades located at :		
East Group - Group Captain – Ian Mills		
Bungonia	UHF Base	4821 5009
Marulan	Base	4841 1929
Windellama	Captain	
Tallong	Captain	
NSW Fire Brigades		
Goulburn		4822 1608
Braidwood		4842 2524
Forests NSW		
Softwood Forest Bombala Office Supervisor (Northern)		6458 3177 0428 433 667
Police		
Marulan Police Station		4841 1516
Goulburn Police Station		4824 0799
State Emergency Service (SES)		
Emergency Assistance No.		132 500
Goulburn Headquarters		4822 1800
Local Government		
Goulburn/Mulwaree Council (After Hours)		4823 7400 4822 2148
Aircraft Fuel Supplies		
Hill & Co. Mobil Goulburn		4821 3252
COMMUNITY CONTACTS		
Nearest Hospitals		
Goulburn Base Hospital,	Goulburn	4827 3111
WILDLIFE RESCUE		
WIRES	Bowral	4862 1788
	Goulburn	4822 3888

Communications Information
Bungonia & Morton NP West of Shoalhaven River

Services	Channel	Location & Comment
Radio		
NPWS – UHS	24 & 31	Ellsmore & Red Rocks Repeaters
NPWS – UHS (Fireground Comms)	43 & 56	17 – 18.5 Watt Channels
NPWS – UHS (Portable Repeater)	4 & 13	Stored at NPWS: Bungonia – transportable (13 backpack)
NPWS /RFS (X Band Repeater)	14	Stored at NPWS Nowra Workshop – transportable Full range of both simplex & duplex NPWS VHF & RFS PMR channels
RFS PMR – UHF Mulwaree	76	
RFS PMR – UHF Shoalhaven	26	
RFS CB – UHF	15 & 16	
Aircraft – VHF	119.1	Or as advised by State Ops
Forest NSW	85	Forestry Moss Vale CH 31
Phone		
Public Phones		Bungonia NPWS, Bungonia & Marulan
Mobile Phone - CDMA		Telstra – poor coverage away from Highway
Mobile Phone – GSM		Telstra – poor coverage away from Highway
Satellite Phone		Available for deployment from NPWS Highlands Area Office

Overall Fire Response and Management Strategies

Fire Detection: The NPWS maintains and contributes to cooperative fire detection and response arrangements across the Shoalhaven & Southern Tablelands Fire Districts. This includes lookouts, surveillance flights, lightning detection and communication systems. During periods of higher fire danger these reserves may be patrolled and restrictions placed on visitor access and use of fire. These will be notified via signs at Bungonia and the local media.

Fire Response: Apart from any specific conditions indicated in the Operational Guidelines, the NPWS as a NSW fire authority prepares and maintains personnel and equipment to undertake fire management and response within the reserves. These resources are also provided under cooperative contact, callout and incident management arrangements within the Shoalhaven & Southern Tablelands Fire Districts and across NSW.

Fire Suppression: Due to the rugged terrain and limited access, most unplanned fire will require a prompt response aimed at limiting the size of the area affected. Fire suppression tactics in all areas will primarily consider immediate visitor and firefighter safety, minimising unnecessary disturbance and will have regard to constraints defined within the Plan of Management for each reserve.

Prescribed Fire. May be introduced to maintain biodiversity or meet protection obligations as identified within the fire management zones as mapped. The NPWS maintains a record of known fire history and will annually review the need to undertake prescribed burning. Each proposal is subject to environmental assessment and operational safety planning. All burning proposals for the coming season (July-June) are listed with the Shoalhaven & Southern Tablelands Bush Fire Management Committees. For details or enquiries contact the NPWS Area Office (see Contacts) or either Shoalhaven or Southern Tablelands Fire Control.

Fire Management Access: The NPWS will maintain the fire tracks identified on the map (in red) to a trafficable standard for Category 1 and Category 9 fire tankers as indicated. At a minimum these will be reviewed prior to the fire season and when the annual fire management works program is prepared. Other management tracks will be maintained as required for reserve management operations or to limit environmental effects and should always be assessed before being used for fire operations. Any firefighting access problems should be immediately notified to the NPWS Area office (see Contacts). Also refer to operational guidelines.

Community Information: The NPWS will participate in cooperative community information programs in the Shoalhaven & Southern Tablelands Fire Districts. For these reserves this will focus on the NPWS role in cooperative fire management and response in the reserves.

Slashing / other bush fire fuel management works: The NPWS will maintain slashed areas as indicated within the reserves. For information on other slashed areas or fire management works contact the NPWS Area Office (see Contacts) or either Shoalhaven or Southern Tablelands Fire Control.

Fire Works Program

The works program arising from the above strategies are prepared and reviewed annually.
This program is prepared from the post fire season assessment of each of the zones as above. Also considered are seasonal weather trends, available resources and cooperative arrangements with neighbours, other fire authorities and land management agencies.
Fire related works for the reserve are summarised and presented to the local District Bush Fire Management Committee annually, usually before the bush fire danger period. Some works indicated may not be completed due to prevailing weather patterns, or the necessary redirection of effort and resources to other priority fire tasks such as wildfire control and rehabilitation. In most cases, such deferred works are carried forward into subsequent programs.
Information on the works to be undertaken are available from local NPWS offices and the Shoalhaven & Southern Tablelands District Bush Fire Management Committees at the district RFS headquarters.

Fire Management Strategy Information

For fire management planning the reserves are divided into three main types of fire management zones each with strategies to address fire management in the particular area. Other strategies apply to the whole of the reserves (eg fire access network) or address fire management for particular values found in the reserves (eg, threatened species, cultural sites). These strategies guide fire fire management and related works within these reserves. Guidelines are also provided to assist with operational matters – fire bite.

Fire Management Zones – Bungonia SCA & North Morton National Park (West of Shoalhaven River)

APZ — **Asset Protection Zones:** Within these areas the focus is on protection of life and adjoining higher risk assets. Bushfire fuels are managed towards lower levels and fire may be more frequent than desirable to conserve biodiversity.

SFAZ — **Strategic Fire Advantage Zones:** These zones are strategically placed and managed to provide an advantage for fire fighters in containing and suppressing wildfires. Here, fire frequency may occur towards the lower thresholds necessary to conserve biodiversity, ie more often.

HMZ — **Heritage Management Zones:** Within these zones fire is managed towards a range of intensities and frequencies required in order to conserve natural processes (biodiversity) and cultural assets. Fire authorities continue to aim at containing wildfires in these areas.

- For more information on the strategies and purposes of these zones refer to the NSW NPWS Strategy for Fire Management. www.nationalparks.nsw.gov.au
- NB: Some zones extend beyond the boundaries of the Reserves to a logical fire break or boundary for the zone. Where these are outside the Reserves the owners / managers need to be contacted for details of fire management options for these areas.
- These zones will form part of the overall Bush Fire Risk Management Plan for Shoalhaven & Southern Tablelands Fire Districts.

Other areas requiring special fire management consideration

HMZ-K — Limestone Areas – Karst – To minimise disturbance to karst features (caves, dolines and other features) and related catchments/hydrological values:
- avoid fire suppression earthworks or vehicle use off tracks in these areas.
- avoid repeated low-intensity fires.
- avoid use of foam retardants.

HMZ-M — Historic Mining works – Heritage features are easily damaged by unplanned machinery operations – avoid fire suppression earthworks or vehicle use off tracks in these areas.

Fire Management Zones and strategies for Bungonia SCA & North Morton National Park (West of Shoalhaven River)

Strategies to be used for Fire Management and Bushfire Suppression.

Asset Protection Zones & Strategies APZ

Map ID	Zone Name
APZ 1	HQ. APZ
APZ 2	Special Operations APZ
APZ 3	Camp APZ
APZ 4	Kerrikeau APZ
APZ 5	Red APZ
APZ 6	Adams APZ
	Strategies
	Assess APZ for bush fire fuel management and maintenance works – annually, post fire season.
	Maintain slashed breaks where marked – as required.
	Enable clear access for firefighters and limit available fire fuels by keeping zone clear of rubbish, gardening debris and property – as required.
	Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions, and the assistance of neighbours in watching for unauthorised use of the APZ that may lead to arson, rubbish dumping or compromise emergency vehicle access.
	Identify limited and isolated areas within APZ to allow regeneration in order to sustain tree canopy and windbreak – where required.
	Thin trees to separate canopy – where required.
	Continue direct and cooperative contact with neighbours and communities to enable a better mutual understanding of bush fire management, asset protection, fire season preparedness and personal safety – ongoing.

Strategic Fire Advantage Zone Strategies SFAZ

Map ID	Zone Name
SFAZ	Great South SFAZ
	Strategies
	Review fire management works program for the zone - annually – post fire season. This assessment includes bush fire fuel, fire history, biodiversity maintenance and the condition of fire control facilities within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. Fire related works for reserve declared and reported to District Bush Fire Management Committee. Annually – pre-season.
	Undertake burning under prescribed conditions - where indicated by above fire fuel assessments and biodiversity maintenance requirements – as required.
	Maintain identified fire access tracks to indicated standard – as required. Assess and report condition of fire access tracks to emergency services – pre fire season.
	Maintain cooperative management and communication with adjoining landholders so that effective fire risk management is maintained across the zone and adjoining bushlands.
	Seek cooperation of local RFS brigades in the monitoring of SFAZ fuel and access conditions.

Heritage Management Zones – HMZs

Map ID	Zone Name
HMZ	Bungonia - Morton West HMZ
	Strategies
	Review fire management works program for the zone – annually, post fire season. This assessment includes, fire history, biodiversity maintenance and the condition of fire control facilities within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc.
	Undertake burning under prescribed conditions - where indicated by above assessment for biodiversity maintenance requirements – as required.

Other Fire Management Information and Strategies for specific Natural and Cultural values in Bungonia SCA & North Morton National Park (West of Shoalhaven River)

Fire Season information and weather patterns :

Wildfires: Fire history indicates fires of greater intensity and control difficulty during late spring, summer and early autumn, thouoh periods of drought may extend this period from late August to June. Strong, drier westerly winds are noted from late August to mid October. During summer, moister north-east sea-breezes may push inland against predicted patterns though this effect diminishes further from the coast and may cause highly changeable conditions on the fireground. Likewise, the effects of southerly maritime changes is later and lesser than along coastal areas. Thunderstorm activity in the summer months may produce sudden changes in wind speed and direction with possible lightning ignitions and highly variable rainfall.

Prescribed Burning: Late summer / autumn / and winter are the preferred seasons for prescribed burning where desirable stable conditions and trends are more likely. Areas at higher altitudes may commence earlier in the season. Burning may take place outside these periods for specific operational and biodiversity management objectives.

Operational Guidelines – Bungonia SCA & North Morton NP (West of Shoalhaven River)

These guidelines are provided to assist fire management activities within these reserves. They are framed by current cooperative arrangements with other fire authorities, NPWS strategies for fire management, reserve management plans, neighbours and other site-specific issues that need to be considered. Feedback on these matters is always appreciated and should be directed to NPWS **Highlands Area Office, "Yarrunga" Nowra Rd, Fitzroy Falls NSW 2577.**

Command and Control: The NPWS is responsible for fire management within these reserves. Any fire authority may initiate size-up and attack with advice to the NPWS upon initial fire sighting or report. See Contacts section to advise fire reports in or within 8km of the reserves. Class 1 fire suppression operations may remain under command of the initial attack agency following assessment and advice by NPWS.

Visitor Safety: Consider public safety within initial response operations. ie clearing likely visitor use areas and sites, warnings and information, on-site protection, closures or evacuation where instructed by Police.

Fire Suppression: Firefighter safety is paramount. Containment options should consider using existing roads, trails, walking tracks and recently burnt areas. Where possible to limit unnecessary damage, earthmoving equipment should be limited to brushing up existing tracks. Sufficient walking trails exist to break the reserves into compartments. If extreme fire conditions prevail, fall back to property protection of adjacent urban areas or rural dwellings.

Earthmoving Equipment: Except for immediate initial attack, the use of earthmoving equipment for fire suppression within the reserves requires NPWS consent. There are significant natural and cultural values at unnecessary risk from unplanned use of earthmoving equipment. For operator safety, earthworks off-track should be avoided in the Karst areas and near the historic mine workings. Contact NPWS if earthworks are required. ALL use of earthmoving equipment will be consistent with NPWS safety, operational and environmental guidelines.

Foam and Retardant Use: Avoid foam and retardant use within the reserves unless there is a significant necessary operational advantage. DO NOT use on or near watercourses, wetlands or swampy areas. Sections of these reserves are within an urban water supply catchment. DO NOT use foams or retardants near water storage or supply infrastructure. Unless under emergency conditions always obtain permission before using rural water supplies / sources. Take care when tanker filling not to contaminate water sources.

Aerial operations: Aerial operators should be briefed on location of transmission lines in the area. Consider safety implications where aircraft will operate over adjacent urban areas or operate from publicly accessible fireground sites. Aerial operations should be postponed or abandoned if there is a high risk of a storm moving through the area, or there is a significant wind change anticipated.

Smoke Management: Consider prompt advice to communities downwind and consider traffic management during fire suppression operations. Consider safety and health implications during Prescribed Burning operations. Cold air drainage patterns in this area may also carry smoke some distance from the fireground and may adversely affect transport operations. Notify nearby highway and airspace management agencies if a smoke hazard to traffic is likely.

Rehabilitation: Earthmoving equipment and other resources should be allocated to soil erosion control works and remedial restoration before standing down from fire operations.

Arson: Report ALL fires of unknown cause or suspected arson to Police via Fire Control. Protect likely ignition points/ or evidence. Report any suspicious activity on or near the fireground.

Locked Gates: Any NPWS locked gates within the reserves are fitted with standard locks. Keys are kept in fire tankers and available from Fire Control. Report any missing or damaged locks via Fire Control or to NPWS. For public safety during fire operations – some gates may need to be left in closed position - but not locked. Close/Lock NPWS gates after operations. Where safe, leave farm gates as you find them.

Map Grid / Datum for map grid shown is AGD 66. This will remain in use until the majority of map sheets covering the area are revised to the newer GDA datum. To approximately locate a map reference given in GDA to this map (AGD 66) move approximately 200 metres to the southwest from the given grid reference. Conversely, to relay a grid reference from this map (AGD 66) to someone with a GDA map, give the reference of a point approximately 200m to the northeast of the position shown on this map.
NB As the base map for this area crosses two mapping projection zones, the grid references for the area left of the vertical yellow line may be inaccurate. For accurate map reference location of features use relevant topographic maps for area (see index map).

Special site considerations

Wildlife: Where possible, protect hollow trees adjacent to control lines during fire suppression operations. Prepare control lines to avoid introducing fire to these "habitat" trees during prescribed burning activities (also saves considerable "mop-up" effort). Report all injured wildlife to NPWS or wildlife carer organisations (refer to Contacts).

Rare or threatened plant species - known sites: Fireground control personnel should seek relevant information and brief all personnel involved in control line construction and suppression activities on the location of threatened species sites or habitats and appropriate actions to protect these sites (refer to relevant strategies table).

Cultural sites – known Aboriginal and Historic sites: Fireground control personnel should seek relevant information and brief all personnel involved in control line construction and suppression activities on the location of sites within the operational area and appropriate actions to protect these sites (refer to relevant strategies tables).

Ops1 – Limestone **Areas – Karst**: Hazardous operational conditions may occur in karst areas – cave openings, sinkholes etc.
Avoid operations in times of poor visibility (at night, heavy smoke etc.) unless worksites / routes are defined by informed personnel.
Avoid fire suppression earthworks or vehicle use off tracks and use of use of foam retardants in these areas.

Ops2 – **Historic Mine workings:** Hazardous operational conditions may occur near historic mine workings – concealed shafts, etc.
Avoid operations in times of poor visibility – (at night, heavy smoke etc.) unless worksites / routes are defined by informed personnel. Vehicles MUST remain on designated tracks. Do not use earthmoving machinery.

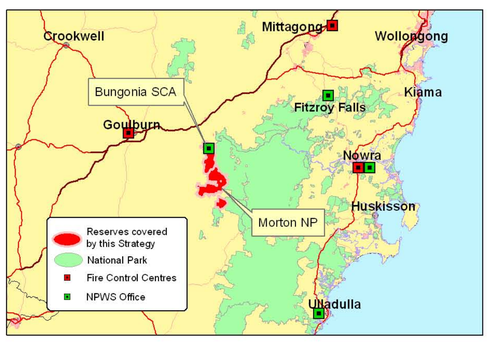
Cultural Sites: The following guidelines are indicated for cultural sites observed within the reserves. Not all sites are known and the indicated areas are generalised locations only. As specific sites and requirements are identified they may be added to later revisions of this strategy.

	Aboriginal Heritage Sites:	example of site
AH1	• As far as possible protect site from fire. • Do not cut down trees. • Use of foams, wetting agents and retardants is acceptable.	Scarred and Carved Trees
AH2	• As far as possible protect site from fire. • Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. • Avoid water bombing which may cause ground disturbance.	Stone arrangements, ceremonial rings, rock engravings, rock art, grinding grooves
AH3	• Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. • Avoid water bombing which may cause ground disturbance. • Site may be burnt by bushfire, back burn or prescribed burn without damage.	Burials, artefact scatters, middens
	Historic Heritage Sites	
HH1	• As far as possible protect site from fire. • Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. • Avoid water bombing which may damage site. • Use of foams, wetting agents and retardants is acceptable.	Flammable and structurally unsound sites including buildings with low structural integrity.
HH2	• As far as possible protect site from fire. • Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. • Waterbombing and use of foams, wetting agents and retardants is acceptable.	Flammable but structurally sound sites including buildings, wooden fences, signs, stock rails etc.
HH3	• Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. • Avoid water bombing.	Sites which are not flammable but are structurally unsound including dry stone walls.

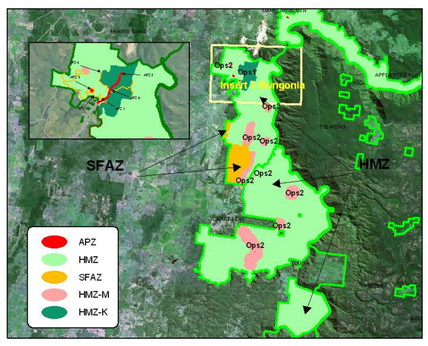
Map ID	Fire Strategies	Species	Common Name	Species Status
Flora				
Fl 1	Undetermined *	*Solanum celatum*	None	Endangered 1
Fauna				
FA1	No Fire	*Botaurus poiciloptilus*	Australasian Bittern	Vulnerable
FA 2	No burning around known nesting sites at any time	*Tyto novaehollandiae*	Masked Owl	Vulnerable
FA 3	Undetermined *	*Xanthomyza phrygia*	Regent Honeyeater	Endangered 1
FA 4	Undetermined *	*Phascolarctos cinereus*	Koala	Vulnerable
FA 5	Undetermined *	*Petaurus australis*	Yellow-bellied Glider	Vulnerable
FA 6	Undetermined *	*Petrogale penicillata*	Brush-tailed Rock-wallaby	Endangered 1
FA 7	No fire around known roost sites	*Miniopterus schreibersii oceanensis*	Eastern Bent-wing Bat	Vulnerable

* Specific operational requirements undetermined – No species specific fire requirements known at present, however the potential impact of firefighting chemicals and heavy machinery use should be considered and where possible minimised.

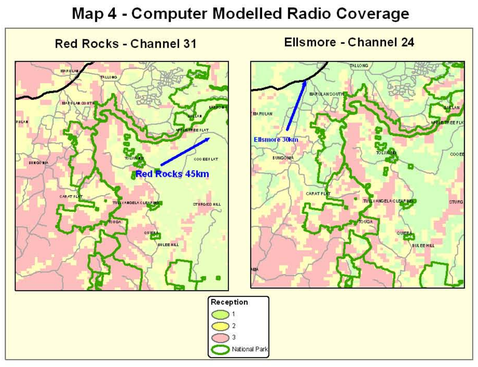
Map 2 - Location



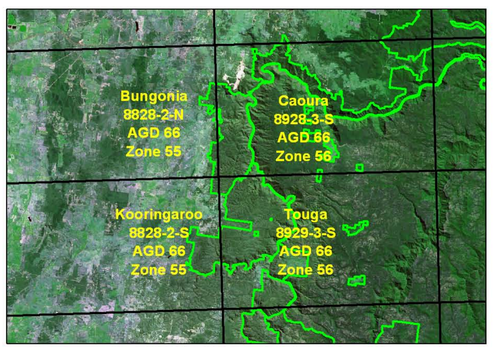
Map 3 - Fire Management Zones



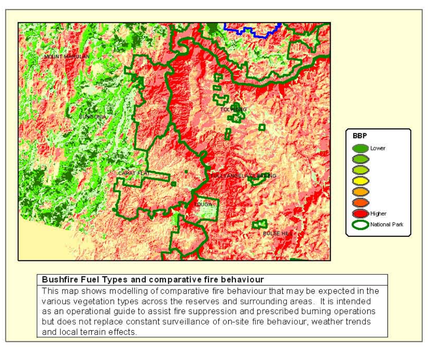
Map 4 - Computer Modelled Radio Coverage



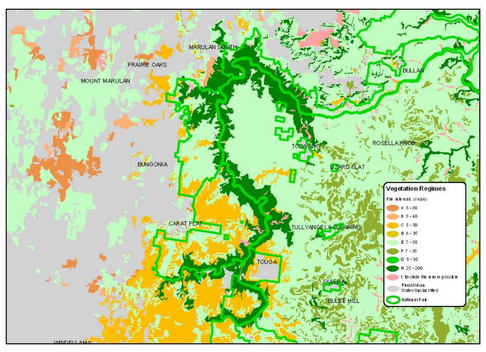
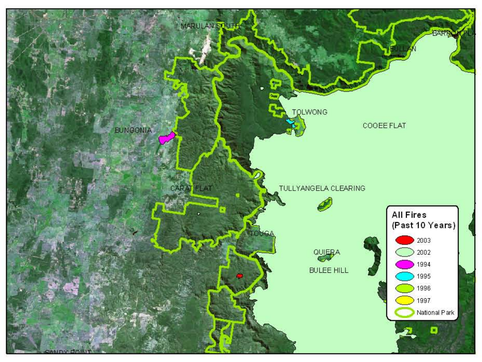
Map 5 - Topograhic Map Reference



Map 6 - Bushfire Behaviour Potential



Map 7 - Fire Regimes - Vegetation



Map 8 - Recent Fires - Past Ten Years (Wildfire & Hazard Reductions)