

Hunter Region Back River Nature Reserve Fire Management Strategy (Type 2) 2005



Sheet 1 of 1

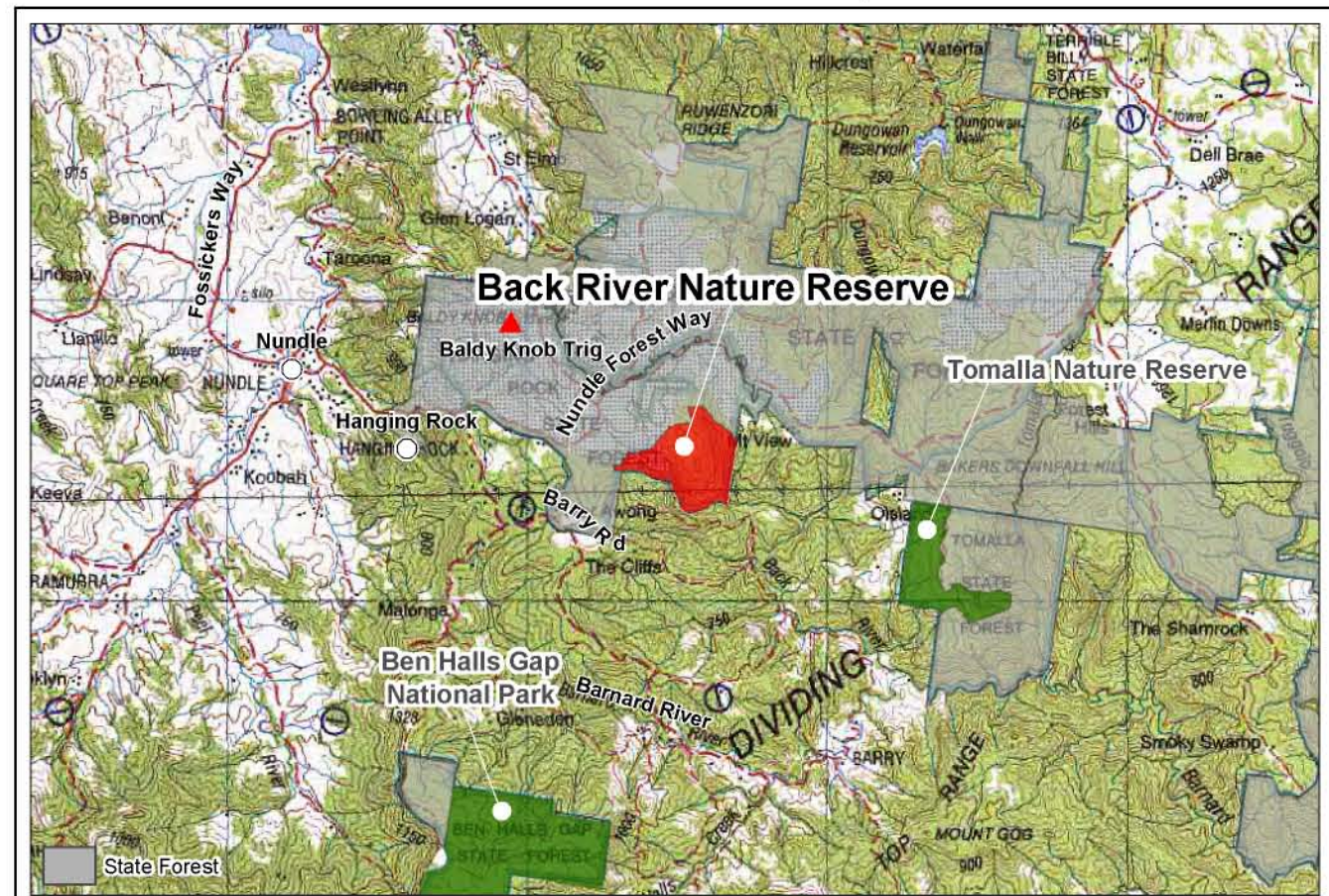
This strategy should be used in conjunction with aerial photography and field reconnaissance during incidents and the development of incident action plans.

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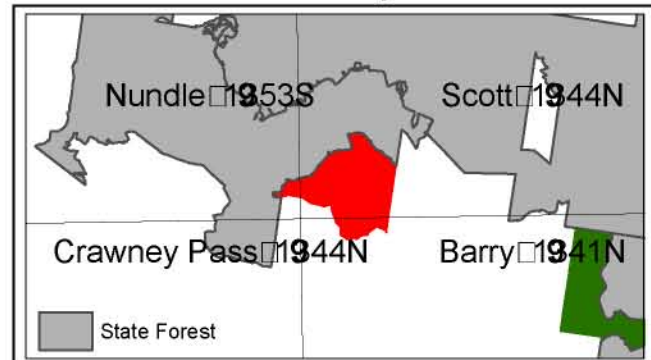
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This strategy is a relevant Plan under Section 38 (4) and Section 44 (3) of Rural Fires Act 1997.

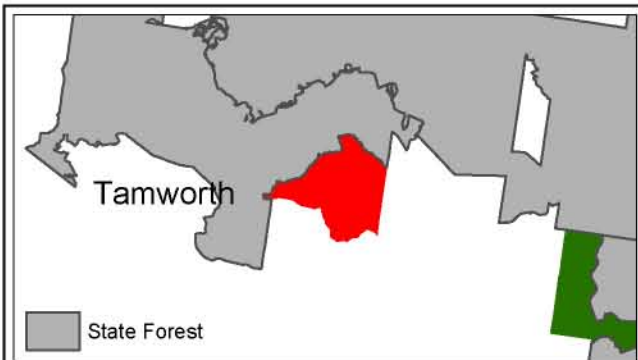
1:250 000 Location Map



1:25 000 Map Index



Local Government Areas



Contacts and Communications

CONTACT DETAILS

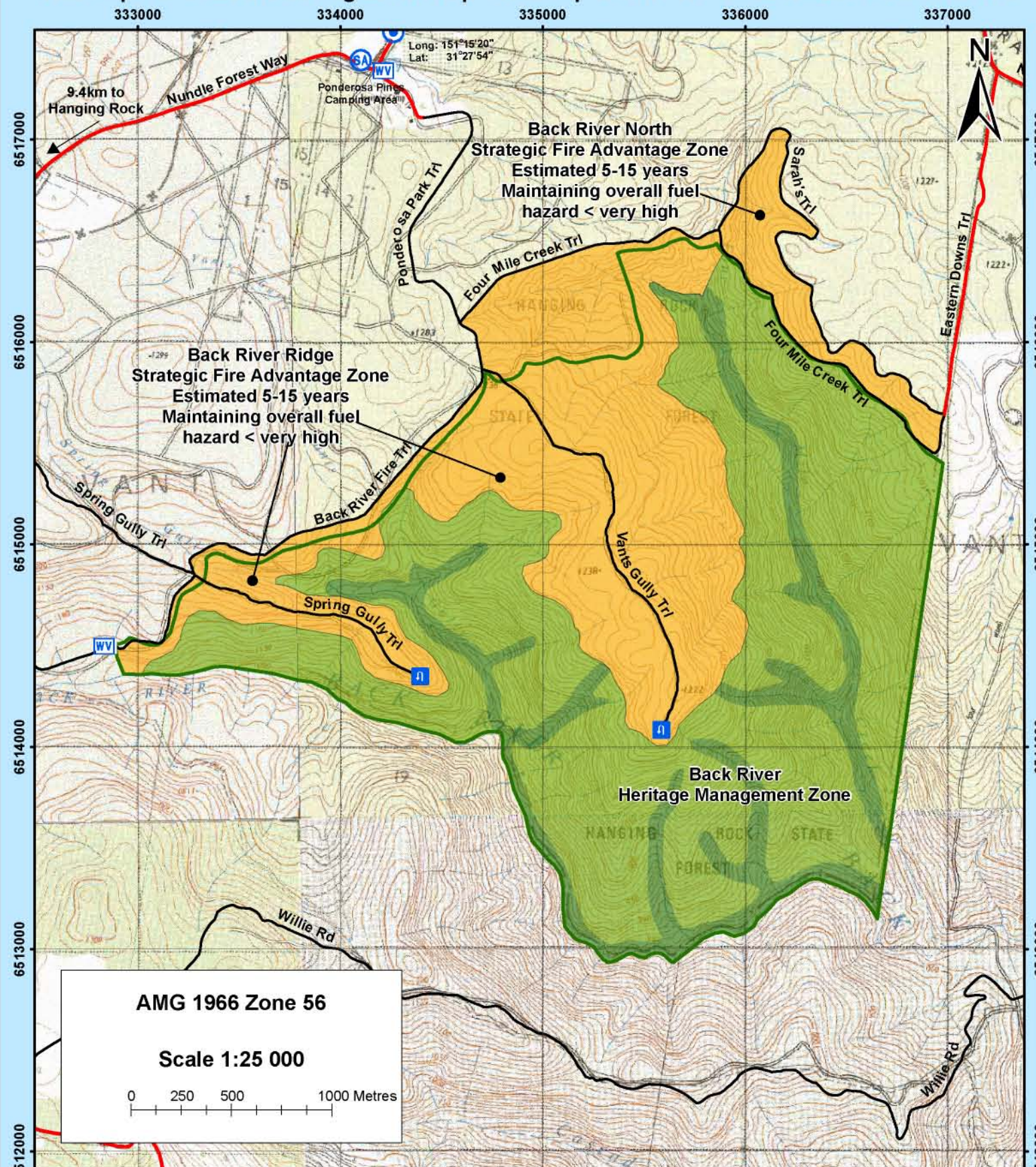
Agency	Position	Number
NPWS	Hunter Region Duty Officer (24 hr)	016 301161 / 0429 144880
	Upper Hunter Area Manager	6540 2306 / 0429 144876
	Senior Field Supervisor	6540 2304 / 0429 144884
	Fire Management Officer	4984 8206 / 0429 144870
RFS Tamworth	Operations Coordinator	4984 8212 / 0429 144872
	Upper Hunter Area Office	6540 2300 / (fax) 6545 9475
	Hunter Regional Office	4984 8200 / (fax) 4981 5913
	Fire Control Officer	6762 7641 / (fax) 6766 1160
NSW Fire Brigade	RFS has keys to all locked gates	Contact via NPWS Ranger
	Newcastle Communications (24hr)	49297 177 / (fax) 4927 2580
SES	Nundle	6769 3231 / (fax) 6769 3223
Police	Nundle Station (diverts if unattended)	6769 3344
Ambulance	Emergency	000
	Bookings	131233
Hospital	Tamworth	000
Council	Tamworth Regional	6755 4555 / (fax) 6755 4499
State Forests NSW	Walcha Duty Officer (24hr)	6777 2511 / (fax) 6777 2179

COMMUNICATION RESOURCES

Service	Channel	Location/Comments
NPWS - VHF	25 or 32	• Select channel with best reception
RFS - PMR	42	• Yarrowin Trip Baldy Knob near Nundle
RFS - CB Fire Callup	5	• Simplex (car-to-car)
UHF - CB	1-40	• Available in most RFS vehicles
NPWS-VHF Portable Repeater	Repeater Ch. 7 UHF	• Choose channel on fire-ground with RFS
Mobile Phone	-	• Can be located anywhere
State Forests NSW - VHF	2	• Kept at Regional Office
		• Poor coverage
		• Yarrowin repeater

Bushfire Risk Management Strategies

This map illustrates the strategies NPWS plans to implement between 2005 - 2010 in the reserve.



MAP LEGEND

Back River Nature Reserve	Roads and Trails	Threatened Property
Fire Management Zones	Primary (Cat 1)	Other Fire Control Advantages
Strategic Fire Advantage Zone	Secondary (Cat 9)	Existing Staging Area
Heritage Management Zones	Proposed (Cat 9)	Existing Water Vehicle Point
Dry Sclerophyll Forest (5 - 50 years)		Existing Helipad
Rainforest (Avoid all fire)		Existing Turning Point

LEGEND DESCRIPTION

Fire Management Zones	• Note that some fire management zones extend beyond the boundaries of the reserve onto adjacent land. While the strategies proposed for adjacent land are not binding on the neighbouring property owner/occupier, NPWS will pursue these strategies with neighbours because if they are not implemented it may result in assets remaining at high risk. Where possible, NPWS will assist neighbours to undertake the proposed strategies.
Roads & Trails	• Strategic Fire Advantage Zones: The objective of strategic fire management zones is to help reduce fire behaviour to reduce the chance of bushfire moving into or out of the reserve. This will be achieved by conducting prescribed burning at the frequency required to maintain the overall fuel hazard below 'very high' (NPWS, 2003). The estimated frequency of burning required to achieve this is indicated on the above map. Note the boundaries of strategic zones may be determined by natural fire control advantages (rainforest etc) and where fires self extinguish in the evenings. Consequently the strategic zones as illustrated on this map represent the maximum area that may be burnt.
Other Fire Control Advantages	• Heritage Management Zones: The objective of heritage management zones is to conserve biodiversity and protect cultural heritage. The proposed burning frequency for heritage management zones is that which is required to conserve biodiversity in the vegetation communities occurring within the zone (see Bushfire Risk Management Strategies Map Legend above).
	• The above map illustrates the trails that are considered important for fire management and are proposed to be maintained. It is proposed that NPWS maintain trails within the reserve and the owner/occupier maintain trails on their properties.
	• Primary Category 1 Trails are existing trails that will be maintained to a standard sufficient to allow the passage of Category 1 fire tankers (4wd Heavy Tanker up to 3000 litre capacity).
	• Secondary Category 9 Trails are existing trails that will be maintained to a standard sufficient to allow the passage of Category 9 fire tankers (4wd ute up to 400 litre capacity).
	• Other fire control advantages are features that may be used to support bushfire suppression operations and include water points (both helicopter and vehicle accessible), helipads, landing grounds, staging areas and refuge areas. Other fire control advantages that will be maintained or constructed in and around the reserves are illustrated in the above map.

GENERAL OPERATIONAL GUIDELINES

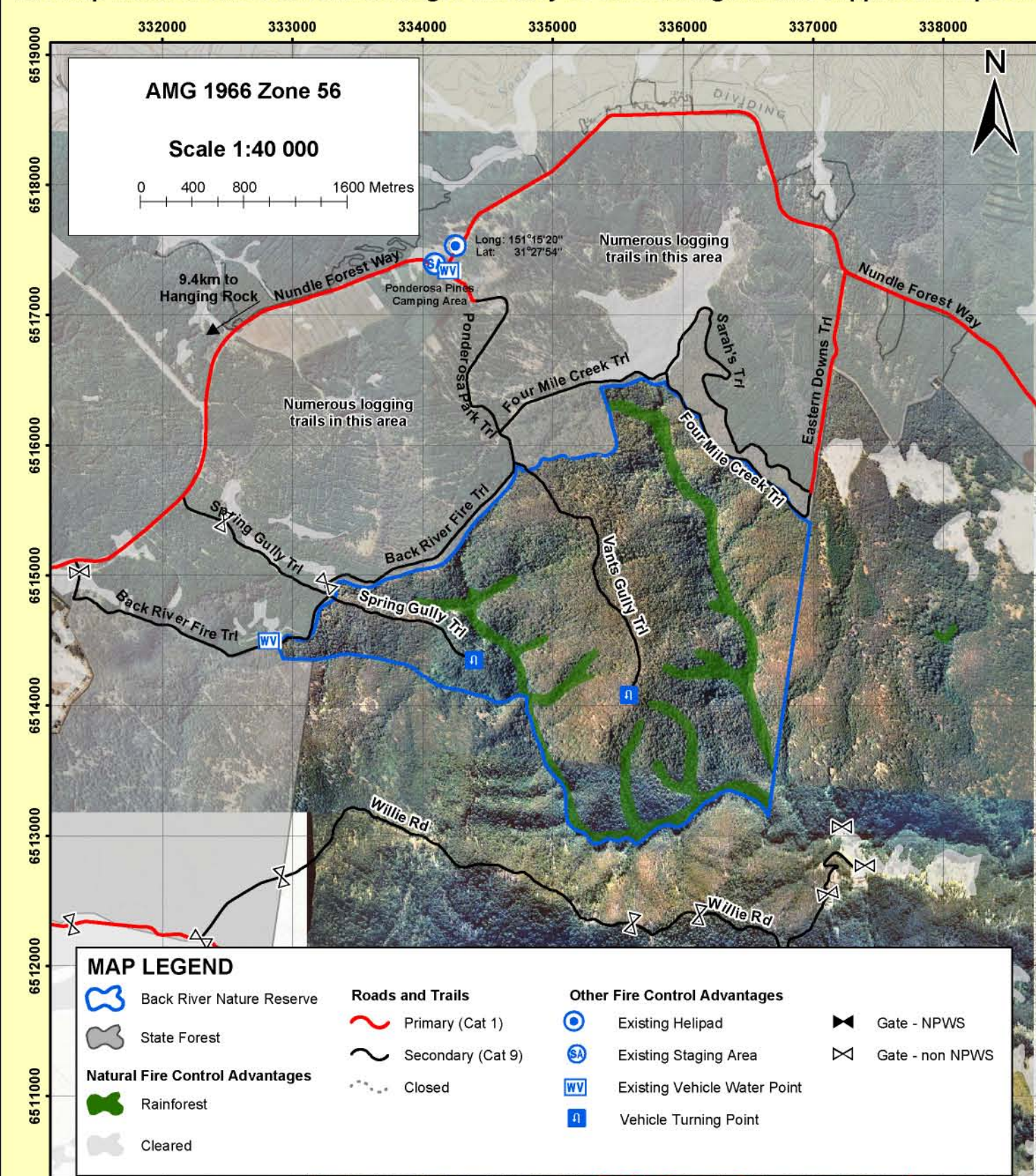
Issue/Area	Operational Outlines
Aerial Ignition	• May be used where considered appropriate.
Backburning	• As far as possible, backburning should take account of threatened species and cultural heritage guidelines.
Command and Control	• On days when the fire danger > High, as far as possible delay backburning until early evening.
Water Bombing	• Backburning may be safely undertaken during the day when the fire danger < High.
Visitor Safety	• Take particular care backburning when there are fibrous/paper bark trees close to control lines.
Restoration	• ICS system will be implemented during all fire suppression activities.
Earth Moving Machinery	• Can be used to slow the spread of a fire but will not extinguish a fire without support from ground crews.
Foams & Wetting Agents	• Ground crews must be warned of water bombing operations.
Fire Advantage Recording	• As far as possible, foam should be used to increase the effectiveness of the water.
Retardant	• Foam/water should not be used for building control lines because it is ineffective.
Roads and Trails	• Close roads if smoke or fire fighting operations are likely to cause a traffic hazard.
	• All new fire breaks will be restored as part of the fire suppression operation.
	• Can only be used with consent of NPWS and only if the probability of success is considered high.
	• As far as possible restrict use to routes and other previously disturbed areas.
	• Subject to operational constraints, minimise the length of break constructed.
	• As far as possible, take account of threatened species and cultural heritage management guidelines.
	• The route to be taken by earth moving machinery must be scouted to identify possible cultural heritage sites.
	• Use permitted where considered appropriate.
	• As far as possible, minimise use in rainforest communities.
	• All fire advantages used during wildfire suppression operations are to be mapped so they can be added to the database.
	• Retardant is ineffective and should not be used in communities with a dense canopy cover.
	• Retardant is ineffective and should not be used against high intensity fires producing large numbers of spot fires.
	• Retardant is most applicable to building short lengths of control line to link existing control lines.
	• Areas where retardant has been used shall be mapped.
	• Note the illustration of roads and trails on this map does not necessarily indicate a right of way and unless there is an existing access agreement permission should always be sought from the relevant land holders before using trails on their property.

Bushfire Suppression Information 2005/06

The information in this section will be updated annually based on fire history and completed fire management works.

Fire Control Advantages

This map illustrates fire control advantages that may be used during bushfire suppression operations.

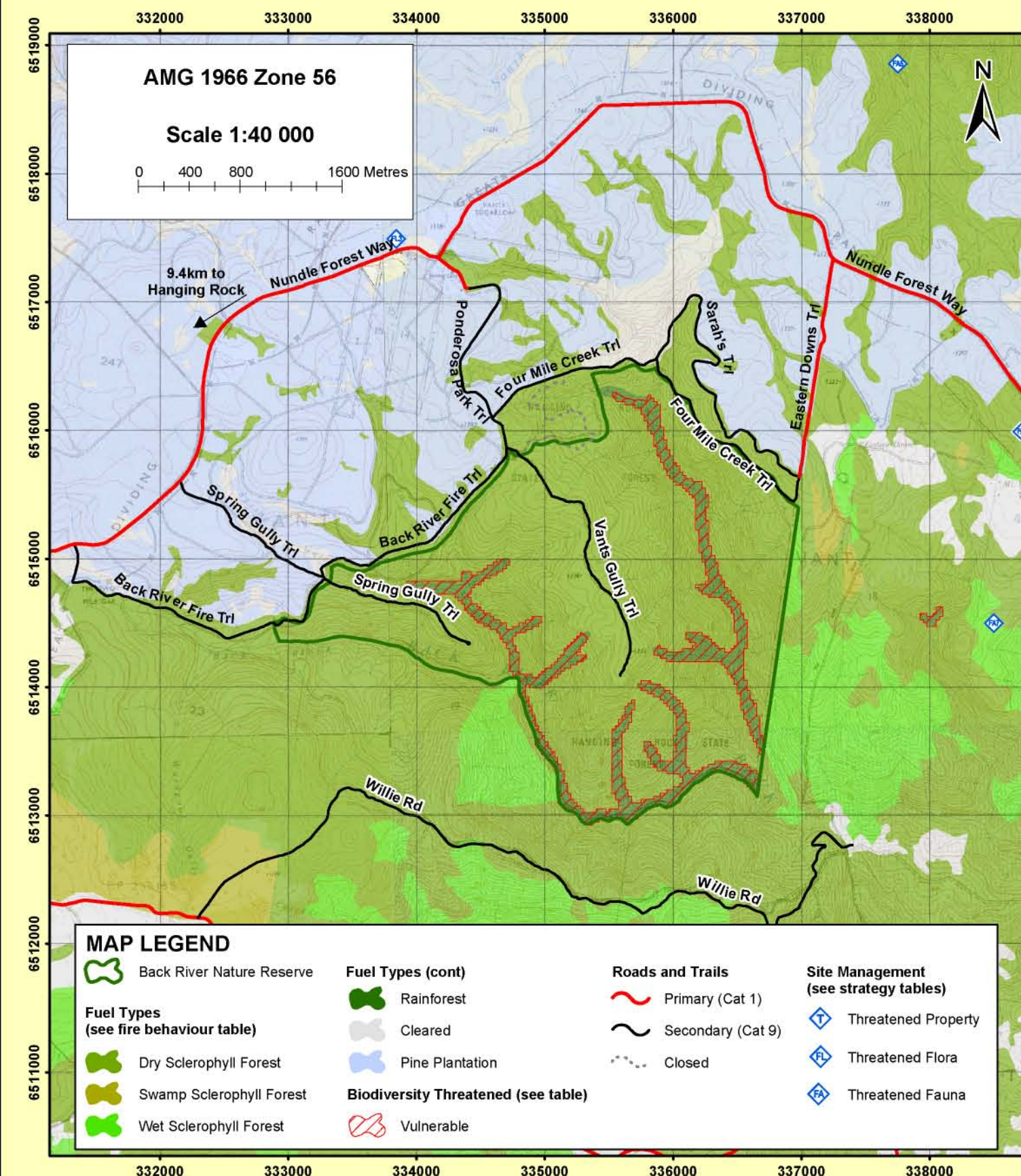


MAP LEGEND

Back River Nature Reserve	Roads and Trails	Other Fire Control Advantages
State Forest	Primary (Cat 1)	Existing Helipad
Natural Fire Control Advantages	Secondary (Cat 9)	Existing Staging Area
Rainforest	Closed	Existing Vehicle Water Point
Cleared		Vehicle Turning Point

Assets & Fire Fuels

This map illustrates fire fuels and the location of assets for use in bushfire suppression operations.



MAP LEGEND

Back River Nature Reserve	Fuel Types (cont)	Roads and Trails	Site Management (see strategy tables)
Dry Sclerophyll Forest	Rainforest	Primary (Cat 1)	Threatened Property
Swamp Sclerophyll Forest	Cleared	Secondary (Cat 9)	Threatened Flora
Wet Sclerophyll Forest	Pine Plantation	Closed	Threatened Fauna
	Biodiversity Threatened (see table)		
	Vulnerable		

FUELS AND FIRE BEHAVIOUR CHARACTERISTICS

Fuel Type	Fire Behaviour Characteristics
Dry Sclerophyll Forest	• Flammable under a wide range of conditions.
Swamp Sclerophyll Forest	• High fire intensity and flame heights under hot, dry, windy conditions.
Wet Sclerophyll Forest	• ROS lower than heathland/shrubland & swamp sclerophyll forest.
Rainforest	• Heavy short distance spotting (<500m), occasional long distance spotting (>500m).
Cleared	• Use McArthur Mark 5 Forest Fire Behaviour Model to estimate ROS.
	• Seasonally inundated.
	• When inundated, backfires usually self extinguish at night.
	• Crown fires and very high flame heights (3 - 5 x tree height) common due to high level of vertical fuel continuity.
	• Ground (peat) fires common when not inundated and soils dry up.
	• Use Catchpole et al. Heathland Fire Behaviour Model to estimate ROS.
	• Generally only flammable when BKDI > 80.
	• May function as control line when BKDI < 50.
	• Ground (peat) fires common when BKDI > 125.
	• When flammable, often burns at extreme intensities (higher than any other fuel type).
	• When flammable, often results in long distance spotting (>500m).
	• Generally only flammable when BKDI > 100.
	• May function as control line when BKDI < 60.
	• Ground (peat) fires common when BKDI > 125.
	• When flammable, fires are usually slow and of low intensity although vines may allow flames to climb trees.
	• Due to palms dropping large numbers of dead fronds, palms may be flammable when other rainforest species are not.
	• Only flammable when grass >50-70% cured.
	• May function as control line when grass <50% cured.
	• When grass >70% cured, burns with the highest ROS of any fuel type but comparatively low flame height and intensity.
	• When grass >70% cured, ROS highly sensitive to wind speed.
	• When grass >70% cured, flame height and intensity, but not ROS, strongly influenced by grass height and continuity.
	• Spotting >100m uncommon.
	• Use CSIRO Grassland Fire Behaviour Model to estimate ROS.

INTERPRETATION OF BIODIVERSITY THREATENED CATEGORIES

Category	Interpretation
Overburnt	• Protect from fire as far as possible.
Vulnerable	• Past fire frequency has already exceeded biodiversity thresholds.
Underburnt	• Protect from fire as far as possible.
Almost Underburnt	• The occurrence of fire this year will result in biodiversity thresholds being exceeded.
	• If possible, allow area to burn.
	• Fire frequency has already been too low to conserve biodiversity.
	• If possible, allow area to burn.
	• The absence of fire this year will result in a fire frequency outside biodiversity thresholds.

FIRE SUPPRESSION STRATEGIES

Current Fire Danger	Forecast Fire Danger	Guidelines
Low - Mod	Low - Mod	• As far as possible, undertake indirect, parallel or direct attack along existing control lines.
Low - Mod	Low - Mod	• As far as possible, maximise area burnt without threatening assets, including biodiversity.
Low - Mod	Low - Mod	• Identify and survey backup control lines.
Low - Mod	Low - Mod	• Undertake indirect, parallel or direct attack to minimise the time taken to contain the fire.
Low - Mod	Low - Mod	• Construct new control lines if necessary to minimise the time to contain the fire.
Low - Mod	Low - Mod	• Identify and survey backup control lines.
Low - Mod	Low - Mod	• Undertake indirect attack along existing or newly constructed control lines.
Low - Mod	Low - Mod	• Secure and deepen control lines along the next predicted downwind side of the fire.
Low - Mod	Low - Mod	• Identify and survey backup control lines.
Low - Mod	Low - Mod	• Ensure there is sufficient time to secure control lines before the fire gets to them.
Low - Mod	Low - Mod	• If there is insufficient time to secure control lines, fall back to the next potential control line.
Low - Mod	Low - Mod	• As far as possible, implement threatened species and cultural heritage management guidelines.

ABORIGINAL SITE MANGEMENT STRATEGIES

Label	Treatment
AH1	• As far as possible protect site from fire.
AH1	• Do not cut down trees.
AH1	• Use of foams, wetting agents & retardant is acceptable.
AH2	• As far as possible protect site from fire.
AH2	• Avoid ground disturbance including handtools, dozers.
AH2	• Avoid water bombing which may cause ground disturbance.
AH3	• Avoid ground disturbance including handtools, dozers.
AH3	• Avoid water bombing which may cause ground disturbance.
AH3	• Site may be burnt by wildfire, backburn, prescribed burn.

THREATENED FAUNA MANAGEMENT STRATEGIES

Label	Treatments
FA1	• Protect large and hollow bearing trees.
FA2	• Protect large and hollow bearing trees.
FA2	• Avoid interfire intervals of < 10 yrs.
FA3	• Avoid interfire intervals of < 10 yrs.
FA4	• Habitat unlikely to be affected by fire.
FA4	• Avoid use of earth moving machinery in wetland habitats.
FA5	• Avoid use of retardant and foam in wetland habitats.
FA6	• Habitat unlikely to be affected by fire.
FA6	• Avoid use of earth moving machinery in dune habitats.
FA7	• Avoid fire, including wildfire, backburning & HR, as far as possible in wetland habitat.
FA7	• Avoid use of earth moving machinery in wetland habitats.
FA8	• Avoid high intensity fires that consume tree canopies and fallen logs.
FA8	• Avoid fire, including wildfire, backburning & HR, as far as possible.
FA8	• Avoid use of earth moving machinery.

THREATENED FLORA MANAGEMENT STRATEGIES

Label	Treatments
FL1	• Avoid interfire intervals of < 10 yrs.
FL2	• Avoid the use of earthmoving machinery.
FL2	• Avoid the use of retardant.
FL3	• Avoid fire, including wildfire, backburn, HR, as far as possible.
FL3	• Avoid the use of earthmoving machinery.
FL4	• Avoid interfire intervals <10 years, effect unknown.
FL4	• Avoid the use of earth moving machinery.
FL5	• Avoid summer fire.
FL5	• Avoid high intensity fire.
FL5	• Avoid earth moving machinery.
FL5	• Avoid low intensity fire.
FL5	• Avoid interfire intervals <5 years.
FL5	• Avoid earth moving machinery.
FL5	• Avoid the use of retardant.