Bargo River State Conservation Area
Fire Management Strategy
2009

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

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Fire Season Information

Wildfires	• The statutory wildfire season occurs between 1st October and 31st March. This may be extended if weather conditions lead to increased fire danger outside of this period.
Prescribed Burning	• Prescribed burning in this area is normally undertaken in Spring through to Autumn.

Related Documents

- National Parks and Wildlife Service Fire Management Manual
- Shale Sandstone Transition Forest Endangered Ecological Community Information
- Southern Highlands Shale Woodland Endangered Ecological Community Information

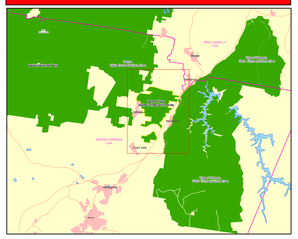
Contact Information

Agency	Position / Location	Phone
National Parks & Wildlife Service (NPWS)	Regional Duty Officer (24 hour)	0419 428 054
	Nattai Area Manager	4677 0859 / 0419 408 651
	Fire Management Officer	9542 0636 / 0419 462 105
	Regional Operations Coordinator	9542 0644 / 0409 042 412
	Nattai Area Office	4677 0859 (fax) 4677 0862
	Sydney South Regional Office	9542 0624 (fax) 9542 1420
Sydney Catchment Authority (SCA)	24 Hours	9751 1988 Pager 1800 061 069
Wingecarribee NSW Rural Fire Service (RFS)	24 Hours Business Hours	4871 3765 4871 2666
Wollondilly NSW Rural Fire Service (RFS)	24 Hours Business Hours	4677 1605 4677 1971
State Emergency Services (SES)	24 Hours Wollondilly Wingecarribee	4251 6111 4677 1417 4871 2433
Police	Emergency Mittagong Picton	000 4871 1222 4677 8999
Ambulance	Emergency Bookings	000 131 233
Hospital	Bowral District	4861 0200
Council	Wingecarribee Shire Council Wollondilly Shire Council	4868 0888 4677 1100

Communications Information

Service	Channel	Location and Comments
NPWS – UHF	2	• High Range – Moderate Coverage.
NPWS – VHF	95	• Sydney Catchment Authority Network – Good Coverage.
Mobile Phone GSM & Next G Network Satellite Phone	-	• Moderate Coverage across reserve
	-	• Good Coverage

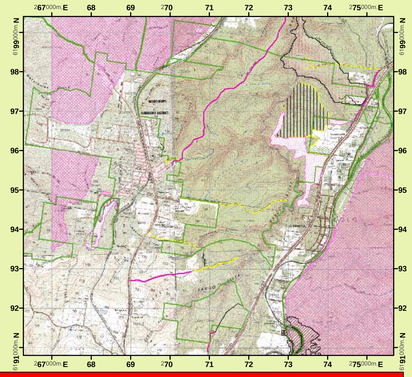
Locality of Reserve and Local Government Areas



Map Details

Datum: Geocentric Datum of Australia 1994 (GDA94) **Projection:** Australian Map Grid (AMG) Zone 56	**Aerial Photography:** Frown in 2001 **1:25k Topographic Map:** Bargo 9029-3N 2nd Ed. Avon River 9029-3S 3rd Ed. Hilltop 9029-2N 2nd Ed. Mittagong 9029-2S 2nd Ed

Recent Fire History

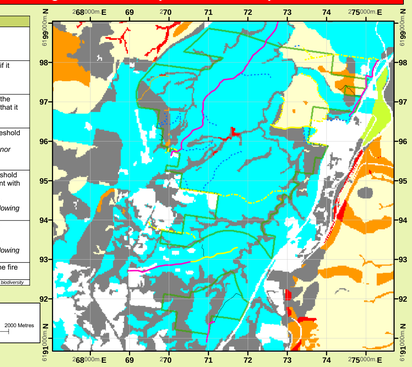


Current Vegetation Status (Fire Thresholds)

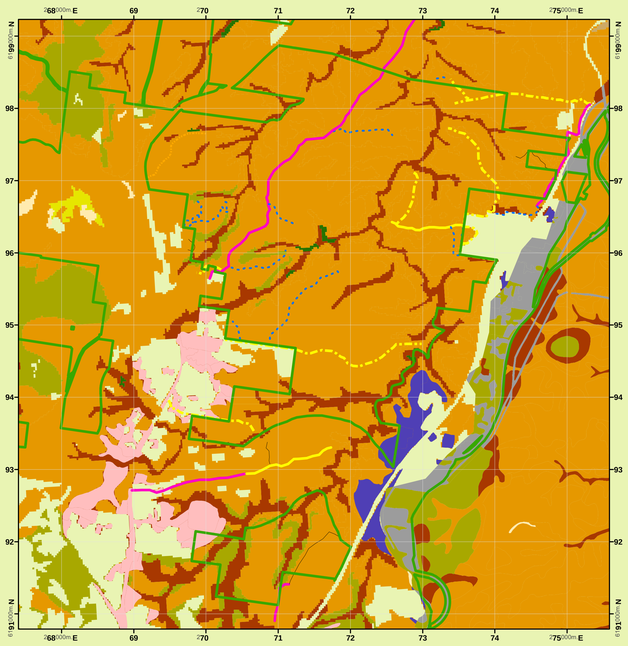
Fire Thresholds

Overburnt	Fire thresholds have been exceeded. *- Protect from fire as far as possible.*
Vulnerable	The area will be Overburnt if it burns this year. *- Protect from fire as far as possible.*
Recently Burnt	Time since fire is less than the optimal interval, but before that it was within threshold. *- Avoid fires if possible.*
Within Threshold	Fire history is within the threshold for vegetation in this area. *- A burn is neither required nor should one necessarily be avoided.*
Almost Underburnt	The area is close to its threshold and may become underburnt with the absence of fire. *- A prescribed burn may be advantageous. Consider allowing unplanned fires to burn.*
Underburnt	Fire frequency is below fire thresholds in the area. *- A prescribed burn may be advantageous. Consider allowing unplanned fires to burn.*
Unknown	Insufficient data to determine fire threshold.

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



Vegetation



MAP LEGEND

- NPWS Estate

Endangered Ecological Communities (EEC)
- Shale/Sandstone Transition Forest (EEC)
- Highland Shale Tall Open Forest (EEC)

Broad Vegetation Communities
- Shrubby Dry Sclerophyll Forest
- Grassy Dry Sclerophyll Forest
- Heathland/Shrubland
- Wet Sclerophyll Forest
- Rainforest
- Freshwater Wetland
- Sand/Rock/Bare Ground/Water
- Cleared

Scale 1:30 000 — 0 500 1000 Metres

Vegetation Communities and Biodiversity Thresholds

Regime	Vegetation Community	Biodiversity Thresholds	Fire Behaviour	Year Burnt	Area (Ha)
A	Shrubby Dry Sclerophyll Forest	• Avoid successive fires at intervals of < 7 years. • Avoid fire exclusion for a period of > 30 years.	Low to moderate	2007 2009	81.4 99.0
B	Heathland	• Avoid successive fires at intervals of < 8 years. • Avoid successive fires at intervals of > 15 years. • Avoid fire exclusion for a period of > 30 years.	-	-	-
K	Shale / Sandstone Transition Forest (EEC)	• Avoid successive fires at intervals of < 7 years. • Avoid successive fires at intervals of > 40 years.	-	-	-
M	Southern Highlands Shale Woodland (EEC)	• Avoid successive fires at intervals of < 10 years. • Avoid successive fires at intervals of > 50 years.	-	-	-
C	Wet Sclerophyll Forest	• Avoid successive fires at intervals of < 25 years. • Avoid successive fires at intervals of > 60 years. • Avoid fire exclusion for a period of > 200 years.	Low	2007 2009	5.7 10.2
D	Rainforest	• Avoid any fire occurrence (a limited recovery ability exists).	-	-	-
I	Freshwater Wetland	• Avoid successive fires at intervals of < 6 years. • Avoid fire exclusion for a period of > 35 years.	-	-	-
	Cleared				
Nil	Sand/Rock/ Bare/Ground/ Water	• Not applicable.	-	-	-

Threatened Fauna Fire Ecology

Label	Name	Fire Ecology
	Hoplocephalus bungaroides Broad-headed Snake *(Endangered)*	• No slashing trittering or tree removal
	Tyto tenebricosa Sooty Owl *(Vulnerable)*	• Avoid burning around known nesting sites at any time • Avoid slashing trittering or tree removal
	Ninox strenua Powerful Owl *(Vulnerable)*	• Avoid burning around known nesting sites at any time • Avoid slashing trittering or tree removal around known nesting sites
	Phascolarctos cinereus Koala *(Vulnerable)*	• Intense wildfire with canopy scorch will cause high mortality and injury • Post fire areas may be recolonised within 6-18months. With eucalpts providing many nutritious and less toxic leaves for improved food quality.
	Dasyurus maculatus Spotted-tailed Quoll *(Vulnerable)*	• Avoid removal of hollow logs
	Cercartetus nanus Eastern Pygmy Possum *(Vulnerable)*	• No slashing trittering or tree removal
	Callocephalon fimbriatum Gang Gang Cockatoo (vulnerable)	• Avoid high frequency fires in known habitat

Suppression Strategies

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

Threatened Flora Fire Ecology

Label	Name	Fire Ecology
	Acacia bynoeana Bynoe's Wattle *(Endangered)*	• No fire more than once every 7 years. • No slashing, trittering or tree removal.
	Grevillea parviflora *(Endangered)*	• No fire more than once every 7 years • No slashing, trittering or tree removal
	Persoonia bargoensis Bargo Geebung *(Vulnerable)*	• No fire more than once every 10 years • No slashing, trittering or tree removal
	Persoonia glaucescens Mittagong Geebung *(Endangered)*	• No fire more than once every 15 years • No slashing more frequently than every 15 years, and no trittering or tree removal
	Persoonia hirsuta Hairy Geebung *(Endangered)*	• No fire more than once every 10 years • No slashing, trittering or tree removal
	Persoonia hirsuta subsp.*evoluta* *(Endangered)*	• No fire more than once every 10 years • No slashing, trittering or tree removal

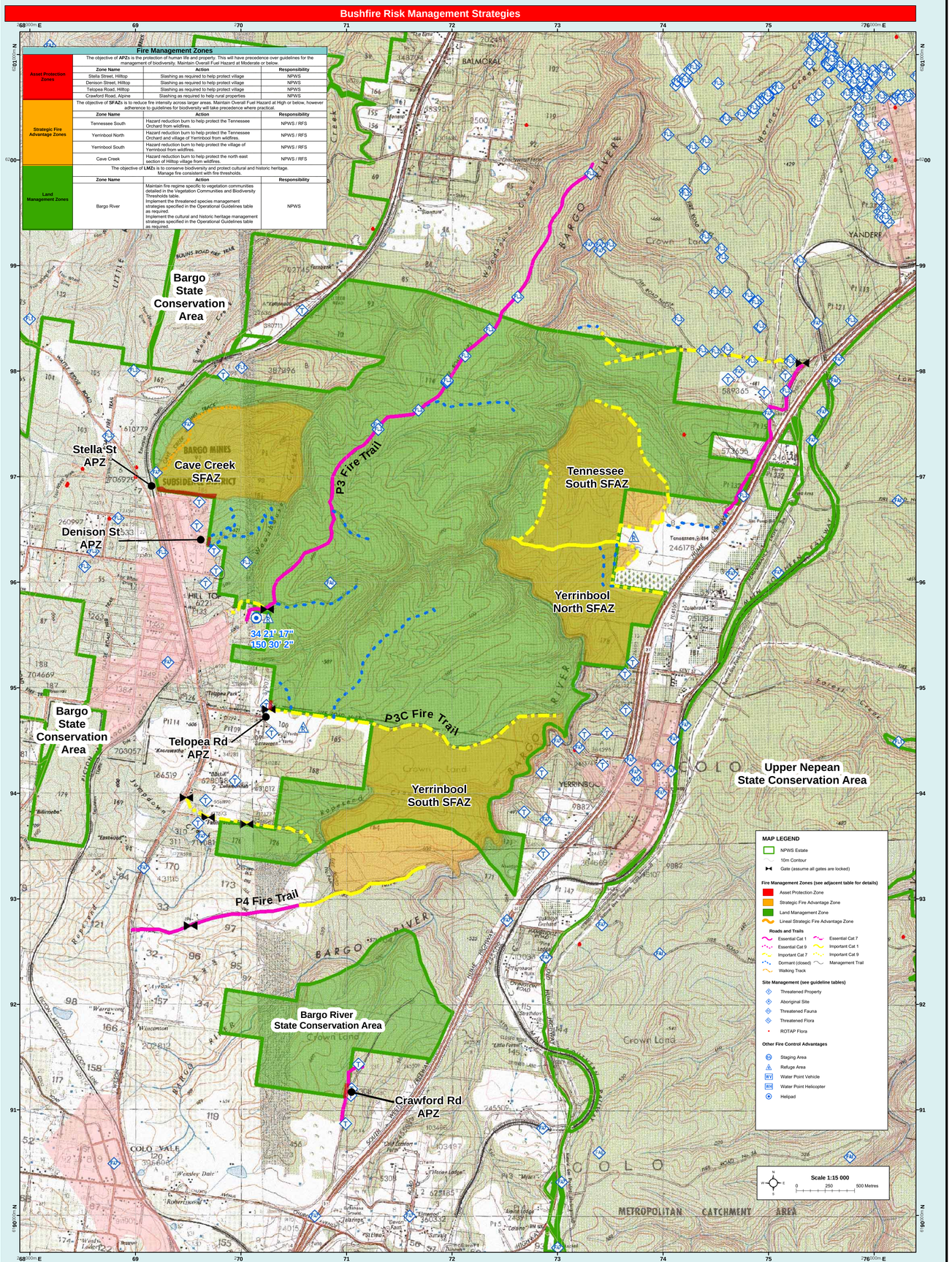
Operational Guidelines

Refer to Strategy for Fire Management 2003 and Fire Management Manual
Brief all personnel involved in suppression operations on the following issues:

General	Guidelines
Aerial Water Bombing	• The use of bombing aircraft should support containment operations by aggressively attacking hotspots and spokovers. • 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	• Aerial ignition may be used during backburning or fuel reduction operations where practicable, but only with the prior consent of NPWS Regional Manager or Section 44 delegate. • Utilise incendiaries to rapidly progress back-burns down slope where required.
Backburning	• Temperature and humidity trends must be monitored carefully to determine the safest times to implement backburns. Generally, when the FDI is Very High or greater, backburning should commence when the humidity begins to rise in the late afternoon or early evening. With a lower FDI backburning may be safely undertaken during the day. • Where practicable, clear a 1m radius around dead and fibrous barked trees adjacent to containment lines prior to backburning, or wet down these trees as part of the backburn ignition. • Avoid ignition of backburns at the bottom of slopes where a long and intense up slope burn is likely.
Command & Control	• 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 initial 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	• Construction of new containment lines should be avoided, where practicable, except where they can be constructed with minimal environmental impact. New containment lines require the prior consent of a senior NPWS officer. • Where practicable, containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation. • All containment lines not required for other purposes should be closed at the cessation of the incident. • All personal involved in containment line construction should be briefed on both natural and cultural heritage sites in the location.
Earthmoving Equipment	• 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 be always guided and supervised by an experienced officer, and accompanied by a support vehicle. When engaged in direct or parallel attack this vehicle must be a firefighting 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 should be washed down, where practicable, prior to it entering NPWS estate.
Fire Advantage Recording	• All fire advantages used during wildfire suppression operations must be mapped and where relevant added to the database.
Fire Suppression Chemicals	• Wetting and foaming agents (surfactants) are permitted for use in wildfire suppression. • The use of fire retardant is only permitted with the prior consentof the senior NPWS officer, and should be avoided where reasonable alternatives are available. • Exclude the use of surfactants and retardants within 50m of rainforest, 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	• Where practicable, containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation.
Smoke Management	• 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	• The reserve may be closed to the public during periods of extreme fire danger or during wildfire suppression operations.

Resource	Guidelines
Aboriginal Cultural Heritage Site Management	
A1	• As far as possible protect site from fire. • Do not cut down trees. • Use of foams, wetting agents & retardant is acceptable.
A2	• As far as possible protect site from fire. • Avoid ground disturbance including handtools, dozers. • Avoid water bombing which may cause ground disturbance.
A3	• Avoid ground disturbance including handtools, dozers. • Avoid water bombing which may cause ground disturbance. • Site may be burnt by wildfire, backburn, prescribed burn.
Threatened Fauna Management	
FA1	• Protect large and hollow bearing trees.
FA2	• Protect large and hollow bearing trees. • Avoid interfire intervals of < 10 yrs. • Avoid high intensity fires that consume tree canopies and fallen logs.
FA3	• Avoid interfire intervals of < 10 yrs.
FA5	• Habitat unlikely to be effected by fire. • Avoid use of earth moving machinery in dune habitats.
FA6	• Avoid fire, including wildfire, backburning & HR, as far as possible in wetland habitat. • Avoid use of earth moving machinery in wetland habitats. • Avoid use of retardant and foam in wetland habitats.
FA7	• Avoid high intensity fires that consume tree canopies and fallen logs.
FA8	• Avoid fire, including wildfire, backburning & HR, as far as possible. • Avoid use of earth moving machinery.
Threatened Flora Management	
FL1	• Avoid interfire intervals of < 10 yrs. • Avoid the use of earthmoving machinery. • Avoid the use of retardant.
FL3	• Avoid high intensity fire. • Avoid interfire intervals <10 years, effect unknown. • Avoid the use of earth moving machinery.
Threatened Property	• Where possible property owners with assets at risk from a wildfire event should be kept informed regarding the progress of the fire; and asked for an assessment of their current level of asset protection preparedness.

Bushfire Risk Management Strategies



Fire Management Zones

Asset Protection Zones	The objective of **APZ**s 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.		
	Zone Name	**Action**	**Responsibility**
	Stella Street, Hilltop	Slashing as required to help protect village	NPWS
	Denison Street, Hilltop	Slashing as required to help protect village	NPWS
	Telopea Road, Hilltop	Slashing as required to help protect village	NPWS
	Crawford Road, Alpine	Slashing as required to help rural properties	NPWS
Strategic Fire Advantage Zones	The objective of **SFAZ**s 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.		
	Zone Name	**Action**	**Responsibility**
	Tennessee South	Hazard reduction burn to help protect the Tennessee Orchard from wildfires.	NPWS / RFS
	Yerrinbool North	Hazard reduction burn to help protect the Tennessee Orchard and village of Yerrinbool from wildfires.	NPWS / RFS
	Yerrinbool South	Hazard reduction burn to help protect the village of Yerrinbool from wildfires.	NPWS / RFS
	Cave Creek	Hazard reduction burn to help protect the north east section of Hilltop village from wildfires.	NPWS / RFS
Land Management Zones	The objective of **LMZ**s is to conserve biodiversity and protect cultural and historic heritage. Manage fire consistent with fire thresholds.		
	Zone Name	**Action**	**Responsibility**
	Bargo River	Maintain fire regime specific to vegetation communities detailed in the Vegetation Communities and Biodiversity Thresholds table. Implement the threatened species management strategies specified in the Operational Guidelines table as required. Implement the cultural and historic heritage management strategies specified in the Operational Guidelines table as required.	NPWS