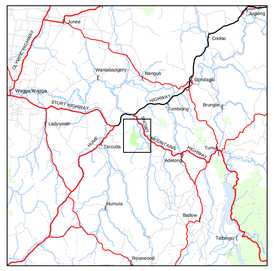
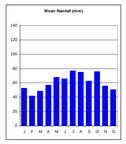
South West Slopes Region
Ellerslie
Nature Reserve
Fire Management Strategy 2006

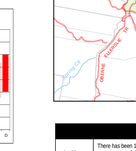
Scale: Works Program map 1:50,000, Location map 1:800,000, other maps 1:70,000
Version: June 2006 ISBN: 1 74137 278 X DEC: 2005/104

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

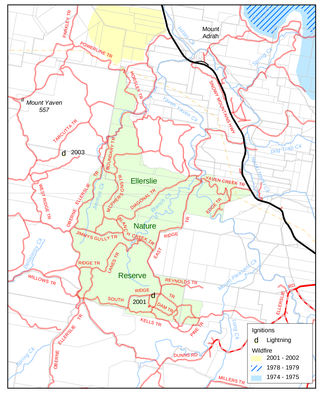
Location



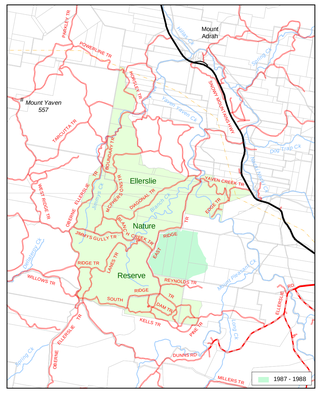




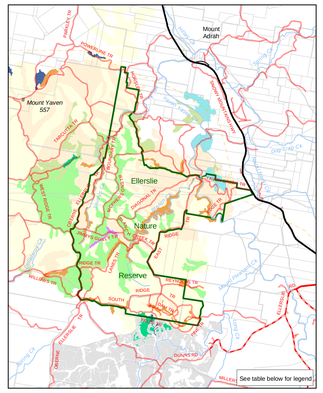
Map 1: Fire History - Wildfire



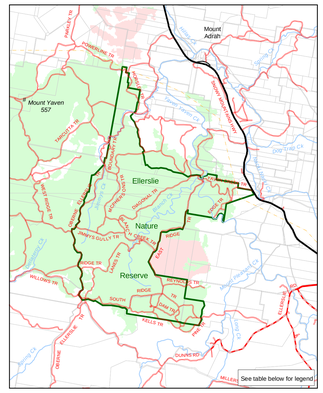
Map 2: Fire History - Prescribed Burns



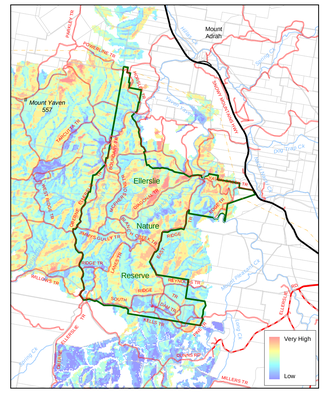
Map 3: Vegetation Communities



Map 4: Vegetation Threshold Analysis



Map 5: Bushfire Behaviour Potential



RESOURCE INFORMATON

Ellerslie Nature Reserve (1278 ha) was gazetted on 1 st January 2001. Since gazettal, additional land has been purchased, adding approximately 600 hectares to Ellerslie Nature Reserve. The additional purchases provide direct access from the Snowy Mountains Highway and protect under-represented vegetation communities within the region. For the purpose of this Fire Management Strategy, Ellerslie Nature Reserve (1877 ha) will be referred to as the 'Reserve', unless otherwise stated

The reserve covers an area of steep, terrain 25 km west of Tumut, New South Wales, where the highest point is 435 MASL. The vegetation is dominated by *Eucalyptus Rossii* and *E. macrorrhyncha, patches of E. sideroxylon and E. albens are also prominent.* The reserve is adjacent to remnant timbered country of Crown and private land to the west and agricultural lands and pine plantation to the east. The reserve is an important habitat and feeding ground for many threatened species of birds, including the scarlet robin, brown tree-creeper, swift parrot, turquoise parrot and black-chinned honey eater. Yaven Creek provides running water on the eastern side of the reserve. There are several dams located in the reserve. These dams usually hold water, except during prolonged droughts.

Department of Environment and Conservation	- Parks and Wildlife Division, National Parks and Wildlife Service - South West Slopes Region, Murrumbidgee Area	Government Areas	- Hume Federal Electorate. - Burrinjuck State Electorate. - Gundagai & Tumut Local Government Area
Rural Fire Service	Riverina Highlands Zone (Bush Fire Management Committee)	Other Agencies	- Brungle Tumut Aboriginal Land Council - Murrumbidgee Catchment Management Authority

IMPORTANT: The following planning information is based on the best possible options for each table category. When used in conjunction with other information in the plan, concessions may be needed where asset management and biodiversity requirements differ.

MAPS 1 & 2: FIRE HISTORY

Ignitions	There has been 1 recorded ignition within the reserve since 2001 (cause lightning), when the DEC took over the management of the land. Two other lightning ignitions occurred during the same period, off reserve managed lands. There is limited recorded data prior to 2000.
Prescribed Burns	No prescribed burns have been implemented within the reserve by NPWS since gazettal in 2001 as a Nature Reserve. There are no records of hazard reductions applied during previous land management operations by SFNSW.
Wildfire	Trail maintenance and clearing have been applied and will continue as part of the reserve maintenance program.
	Recorded wildfire data is limited, however fire scars indicate previous fires have occurred within the reserve in the last 20-30 years. Only one fire has been documented to the north of the reserve since the year 2001. This fire started north of Powerline Trail, burning approximately 343 hectares of agricultural land and may have burnt 1-2 hectares of the reserve. Weather conditions and ignition data is unavailable. This information would be valuable to improve NPWS knowledge of the fire landscape and assist management planning and strategy development.
Fire Frequency	The presence of fire scars is evidence that most vegetation communities within the reserve burnt in the last 20-30 years. Further research (including mapping fire scars) is required to establish approximate years the reserve burnt and the extent of the impact. The frequency and interval between fire has important implications relevant to biodiversity and future NPWS management of fire within the reserve.

MAP 7: SIGNIFICANT FLORA

Fire Group	Common Name	Scientific Name	Status
A	White box alliance woodland	*Eucalyptus albens*	Rare

Fire Group	Vegetation Group	Threatened Flora Management Guidelines & Considerations
A	- 29	This vegetation community is found across the reserve, however a significant representative community is located in the south east corner of the reserve. It is worth consideration when planning prescribed burns or suppression activities during wildfire incidents and is represented within the HMZ 1 fire management zones. Where possible; - Prevent trail or containment line construction within the vegetation group, to prevent fragmentation. - Keep fire to small areas within this community. - Protect mature age, large and hollow bearing trees, especially during 'mop up' activities. - Reinstarnds and foams may be used in this area. - Monitor the area for loss of biodiversity and manage within the vegetation group guidelines. - Prescribed fire should only be implemented where appropriate for ecological values.

Note: Floristic information is based on data researched in January 2005, collated from CSIRO and NPWS floristic fire response data sets. The vegetation group numbers should be referenced against the vegetation management guidelines in the Vegetation Communities and Thresholds section of this plan.

MAP 3: VEGETATION COMMUNITIES & THRESHOLDS

VegGroup	Vegetation Description	ha's	% Cover
12	Apple Box - Moist Sedge/Grass/Herb Forest	139.4	7
25	Norton's Red Box - Grassy Forest	9.4	1
29	White Box & Blakely's Red Gum - Herb/Grass Woodland	878	47
30	Red Gum/Red Ironbark & Scribbly Gum - Dry Sedge/Grass Woodland	373.5	20
32	Red Box & Long Leaved Box - Grassy Forest	393.4	21
45	Red Stringybark/Scribbly Gum & Rough barked Red Box - Dry Forb/Tussock/Grass Open Forest	15.6	<1
189	Degraded Forest	3.7	1
173, 178 & 199	Natural Vegetation - Partially Cleared	30.1	2
198	Pine Plantation	0	0
	No Data	33.9	2

Note: A small percentage of the reserve has not been surveyed vegetation analysis, this appears in areas recorded with No data.

MAP 4: VEGETATION THRESHOLD ANALYSIS

Threshold	Vegetation Group	% of Reserves	Interpretation & Management Guidelines
Overburnt	N/A	0	According to the vegetation regime thresholds, two consecutive fires have been recorded too close together and the area is Overburnt. - Avoid fire in this area, as additional fire will lead to adverse fire regimes
Vulnerable	N/A	0	This community will be Overburnt if the area burns again. - Fire should be avoided.
Recently burnt	N/A	0	Time since fire is less than the threshold intervals, but fire before 2013 may push some vegetation communities into the Vulnerable class. - Fire should be avoided until vegetation communities reach minimum thresholds.
Underburnt	N/A	0	May require fire after 2006 for Asset protection, strategic or biodiversity reasons. - Planned fire may be introduced for prescribed burning for asset and strategic protection programs, ecological purposes. - Unplanned fire events may be allowed to burn if - conditions are suitable - the intensity meets vegetation, flora and fauna community requirements - >50% of any vegetation community in the reserve is classed as Ok, almost Underburnt and Underburnt.
Almost Underburnt	N/A	0	Planned fire may be introduced for prescribed burning for asset or strategic protection programs - Unplanned fire events may be allowed to burn if - conditions are suitable - the intensity meets vegetation, flora and fauna community requirements - >50% of any vegetation community in the reserve is classed as Ok, almost underburnt and underburnt.
OK	12, 25, 29, 30, 32, 45, 189	98	Fire is neither required or to be avoided. - Prescribed fire should only be implemented in areas identified as AP2's, SWAZ's or applied for ecological purposes.
Unknown/ No Regime Assigned	173, 178, 199	2	The fire history is too short to determine whether it is underburnt or over burnt. Or the areas do not have a threshold assigned to them or there is missing data, limiting the modelling capabilities in DEC GIS.

Note: The threshold analysis is derived from vegetation community thresholds and recorded fire history (including fire frequency and intervals). Some vegetation communities may have 'No Fire' regimes applied, due to sensitivity to fire and may be represented in the vulnerable threshold. All vegetation communities should be monitored and planned fire should only be applied if a loss of biodiversity is demonstrated. In the event of fire in this reserve, the analysis must be performed again to review the reserve's thresholds.

MAP 5: BUSHFIRE BEHAVIOUR POTENTIAL

Vegetation Fuel Hazard Rating (under moderate conditions)
The ratings and modelling are specific to the reserve and map view area. The information within the map area is not for comparison of the broader landscape managed by the NPWS South West Slopes Region.

Rating	Vegetation Type	Reserve Hectares	% of Reserve
Low	Apple Box - Moist Sedge/Grass/Herb Forest Natural Vegetation - Partially Cleared *Pine Plantation (<2 years of age)	170	10
Medium	Nortons Red Box - Grassy Forest Red Gum/Red Ironbark & Scribbly Gum - Dry Sedge/Grass Woodland White Box & Blakelys Red Gum - Herb/Grass Woodland Degraded Forest *Pine Plantation (>2-5 years of age)	1264.6	68
High	White Box & Blakelys Red Gum - Herb/Grass Woodland Red Box & Long Leaved Box - Grassy Forest Red Stringybark/Scribbly Gum & Rough barked Red Box - Dry Forb/Tussock/Grass Open Forest *Pine Plantation (>5-10 years of age)	409	22
Very High	*Pine Plantation (>10-15 years of age)	0	0
Extreme	*Pine Plantation (>15 years of age)	0	0

Aspect Bushfire Behaviour		Slope Bushfire Behaviour	
Rating	Aspect in degrees	Rating	Slope in degrees
Low	30 - 190	Low	0 -10 degrees
Medium	15 - 30 & 190 - 240	Medium	11 - 20 degrees
High	240 - 270 & 355 - 15	High	20 -30 degrees
Very High	270 - 355	Very High	>30 degrees

Note: Pine Plantations established in 2005. Bushfire Behaviour will require remodelling in 2007, 2010 and 2015 as a minimum. This is necessary to review impacts and risk to assets associated to the different pine plantation growth and thinning regimes.

MAP 7: THREATENED FAUNA

Fire Group	Common Name	Scientific Name	TSC Schedule	Most vulnerable Period
A	Squirrel glider	*Petaurus norfolcensis*	V	Jun-Dec
	Common bent-winged bat	*Miniopterus schreibersii*	V	Feb-Apr
	Brown treecreeper	*Climacteris picumnus*	V	May-Dec
B	Black-chinned honeyeater (eastern subsp.)	*Melithreptes gularis gularis*	V	Jul-Dec
C	Turquoise parrot	*Neophema pulchella*	V	Aug-Dec

Fire Group	Veg Groups	Threatened Fauna Management Guidelines
A	- 12 - 29 - 30 - 32 - 178	Frequent fire and or high intensity fires will effect most species, by simplifying the vegetation structure. Fire often leads to a decline in insect abundance and diversity, which some species are dependent on. Infrequent high intensity fire may promote dense understorey growth, which benefit some species in the long term. Felling hollow bearing trees during 'mop up' activities potentially decreases nest hollow availability. Where possible; - Avoid frequent and or high intensity fires. - Protect areas of habitat from any fire that consumes the canopy, mature & or hollow bearing trees. - Fire should be kept to small areas or managed to produce mosaic burnt areas more suitable in sustaining species habitat requirements. Ensure large patches of shrubs, standing and fallen timbers are left in tact. - Prescribed fire should not exceed 20% of vegetation group. - Implement mosaic fire regimes designed to maintain the floristic & structural diversity of the understorey. - Protect mature age, large and hollow bearing trees, especially during 'mop up' activities.
B	- 29 - 30	Frequent fire and or high intensity fires will effect this species. Infrequent high intensity fire does not benefit this species. This species does not persist in remnants less than 200 ha in size. Least likely period of vulnerability to fire is between January and June. Where possible; - Fire should be kept to a small area (<20% of any vegetation group in any fire season). - Vegetation management guidelines should be managed at fire intervals of at least 25-80 years. - Protect areas of habitat from fire, which consumes the canopy & or large & hollow bearing trees. - Prescribed fires should be small, long-term mosaic burns that are more suitable in protecting this species habitat.
C	- 12 - 29 - 30 - 32 - 178	Frequent fire and or high intensity fires will effect these species. Infrequent high intensity fire does not benefit this species. Felling hollow bearing trees during 'mop up' activities potentially decreases nest hollow availability. Summer wildfire affects food availability coinciding with the caring of young (and consequent decreased mobility of adults). Depending on the effects of other variables of fire regime, particularly fire extent (habitat loss), fledgling success may decrease. Fires should be managed to create a long-term mosaic patterns. Least likely period of vulnerability to fire is between January and July. Where possible; - Maintain (maximum) vegetation management guidelines. - Fire should be kept to smallest possible size. - Planned fire may be implemented to maintain floristic & structural diversity of the understorey suitable for this species. - Protect mature age, large and hollow bearing trees, especially during 'mop up' activities.

MAP 6: LANDSCAPE THRESHOLDS

Slope Class Degrees	Fine Fuel Range in T/ha	Erosion - Threshold & Impacts
0-10	3-5	Less potential on these slopes, depending on current condition. Fine fuels >4 tha are favourable
10-15	4-7	Expected increase in gullies and wash-outs where fuels below 5 t/ha.
15-20	10-12	Increase expected through mid slopes and drainage lines where fine fuels <10 t/ha.
20-25	12-14	Increase across disturbed slopes and trails where fine fuels <12 t/ha.
25-30	16-18	Large scale soil loss expected in disturbed areas. Impacts may be severe in areas feeding in to water courses where fine fuels <16-18 t/ha expect slope instability.
>30	>20	High fuels on slopes >30°are rare in this park. Soil loss can be minimised where the fine fuels are >16 t/ha and vegetation remains undisturbed.

Threshold & Impacts
- Currently, 55% of the park has potentially unstable soils/slopes (1036 ha). - Water quality may be compromised by soil disturbance and silt run off after fire and may have significant impacts on amphibians or other organisms in drainage lines. - Fine fuel minimum range may reduce potential moisture loss in soils during summer periods. - Fuel decomposition after fire may decrease (depending on fire intensity, fire interval, cover and patchiness of the fire) due to a reduction in soil micro-organism activity. The presence of foams and retardants within the soil may also effect soil and micro-organism activity. - Areas with lower than average fine fuels for the corresponding slope class are expected to have increased slope instability and, poorer water quality.
Fire Management Guidelines
Where possible: - Protect areas from frequent and or high intensity fire where the fine fuel range does not meet the slope class thresholds. - Avoid new trail or control line construction on slopes >15 degrees. - If prescribed burning, ensure burn areas are strategically implemented across the landscape so that large areas and slopes are not left exposed. - Avoid prescribed burning during years of extreme drought and the year proceeding a severe drought. - Control lines or fuel breaks constructed during an incident should provide adequate drainage to prevent trail erosion. - Rehabilitation of control lines or fuel breaks constructed during fire events will be addressed during the incident in the Incident Action Plan.

MAP 7: CULTURAL HERITAGE

Key Management Guidelines
- Identified sites must be protected. - DEC Databases, AHIMS and HHMS, must be accessed during incidents and or for preparation of Review of Environmental Factors for prescribed burning or other works programs to ensure new records are included. Aboriginal site information from AHIMS is sensitive and subject to a Memorandum of Understanding. Site data must respect this agreement and must be used appropriately. - For fuel reduction burning programs, protection measures will be outlined in the Review of Environmental Factors and burn program outlines.

Aboriginal Heritage	- Known sites must be clearly identified and protected during fire suppression and fuel reduction burning programs. - Recorded sites include modified trees and scattered artefact sites. - Other potential (tangible) sites may include burials, ceremonial sites and rock arrangements. - Follow operational guidelines to protect heritage features during incidents.	
Historic Heritage	There were no historic site recorded in the reserve, however there is a memorial dedication to previous landholders cemented within a tree stump, adjacent to East Ridge Trail, above Yaven Creek at the eastern side of the reserve. Other potential sites may include ruins, fence lines etc. - New sites must be clearly identified and protected during fire suppression and fuel reduction burning programs. - Follow operational guidelines to protect heritage features during incidents.	

Note: Cultural heritage sites are based on data recorded on AHIMS and HHIMS databases and field data recorded as at July 2005.

VEGETATION THRESHOLDS

Fire Interval	Vegetation Group	Vegetation Management Guidelines
10 - 40	Apple Box - Moist Sedge/Grass/Herb Forest & Apple Box - Moist Sedge/Grass/Herb Forest 12	Inappropriate fire regimes lead to species decline (eg fires occurring <5-10 years apart). Some species may become locally extinct if fires are infrequent (eg. occur >40-50 years apart), however most species sampled are estimated to persist where fire occurs >60 years apart. This vegetation community is dominated by resprouters. It is important habitat for TSC Fauna. This vegetation may be in danger of fragmentation. Where possible; - Minimise the potential size of any fire in areas previously burnt <10 years ago. - Reduce the potential for high intensity fire where shrubs are consumed and manage fire to produce long term mosaic patterns. - Prescribed fires should not be initiated where successive fires occur <15 years apart. Protect mature age, large and hollow bearing trees, especially during 'mop up' activities.
10 - 100	Nortons Red Box - Grassy Forest & Red Box & Long Leaved Box - Grassy Forest 25 & 32	Species decline predicted if successive fires occur <10 years apart. This vegetation community is susceptible to simplification where frequent fire regimes are implemented. Some species within the community may decline if fires occur >60 years apart, where others may become locally extinct if disturbances occurs >100 years apart. Grassy understorey & ground fuels predicted to establish rapidly after fire. Dioviesia, platylobium and cassinia species within the community, persistent after fire, are predicted to increase in cover, abundance and density. This has the potential to increase the bushfire behaviour within the community 5 years after disturbance. Soils prone to erosion with frequent fire and regeneration group 25 may be in danger of fragmentation Where possible; - Minimise the potential size of any fire in areas previously burnt <10 years ago. - Reduce the potential for high intensity fire where shrubs are consumed and manage fire to produce long term mosaic patterns. - Prescribed fires should not be initiated where successive occur <15 years apart and managed to produce low intensity fire and limit potential promotion of increased dominance by Daviesia, platylobium and cassinia species. - Protect mature age, large and hollow bearing trees, especially during 'mop up' activities.
10 - 110	Red Stringybark/Scribbly Gum & Rough barked Red Box - Dry Forb/Tussock/Grass Open Forest 45	The majority of individual species within this community are sensitive to frequent fires. Consecutive fires occurring <10 years apart may jeopardise juvenile recruitment and species declines may occur. At the same time, infrequent fire (eg >100 years apart may lead to local extinctions. This community represents small, isolated areas with limited habitat. Where possible: - Minimise the potential size of fire in areas burnt <10 years ago. - Minimise the fire intensity, where shrubs and the canopy may be consumed. - Manage fire to produce long term mosaic patterns. - Prescribed fire may be implemented in areas where the target area threshold analysis is classed as OK or Underburnt. Prescribed fires should not be initiated where successive fires occur <50 years apart. - Consider impacts from activities causing fragmentation, including the felling of mature trees within this community.
15 - 25	Red Gum/Red Ironbark & Scribbly Gum - Dry Sedge/Grass Woodland 30	Species decline predicted if successive fires occur <15 years apart. Some species within the community may decline if fires occur >25 years apart and others may become locally extinct where successive fires occur >100 years apart. This community is sensitive to fire regimes. Soils and slopes prone to erosion. Where possible; - Minimise the size and potential of high intensity fire where the canopy maybe scorched, especially in areas burnt <15 years apart. - Manage fire to produce mosaic patterns, leaving patches of shrubs undisturbed. - Prescribed fire should not be implemented where fires occur <15 years apart and should be implemented under cool conditions to limit fire extent and intensity. - Consider impacts from activities causing fragmentation, including the felling of mature trees within this community.
25 - 80	White Box & Blakelys Red Gum - Herb/Grass Woodland 29	Regular fire may lead to community decline and most species may become locally extinct if fires are infrequent (eg. occur >25-50 years apart), however 30% are estimated to persist where fire occurs >80 years apart. The vegetation community consists of resprouters (75%) and seeders (20%). This vegetation has a suite of species important to TSC listed fauna habitat requirements. Where possible; - Minimise the potential size of any fire in areas burnt <25 years ago. - Minimise the potential for high intensity fire where shrubs and the canopy are consumed and manage fire to produce long term mosaic patterns. - Prescribed fire may be implemented in areas where HMZ's and recovery programs have been identified. Prescribed fires should not be initiated where successive occur <15 years apart. - Protect mature age, large and hollow bearing trees, especially during 'mop up' activities.

Note: Natural Vegetation (Partially Cleared) has no available species lists to determine fire frequency thresholds. Vegetation group management may affect TSC species habitat requirements. Vegetation communities should be monitored to identify losses in biodiversity, including structural diversity across the landscape.

MAP 8: RISK ASSESSMENT - LIFE & PROPERTY

Asset	Vulnerability & Impacts	Fire Management Guidelines & Considerations
On park Assets	- There area no identified assets within the reserve.	- Provide guidelines in the event assets are constructed within the reserve.
Other assets (including private property or other lands adjacent to the park)	- Property assets, including pine plantations, may be damaged by fire escaping the park.	- Maintain access trails and firebreaks within the park that will assist in fire fighting efforts. - Participate in fire management proposals through RFS Zone Bush Fire Management Committee meetings. - During the fire season rapidly respond to all unplanned fires to minimise potential spread to private lands. - Consult with neighbours of intended fire operations and strategic programs. - Consult with plantation owners of intended fire operations and strategic programs.

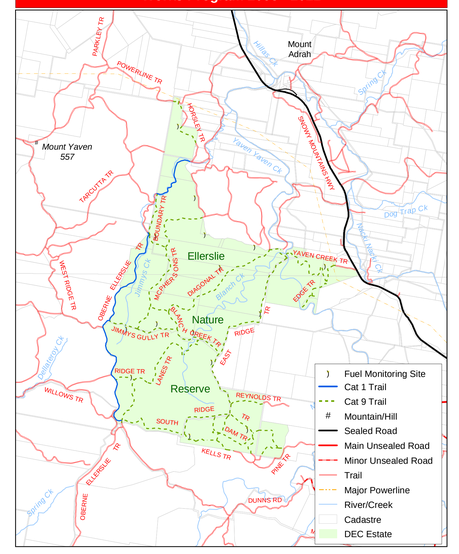
MAP 9: BUSHFIRE MANAGEMENT ZONES

Management Zone	Definition	Management Guidelines
Asset (AP2)	Life, property and commercial assets in high Bushfire Behaviour Potential risk areas on DEC estate.	- Assets should be evaluated annually to measure potential hazards and or increased threats. - Works program to follow Risk Assessment (Life and Property) Guidelines.
Fuel (FMA)	Fuel Monitoring Areas are localities for monitoring fine surface fuel, grasses, shrubs, dead and down material and ecological health.	- Monitor regularly to quantify changes in the fuel landscape, which may indicate an increase in risk. - Monitor to improve knowledge ecological responses and health and identify undesirable changes in vegetation communities. - Use areas to establish SFMZ's where appropriate.
Strategic (SFMZ)	Strategic Fuel Management Zones are areas used to target 'potential' risks of high fuels, high fire intensity, increased rate of spread, spotting or to consolidate reserve AP2's. The zone is not a commitment to execute prescribed burns in the target area, within the life of the plan.	- The implementation of fuel management programs should comply with BFCC guidelines and should be conducted in areas identified in this strategy as a SFMZ. - Implementing prescribed burns or other vegetation manipulation program should only occur where more than 80% of the zone exceeds 15 tha (BFCC). - Any program must include monitoring before and after prescribed burns to determine effectiveness of the program on fuels and the ecological impacts.
Heritage 1 (HMZ1)	Areas of high priority natural and cultural conservation value. It identifies areas of 'recorded' cultural and natural assets. This zone is important for the protection of cultural heritage and the conservation of some species habitat to prevent declining numbers or extinctions.	- Heritage areas should be assessed annually to determine potential hazard, threats to cultural heritage, and thresholds for TSC and vegetation communities. - Prescribed fire may be applied in these areas if appropriate for ecological purposes or protection of cultural heritage. - Implement recovery plan guidelines (where they exist). - Manage during incidents according to HMZ1 guidelines.
Heritage 2 (HMZ2)	This zone identifies areas of significance for natural and cultural features across the broader landscape. This generally means 'parts of the reserve that have not been surveyed and or have no records of significant features or threatened species'.	- These heritage zones should be monitored to determine threats to biodiversity and managed in accordance with conservation policy and principles. - Prescribed fire may be applied in these areas if appropriate for ecological purposes or protection of cultural heritage. - Manage during incidents according to HMZ2 guidelines.

MAP 10: FUEL LANDSCAPE

Fuel Landscape	T/ha	Notes
Minimum Fuels (Modelled April 2004)	2.3	Data based on 15 fuel sites within Ellerslie NR (# 75). This data is used to determine the relationship of fuel sites with NDVI (Vegetation Index) from LANDSAT imagery (2004) to calculate vegetation density across the landscape.
Maximum Fuels (Modelled April 2004)	17.5	
Average Fuels (Modelled April 2004)	7.2	
Minimum Fuels (Recorded April 2004)	1.6	Vegetation Group 199 - Moderate NDVI & Moderate Modelled fuels
Maximum Fuels (Recorded April 2004)	10.8	Vegetation Group 12 - Moderate NDVI & Moderate Modelled fuels
Average Fuels (Recorded April 2004)	7.2	60% of sites measured under 8 t/ha.
Fuel and main Vegetation Groups within the Reserve (including aerial modelled fuels)		
White Box & Blakelys Red Gum - Herb/Grass Woodland (Veg Group 29)	7.54	Minimum fuels modelled were 4.2 t/ha and a maximum of 16.6 t/ha. About 60% of fuels in this vegetation group were under 8 t/ha.
Red Box & Long Leaved Box - Grassy Forest (Veg Group 32)	6.3	Minimum fuels modelled were 3.1 t/ha and a maximum of 12.1 t/ha. 90% the fuels in this vegetation group were under 8 t/ha.
Red Gum/Red Ironbark & Scribbly Gum - Dry Sedge/Grass Woodland (Veg Group 30)	7.0	Minimum fuels modelled were 4.6 t/ha and a maximum of 13.5 t/ha. 80% the fuels in this vegetation group were under 8 t/ha.
Fuel Analysis		
The reserve fuel landscape modelling results provide a guide to potential available fuels across the landscape. Fuel landscape modelling is specific to this reserve and map view area. The modelled information should not be used for comparing reserves across the broader area managed by the NPWS South West Slopes Region. Approximately 68% of the reserve had fine surface and aerial fuels between 5 to 18t/ha and 28% of the reserve between 8 to 12 t/ha during 2005. The data indicates, across the landscape, fuel loads generally conform to levels prescribed for strategic fuel management zones (8-15t/ha for 60-80% of zone). Although strategic fuel management zones have not been established within the reserve, the sampled sites indicate the entire reserve has a low to moderate fuel risk. Monitoring fuels and vegetation across the landscape is important over the long term to determine changes in environmental conditions. Fuel monitoring sites with photographic references have been established in the reserve to monitor landscape fuel and vegetation conditions. The fuel conditions and vegetation structure will change between seasons and over time. The established fuel sites will, if monitored regularly, provide data to update fuel landscape maps and review fire risk and management options.		

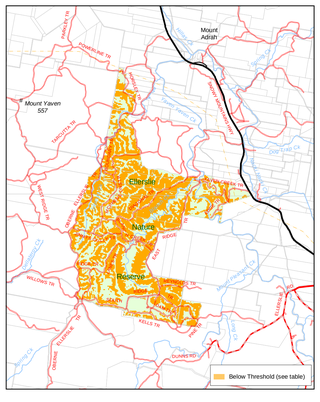
Works Program 2006 - 2011



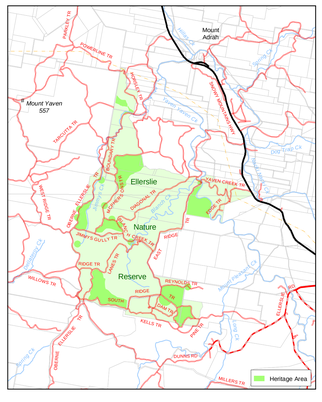
WORKS PROGRAM

Asset	Priority	Name, Area or Detail	Management Strategy	Proposed Works
Trails	High	- Management Trails	- Maintain Oberne-Ellerslie Trail to a Category 1 vehicle standard. - Maintain other management trails for safe 4WD access for Category 9 vehicles. - All trails to be clearly signposted strategically at intersections and trailheads.	- Assess annually. - Initiate maintenance programs and works as required, or as specified in Regional Operations Program.
	Low	- Closed or Dormant Trails	- Monitor regeneration on dormant and closed trails. - Closed or Dormant trails may be re-opended during and incident if necessary.	- Assess every 5 years and register trail condition.
		Reserve trails do not comply with the Bush Fire Coordinating Committee Guidelines for the Classification of Fire Trails - Policy No. 1/03.		
Strategic FMZ	High	- Strategic Fuel Management Zones, where they have been identified.	- Work with neighbours and local RFS to ensure appropriate access and fire-breaks adjacent to the reserve are maintained to protect assets and reserve features. - Monitor vegetation and fuels within the zones	- Assess every 5 years. - Implement programs in zones where measured hazards exceed BFCC guidelines. - Implement through the Bush Fire Management Committee.
Heritage MZ 1	Medium	- Cultural heritage, threatened, vulnerable & endangered species, habitats, communities and the landscape.	- Manage and protect natural & cultural heritage values with appropriate fire management regimes.	- Assess thresholds every 5 years, before works programs or directly after fire events.
Heritage MZ 2	Low	- General landscape, natural and cultural conservation values	- Manage and protect natural & cultural values with appropriate fire management regimes.	- Monitor thresholds every 5 years, and after fire events.
Information & Research	Medium	- Fuel and vegetation monitoring.	- Monitor established sites (n = 15), including photographic reference points. - Monitor potential SFMZ sites.	- Monitor before 2008 fire season or immediately after fire events. - Monitor pre & post implementation.
Fuel Management & Prescribed Burns	Low	- Prescribed burns should only be carried out in AP2 and SFMZ, where hazards exceed BFCC guidelines and where SFMZ have been identified.	- Any proposed prescribed burns must be managed in accordance with DEC policy, within the FMS contingency and agreements with the Local Bush Fire Management Committee.	- Negotiate proposed works programs through the Bushfire Management Committee.

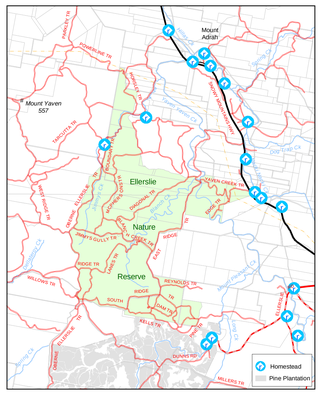
Map 6: Landscape Thresholds



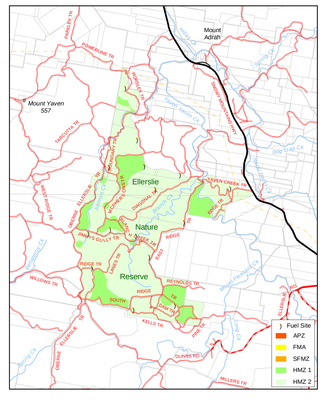
Map 7: Risk Assessment - Cultural & Natural



Map 8: Risk Assessment - Property



Map 9: Bushfire Management Zones



Map 10: Fuel Landscape