

MAPS 1 & 2: FIRE HISTORY

Ignitions
There have been no recorded ignitions within the park since 2001. Records and mapped data is limited.

Prescribed Burns
No prescribed burns have been implemented within the park by NPWS since gazetted in 2001. State Forests NSW carried out a prescribed burn in May 1987 (150 ha). The reason for the burn is unknown. Trail maintenance and clearing programs have been implemented and will continue as part of the park's annual maintenance program.

Wildfire
Fire scans indicate one wildfire may have burnt the entire park. The estimated time since the last wildfire is 35-50 years. There is currently no mapped data regarding wildfires for the reserve.

Fire Frequency
There is a high probability that fire has affected some areas of the park or the entire park since records being taken. There are indications that most of the park has experienced at least one fire event in the last 50 years. The frequency and extent between fires has important implications relevant to biodiversity and structural diversity.

MAP 6: THREATENED FAUNA

Fra Group	Common Name	Scientific Name	TSC Schedule	Most vulnerable Period
A	Diamond Tailed Spotted Quoll	<i>Spogonopus pudica</i>	V	Apr-Jun
B	Brown Treecreeper	<i>Climacteris parvirostris</i>	V	May-Dec
C	Spotted Pardalote	<i>Ptilinopus capillaris</i>	V	July-Dec
C	Black-chinned Honeyeater (eastern subspecies)	<i>Meliphaga palustris palustris</i>	V	Jul-Dec

Threatened Fauna Management Guidelines

Frequency of fire or high intensity fire will affect this species. Fire that leads to a reduction in insect abundance and diversity, which some species are dependent on. Infrequent high intensity fire may provide some ameliorative growth, which benefit some species. Frequent low intensity fire may 'topping up' activities potentially decreases below availability.

Where possible:

- Fire should be kept to small areas or managed to produce mosaic burnt areas more suitable in sustaining species habitat requirements.
- Prescribed fire should ensure large sections of unburnt, standing and fallen timber are left intact.
- Implement mosaic fire regimes designed to maintain the foristic and structural diversity of the vegetation.
- Minimise the killing of hollow bearing trees during 'topping up' activities.
- Least likely period of vulnerability to fire is between January and July.

Frequency of fire or high intensity fire will affect this species. Intra-specific diversity does not benefit this species. The species does not depend on remnant trees that 200 years in size.

Where possible:

- Minimise frequent and or high intensity fire.
- Prescribed fire should be small in size (not exceeding 20% of vegetation group).
- Small, long-term mosaic burns may be more suitable in protecting the species habitat.
- Least likely period of vulnerability to fire is between January and June.

Frequency of fire or high intensity fire will affect this species. Intra-specific diversity does not benefit this species. The species does not depend on remnant trees that 200 years in size.

Where possible:

- Fire should be kept to a small area (<25% of any vegetation group for any fire season).
- Vegetation management guidelines should be managed at maximum fire intervals (25-100 years).
- Prescribed areas of habitat burn, which consumes the canopy and or large, hollow bearing trees.
- Prescribed fire should be small, long-term mosaic burns that are more suitable in protecting this species habitat.
- Least likely period of vulnerability to fire is between January and June.

Note: Fauna species requirements may differ to vegetation (foristic) requirements.

MAP 3: VEGETATION COMMUNITIES & THRESHOLDS

Vegetation Group	Vegetation Description	HAI	% Cover
27	Rough barked Red Box & White Box - Dry Shrub/Forb Open Forest	62	8
44	Scrubby gum & Noronora Box - Tussock/Grass Forest	41	5
45	Rud Stringybark/Scrubby Gum & Rough barked Red Box - Dry Forb/Tussock/Grass Open Forest	62	3
199	Natural Vegetation - Partially Cleared	23	83

Vegetation Management Guidelines

Species decline predicted if successive fires occur <10 years apart. Some species may decline if fires occur <20 years apart. Extinction predicted for some species if successive fires occur >100 years apart (>100 for some later arrival species). This vegetation group provides essential habitat for many threatened fauna species.

Where possible:

- Contain wildfires to small areas minimising fragmentation and disturbance.
- Planned fires should be of low intensity, small in size and applied to produce long term mosaic patterns within the community where there is a demonstrated loss of biodiversity.
- Ecotone should be monitored for signs of structural and biodiversity loss.

Species decline predicted if successive fires occur <10 years apart. Extinction predicted for some species if fires occur >100 years apart. Vegetation is in danger of simplification if subjected to intense or frequent fire. The community provides refuge and suitable habitat for TSC species.

Where possible:

- All fires should be contained to small areas, where no more than 25% (200 ha) of the vegetation group is affected by fire in any year.
- Planned fires should be of low intensity, small in size and applied to produce long term mosaic patterns within the target area of the vegetation community.
- Fires should be avoided after prolonged droughts.
- Ecotone should be monitored for signs of structural and biodiversity loss.
- Manage vegetation groups to maintain threshold.

Species decline predicted if successive fires occur <10 years apart. Community diversity may result if fires occur >100 years apart. Extinction predicted if fire occur >100 years apart. But success predicted with frequent and or high intensity fire. This ecotone provides critical habitat for many fauna species, is represented in small areas and fragmented by trails across the reserve.

Where possible:

- Contain wildfires to small areas or within the existing trail network in order to minimise further fragmentation and disturbance.
- Planned fires should be of low intensity, small in size and applied to produce long term mosaic patterns within the community where there is a demonstrated loss of biodiversity.
- Ecotone should be monitored for signs of structural and biodiversity loss.
- Manage vegetation groups to maintain threshold.

Note: The vegetation community labelled Natural Vegetation (Partially Cleared) has no available species lists to determine impacts, thresholds or model potential impacts of fire on the community. Vegetation group management may affect TSC species habitat requirements. Fire and fauna management guidelines should be considered in conjunction with vegetation management guidelines.

MAP 4: VEGETATION THRESHOLD ANALYSIS

Threshold	Vegetation Group	% of Reserves	Interpretation & Management Guidelines
Overburnt	N/A	0	According to the vegetation regime thresholds, low consecutive fires have been recorded to date together and the area is Overburnt. Additional fire in this area will lead to adverse regimes and may threaten community biodiversity.
Vulnerable	N/A	0	Will be Overburnt if the area burns before 2006. Fires should be avoided until 2007 and until another analysis of thresholds is completed to reassess threat.
Recently burnt	N/A	0	Fires in 2005 year will push this vegetation into the vulnerable class. Fires should be avoided until 2006 year.
Underburnt	N/A	0	Fires require to allow 2005 for stand production, strategic biodiversity research. Planned fire may be introduced for prescribed burning for stand or strategic production programs where necessary. Fire events may be allowed to burn if: - The vegetation community demonstrates a loss of biodiversity. - The intensity meets vegetation, flora and fauna community requirements. - Heritage Management Zones requirements are met. - >50% of the vegetation community group in the reserve is currently classed as OK, Almost Underburnt and Underburnt.
Almost Underburnt	N/A	0	This area will fall into the underburnt category by the end of 2006 if it remains unburnt by then, but would fall into Recently Burnt by 2008. Planned fire may be introduced for prescribed burning for stand or strategic production programs and unburnt fire events may be allowed to burn if: - The vegetation community demonstrates a loss of biodiversity. - Conditions are suitable. - The intensity meets vegetation, flora and fauna community requirements. - Heritage Management Zones requirements are met. - >50% of the vegetation community group in the reserve is currently classed as OK, Almost Underburnt and Underburnt.
OK	27, 44, 45 & 199	100	Fires are neither required or to be avoided. However fire may be introduced for stand or strategic production programs. Fires should be avoided in areas of low biodiversity as demonstrated.
Unknown No Regime Assigned	N/A	0	There is minimal data available which limits the modeling capabilities of DEC GIS.

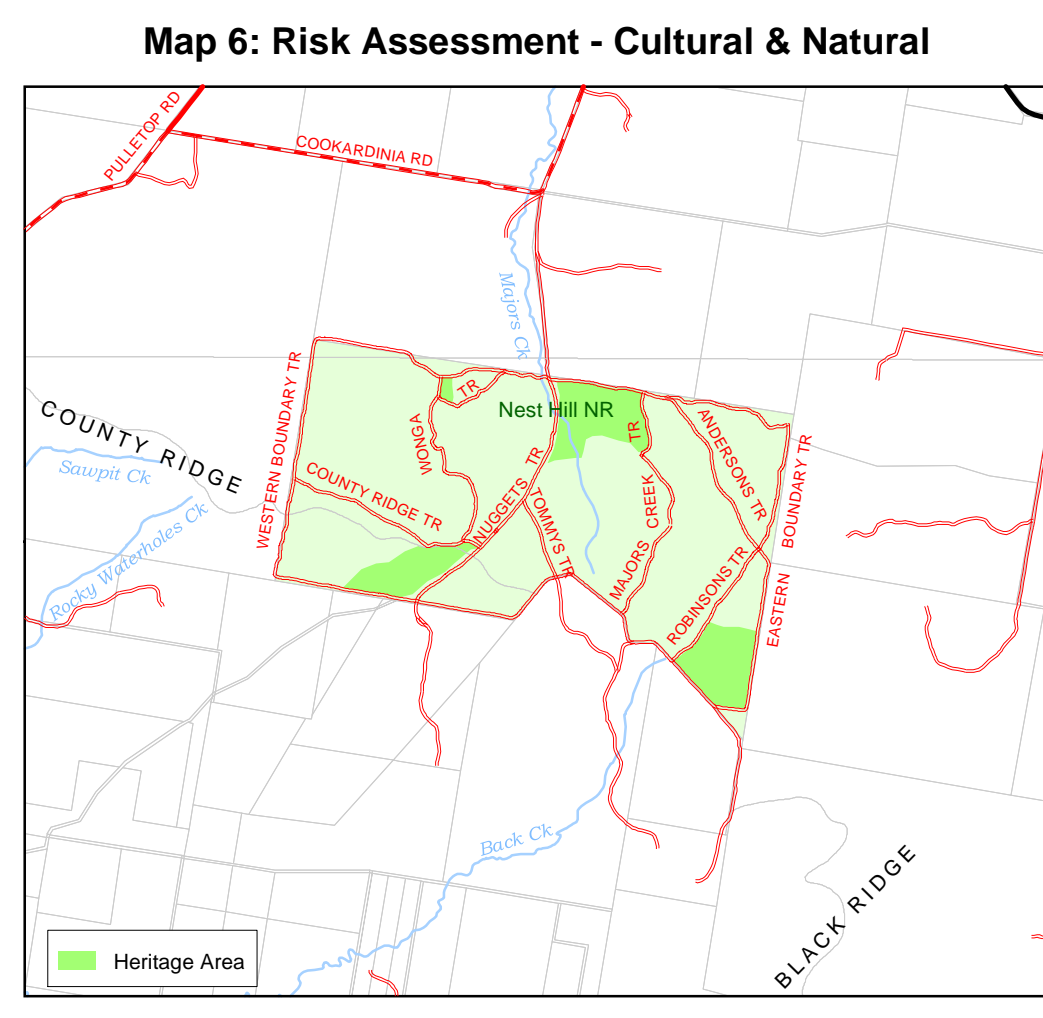
Note: The threshold analysis is derived from vegetation community thresholds and recorded fire history (including fire frequency and intervals). Some vegetation communities may have No fire regimes specified, due to availability of fire and may be represented in the vulnerable threshold. All vegetation communities should be monitored and prescribed fires should only be applied if a loss of biodiversity is demonstrated. In the event of fire, the analysis would have to be performed again to establish new threshold values.

MAP 5: BUSHFIRE BEHAVIOUR POTENTIAL

Vegetation Fuel Hazard Rating (under moderate conditions)
Natural Vegetation - Partially Cleared

Rating	Vegetation Type	Hectares	% of Park
Low	Scrubby gum & Noronora Box - Tussock/Grass Forest	65	8
Medium	Rud Stringybark/Scrubby Gum & Rough barked Red Box - Dry Forb/Tussock/Grass Open Forest	694	91
High	Scrubby gum & Noronora Box - Tussock/Grass Forest	65	8
Very High	Nil recorded	N/A	0

Aspect Bushfire Behaviour	Slope Bushfire Behaviour
Rating	Rating
Low	Low
Medium	Medium
High	High
Very High	Very High



MAP 6: THREATENED FLORA

Fra Group	Common Name	Scientific Name	Schedule
A	White box alliance woodland	<i>Eucalyptus albens</i>	Rare

Threatened Flora Management Guidelines & Considerations

Located in gully trees and far west end of Huggins Trail, in the northern part of the park. It is a significant representative group within the community. It is worth consideration when planning prescribed burn or suppression activities during wildfire incidents.

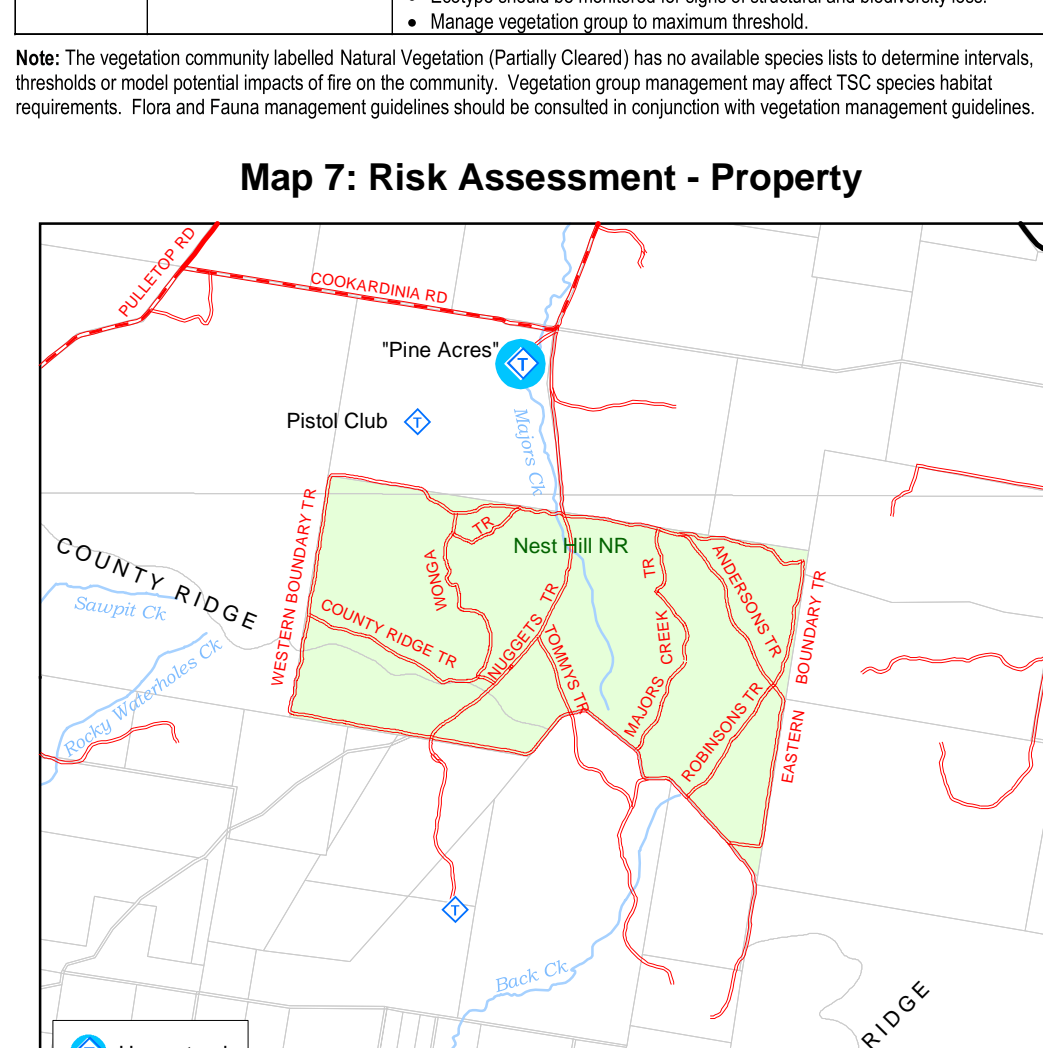
Where possible:

- Minimise trail containment line construction through HMC 1, in present vegetation.
- Restoration and barriers can be used in this area.
- Monitor fire areas for loss of biodiversity and manage within the vegetation group guidelines.

Note: Threatened flora information is based on data researched in January 2005, collated from CSIRO and NPWS florists. No response data exists. The vegetation group numbers should be referenced against the vegetation management guidelines in the Vegetation Communities and Thresholds section of this plan.

MAP 7: RISK ASSESSMENT - LIFE & PROPERTY

Asset	Vulnerability & Risks	Fire Management Guidelines & Considerations
Assets on the Reserve	There are no recorded assets on the reserve.	Provide guidelines for new assets constructed within the reserve. Manage access trails and footpaths within the park that will assist in fire fighting efforts. Participate in the management programs through RFS Zone Bush Fire Management Committee meetings. During the fire season requests should be all unburnt fires to minimise potential spread to private lands. Consult with neighbours of intended fire operations and strategic programs.
Other Assets (including private property or other lands adjacent to the reserve)	Private property may be damaged by fire escaping the reserve.	

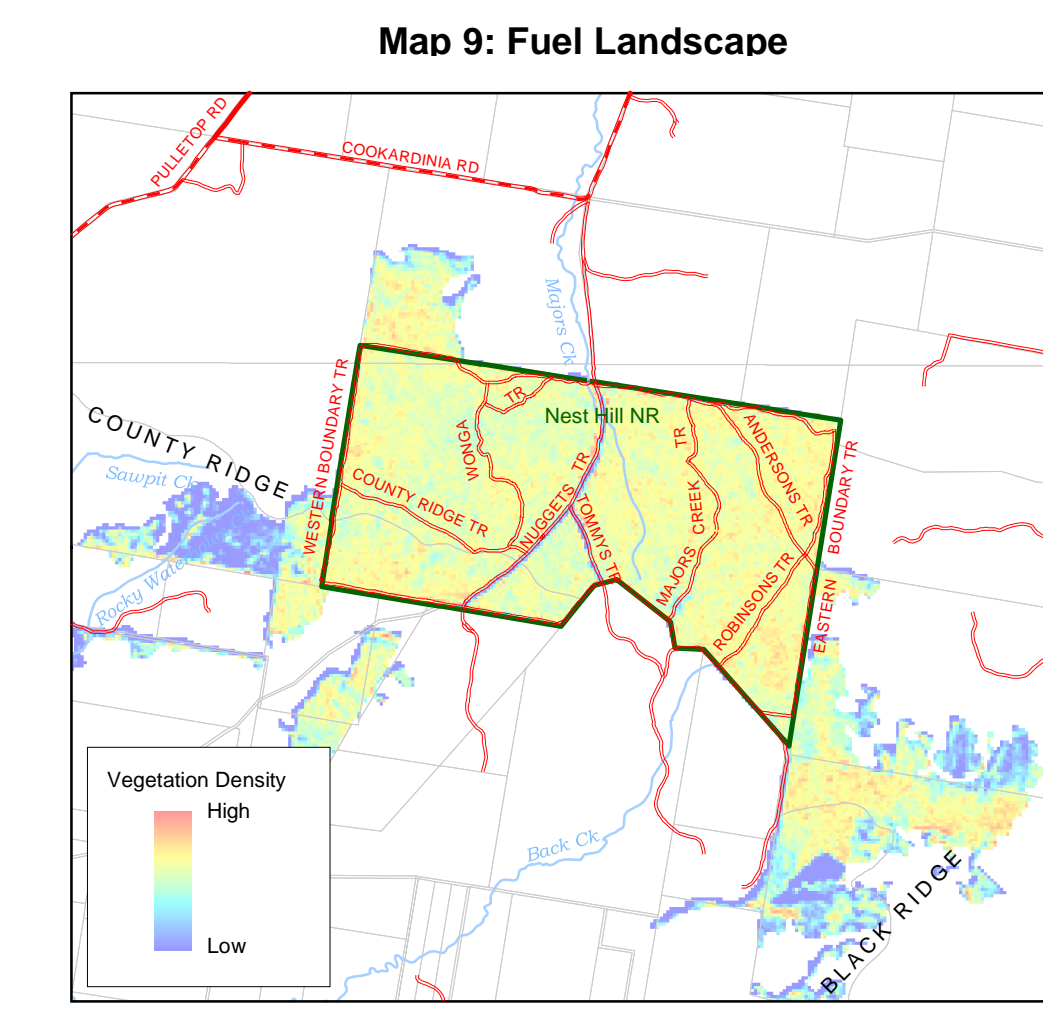


MAP 9: FUEL LANDSCAPE

The base line data for the fuel landscape map was established from 1000 vegetation community boundaries from LANDSAT imagery (2004) to calculate vegetation density across the landscape. No ground truthing has been performed to determine the accuracy of the information displayed in the modelled data.

The nearest reserve with similar vegetation types and seasonal information is Longgong National Park and State Conservation Area. This reserve recorded an average fuel level of 7.7 t/ha in Vegetation Group 45 and an average fuel level of 8.3 t/ha in Vegetation Group 27. Fires in Nest Hill are predicted to be similar to Longgong National Park and State Conservation Area, however where the vegetation and ground coverage is <25%, fuel loads will be much lower in Nest Hill Nature Reserve.

Fuel sites with photographic references should be established in Nest Hill Nature Reserve to improve knowledge for fire management planning and operations. It is recommended that a minimum of 10 sites be established within the reserve. Sites should be located where data can be collected on different vegetation groups and fire histories. Sites should also be established in APZ 1, SPZ2 or HMC2, where they exist.



MAP 6: CULTURAL HERITAGE

Key Management Guidelines

- Identified sites must be protected.
- DEC Database, AHMS and HMAS, 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 AHMS is sensitive and subject to Memorandum of Understanding. Site data must respect the agreement and must be used appropriately.
- For prescribed burning programs, protection measures will be outlined in the Review of Environmental Factors and burn program outlines.
- Where possible:
 - Trained officers will provide advice on site protection methods.
 - Activities will comply with all conservation management plans where they exist.

Aboriginal Heritage

- No sites recorded, however potential tangible sites may include modified heath, scattered artifacts, burials, ceremonial sites and rock arrangements.
- Follow operational guidelines to protect heritage where new sites are identified.

Historic Heritage

- No sites recorded, however, potential tangible sites include dwelling sites, fence lines etc.
- Follow operational guidelines to protect heritage where new sites are identified.

Note: Cultural heritage sites are based on data recorded on AHMS and HMAS databases and field data recorded as at May 2005.

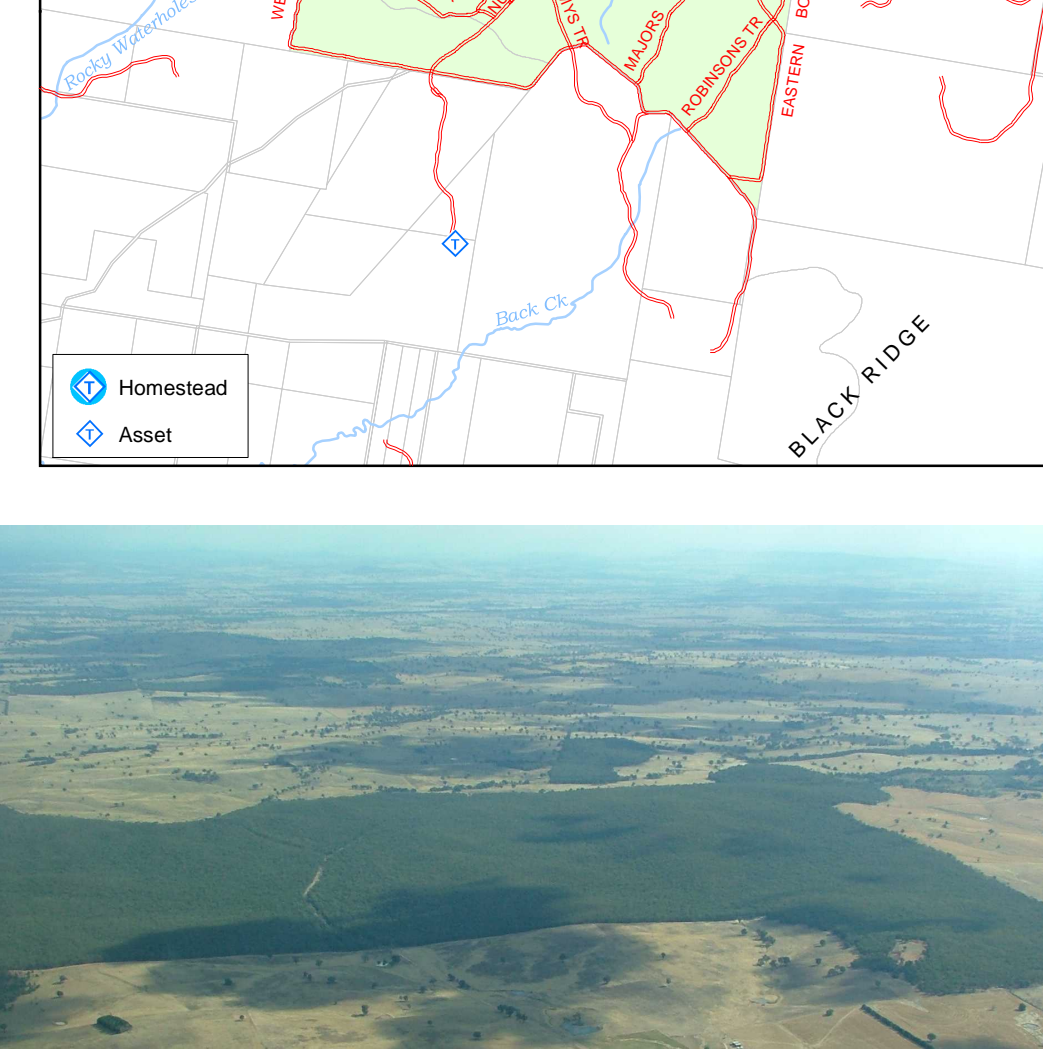
RESOURCE INFORMANT

Nest Hill Nature Reserve (730 ha) was gazetted on 17 January 2001. For the purposes of this Fire Management Strategy, Nest Hill Nature Reserve will be referred to as the 'Park' unless otherwise stated.

The Park is located approximately 20 km north of Hobart, New South Wales. The park covers an isolated area of vegetation surrounded by agricultural lands. Previously, managed by State Forests, the park has been subjected to significant logging and timber harvesting activities. The vegetation community is made up of red stringybark, Eucalyptus macrocarpa and red box woodland species. There are significant remnant communities of white box and grass woodlands that provide essential habitat for many threatened species of birds. There is no running water or dams within the park. Water may not be available in the park vicinity during summer and dry periods or during extended drought.

Department of Environment and Conservation	Rural Fire Service	Paths and Wildlife Division, National Parks and Wildlife Service, South West Slopes Region, Murrumbidgee Area	Government Areas	Other Agencies
			Riverina & Farm Federal Electorate Wagga Wagga State Electorate Wagga Wagga & Greater Hume Local Government Area	Murray & Murrumbidgee Catchment Management Authority

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



MAP 8: BUSHFIRE MANAGEMENT ZONES

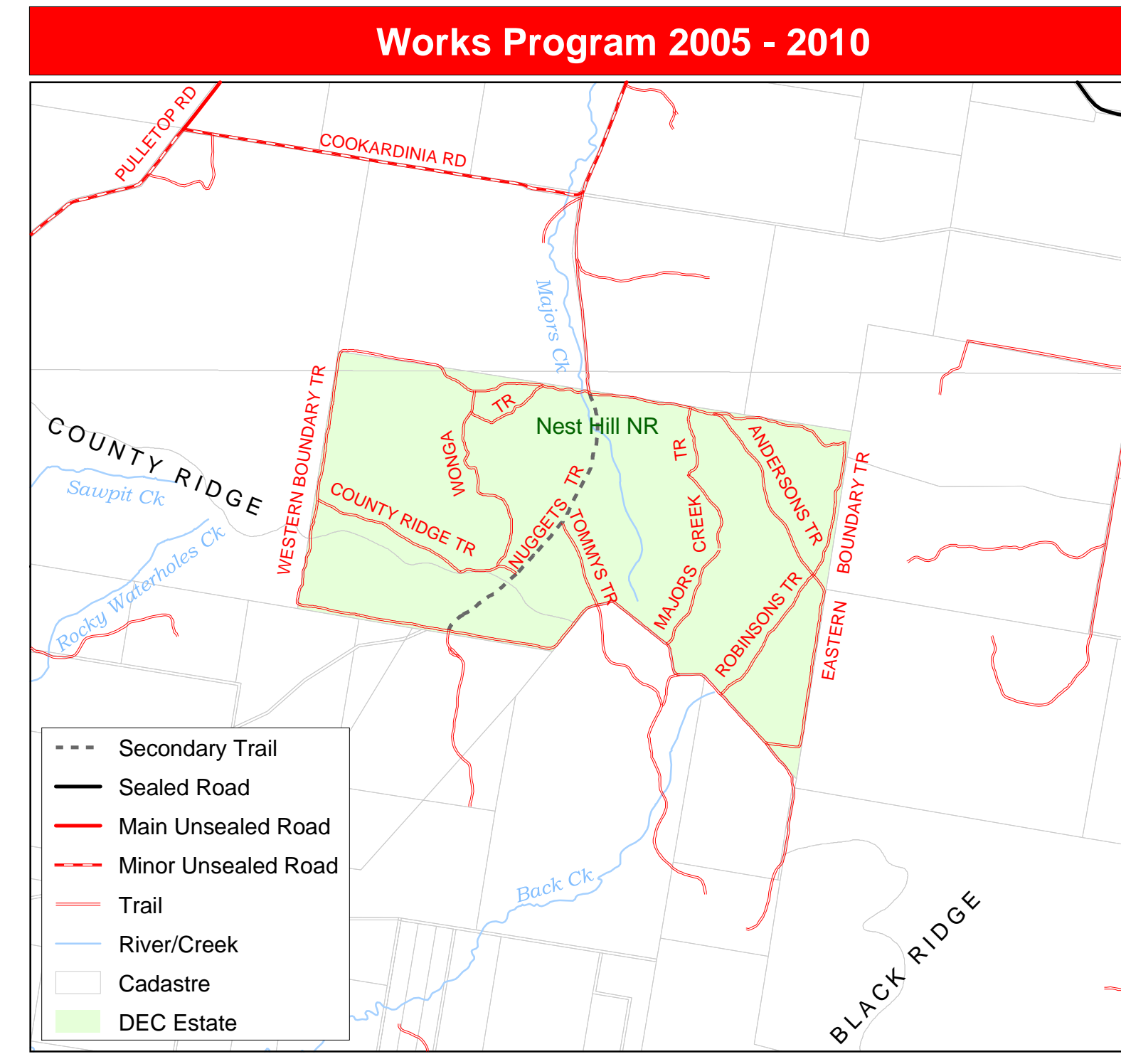
Management Zone	Definition	Management Guidelines
Asset (APZ)	Life, property and commercial assets in high bushfire behaviour potential or DEC estate.	Assets should be evaluated annually to measure potential hazards and/or increased threats. Works program to follow Risk Assessment of Economic & Private Property Guidelines.
Strategic (PZ2)	Strategic: Fuel Management Zones areas are used to target potential sites of high fire intensity, increased rate of spread, applying to complete APZ 2. This zone is a target area for any prescribed programs addressing to break up large areas of high bushfire behaviour potential and/or high fuels.	Zones should be assessed regularly to measure potential increase in hazard or risk. These zones are suitable for engineering prescribed burns or other fuel or vegetation manipulation program (where appropriate).
Heritage 1 (HMC1)	Areas of high priority natural and cultural conservation value. It identifies areas of wooded 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 and thresholds to cultural heritage, vegetation group communities and threatened species. Prescribed fire may be applied in these areas if appropriate for the protection of cultural heritage or for ecological purposes.
Heritage 2 (HMC2)	This zone identifies areas of significance for natural and cultural heritage across the broader landscape. This generally means lands of the reserve that have not been surveyed for areas, habitats or threatened species.	These heritage zones should be monitored to determine threats to biodiversity and managed in accordance with conservation policy and procedures. Implement programs and or recovery plan guidelines (where they exist).

**South West Slopes Region
Nest Hill Nature Reserve
Fire Management Strategy
2005**

Scale: Works Program map 1:40000, Location map 1:1000000, other maps 1:60000
Version: September 2005 ISBN: 1 74137 809 5 DEC: 2006/40

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

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WORKS PROGRAM

Asset	Priority	Name, Area or Detail	Management Strategy	Proposed Works
Reserve Trails	High	Secondary trails	<ul style="list-style-type: none"> Maintain trails to a standard classed as secondary in accordance with the Bush Fire Coordinating Committee Guidelines for the Classification of Fire Trails - Policy No. 103 may be classed as management trails on the operations map. Management trails are used for other NPWS management purposes and are not required to meet the minimum requirements for Strategic Fire Advantage Zones. All trails to be clearly signposted at intersections and crossings. 	<ul style="list-style-type: none"> Assess annually. Implement maintenance programs and works as required, or as specified in Regional Operations Program.
	Medium	Management trails	<ul style="list-style-type: none"> Maintain management trails for safe 4WD access. All trails to be clearly signposted at intersections and crossings. 	<ul style="list-style-type: none"> Assess annually. Implement maintenance programs and works as required, or as specified in Regional Operations Program.
Asset PZ	High	Economic, commercial and private property Assets	Where appropriate, complement neighbour works with Strategic Fire Advantage Zones.	As agreed through the Bush Fire Management Committee.
Strategic PZ2	High	Where and if 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 habitats.	As agreed 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 where with appropriate fire management regimes.	Assess thresholds every 2 years, unless 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 3 years, and after fire events.
Information & Research	Low	Fuel and vegetation monitoring.	Establish fuel monitoring sites (n = 3), including photographic reference points.	Establish by the end of 2005. Establish 3 year monitoring regime.
Fuel Management & Prescribed Burns	Low	No burns have been proposed for life of plan (3 years).	Any prescribed burns must be managed in accordance with DEC policy and agreements with Local Bush Fire Management Committee.	Negotiate proposed works programs at Bushfire Management Committee meetings.