# NEST HILL NATURE RESERVE PLAN OF MANAGEMENT

**NSW National Parks and Wildlife Service** 

This plan of management was adopted by the Minister for the Environment on  $\mathbf{2}^{\mathrm{nd}}$  May 2006.

### **Acknowledgments**

This plan of management was prepared by South West Slopes Region Staff, including the Ranger West and Planning Coordinator with the assistance of other SWS specialists.

The planning process leading to the development of this plan has involved the collection and use of a large amount of information, which for reasons of document size has not been included in this plan.

The NPWS would like to thank all those who attended the meeting about the draft plan of management and who submitted information and comments regarding the park. All comments and concerns were considered in the preparation of this draft plan of management.

Cover photograph by Jo Caldwell, NPWS.

Inquiries about this draft plan of management for Nest Hill Nature Reserve should be directed to the Ranger at the NPWS South West Slopes Region, Murrumbidgee Area Office, 7a Adelong Road Tumut, NSW, 2720 or by telephone on (02) 69477000.

© Department of Environment and Conservation (NSW) 2006: Use permitted with appropriate acknowledgment

#### **FOREWORD**

Nest Hill Nature Reserve is located 25km north of Holbrook and 35km south of Wagga Wagga on the South West Slopes of NSW. It is comprised of 759 hectares of undulating country which, prior to gazettal in January 2001, was Pulletop State Forest.

Nest Hill Nature Reserve is located within the South West Slopes Bioregion of NSW. Of particular interest in the reserve is the presence of red box / red stringy bark communities. Only slight changes in soils, position on slope, and elevation, bring about significant changes in these communities.

Nest Hill Nature Reserve is important as an island habitat. Of particular significance is the existence of the Brown Tree-creeper within the reserve which is listed under the *Threatened Species Conservation Act*, 1995.

Nest Hill Nature Reserve is surrounded by freehold land and there are no visitor facilities or public vehicular access within the reserve. The reserve currently receives low levels of use for activities such as nature study, walking and bird watching.

The National Parks and Wildlife Act, 1974 requires a plan of management to be prepared for each park and reserve. A plan of management is a legal document that outlines how a reserve will be managed in the years ahead.

A draft plan of management for Nest Hill Nature Reserve was placed on public exhibition from 18 June until 17 September 2004. The exhibition of the draft plan attracted 4 submissions that raised 2 issues. All submissions received were carefully considered before adopting this plan.

This plan of management establishes the scheme of operations for Nest Hill Nature Reserve. In accordance with Section 73B of the *National Parks and Wildlife Act 1974*, this plan of management is hereby adopted.

Bob Debus Minister for the Environment

# **TABLE OF CONTENTS**

1. MANAGEMENT CONTEXT	1
1.1 Legislative and Policy Framework	1
1.2 Management Purposes and Principles	1
1.3 Regional Forest Agreements	1
Reserve Map	3
2. NEST HILL NATURE RESERVE	4
2.1 Location, Gazettal and Regional Setting	4
2.2 Landscape	4
2.3 Natural Heritage	5
2.3.1 Landform, Geology and Soils	5
2.3.2 Native Plants	5
2.3.4 Native Animals	6
2.4 Cultural Heritage	6
2.4.1 Aboriginal Heritage	6
2.4.2 Historic Heritage	7
3. Threats to Nest Hill Nature Reserve	7
3.1 Introduced Plants	7
3.2 Introduced Animals	7
3.3 Access and Use	12
3.4 Fire	12
3.5 Research/Education	13
4. References	13
5 MANAGEMENT ISSUES AND STRATEGIES	14

#### 1. MANAGEMENT CONTEXT

#### 1.1 LEGISLATIVE AND POLICY FRAMEWORK

The management of nature reserves in NSW is in the context of a legislative and policy framework, primarily the *National Parks and Wildlife Act 1974* (NPW Act), the NPW Land Management Regulation, the *Threatened Species Conservation Act 1995* (TSC Act) and the policies of the National Parks and Wildlife Service (NPWS). Section 72AA of the NPW Act lists the matters to be considered in the preparation of a plan of management. The policies are a compilation of policies arising from the legislative background and internationally accepted principles of park management. They relate to nature conservation, Aboriginal and historic heritage conservation, recreation, commercial use, research and communication.

Other legislation, international agreements and charters may also apply to management of the area. In particular, the *Environmental Planning and Assessment Act 1979* (EPA Act) requires the assessment and mitigation of the environmental impacts of any works proposed in this plan.

The plan of management is a statutory document under the NPW Act. Once the Minister has adopted a plan, no operations may be undertaken within Nest Hill Nature Reserve except in accordance with the plan. The plan will also apply to any future additions to the nature reserve. Where management strategies or works are proposed for the nature reserve or any additions that are not consistent with the plan, an amendment to the plan will be required.

#### 1.2 MANAGEMENT PURPOSES AND PRINCIPLES

Nature reserves are reserved under the NPW Act to protect and conserve areas containing outstanding, unique or representative ecosystems, species, communities or natural phenomena.

Under the Act, nature reserves are managed to:

- conserve biodiversity, maintain ecosystem functions, and protect geological and geomorphological features and natural phenomena;
- conserve places, objects, features and landscapes of cultural value;
- promote public appreciation, enjoyment and understanding of the reserve's natural and cultural values; and
- provide for appropriate research and monitoring.

Nature reserves differ from national parks in that they do not have as a management principle to provide for visitor use.

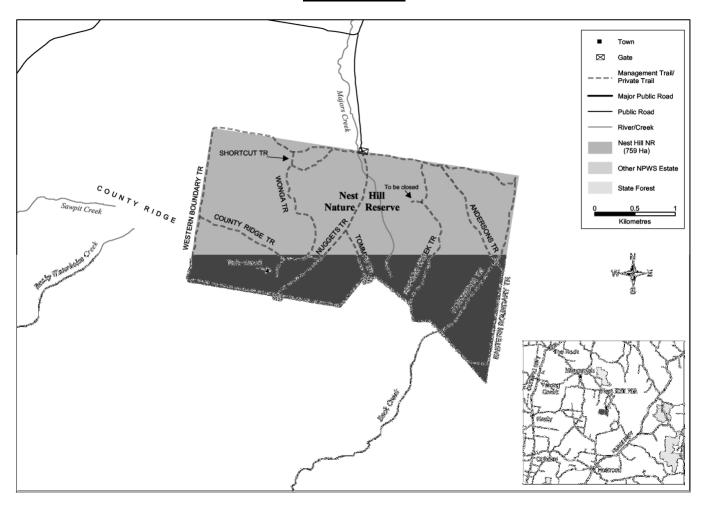
# 1.3 REGIONAL FOREST AGREEMENTS

Regional Forest Agreements (RFA) are one of the principle means of implementing the National Forest Policy Statement of 1992. Under this Statement Commonwealth, State and Territory governments agree to work towards a shared vision for Australia's forests.

This aims to maintain native forest estate, manage it in an ecologically sustainable manner and develop sustainable forest-based industries. The Statement provided for joint comprehensive assessments of the natural, cultural, economic and social values of forests. These assessments formed the basis for negotiation of Regional Forest Agreements that provide, amongst other things, for Ecologically Sustainable Forest Management.

The Southern RFA covers the planning area. The process leading up to the RFA provided for major additions to the reserve system, including the establishment of Nest Hill Nature Reserve.

# **RESERVE MAP**



#### 2. NEST HILL NATURE RESERVE

## 2.1 LOCATION, GAZETTAL AND REGIONAL SETTING

Nest Hill Nature Reserve (hereafter called "the reserve") is located 25km north of Holbrook and 35km south of Wagga Wagga on the South West Slopes of NSW. It is comprised of 759 hectares of undulating country covered by relatively dense red stringy bark/red box forest. The reserve was previously managed by State Forests of NSW as Pulletop State Forest and was gazetted as nature reserve on 1 January 2001 as part of the Regional Forest Agreement (RFA) and Comprehensive Regional Assessment (CRA) process. The name 'Nest Hill' is derived from a dominant peak of the same name 5kms south of the reserve.

Livingstone National Park and Reserve is located 15kms north of the reserve. These reserves combined provide a fragmented vegetated link between larger forests to the south and woodlands to the north and west of the reserve. The reserve is surrounded by freehold land that has a long history of use for agriculture, primarily sheep and cattle farming and cropping.

The reserve lies on the border of Wagga Wagga and Holbrook Local Government Areas and lies within the Murrumbidgee Catchment. It also is located within the Wagga Wagga Rural Lands Protection Board area.

#### 2.2 LANDSCAPE

Natural and cultural heritage and on-going use are strongly inter-related and together form the landscape of an area. Much of the Australian environment has been influenced by past Aboriginal and non-Aboriginal land use practices, and the activities of modern day Australians continue to influence bushland through recreational use, cultural practices, the presence of introduced plants and animals and in some cases air and water pollution.

Nest Hill Nature Reserve protects areas of remnant native vegetation and the suite of native fauna that it supports.

The geology, landform, climate and plant and animal communities of the area, plus its location, have determined how humans have used it. Agricultural and forestry practices including burning, grazing and timber harvesting have shaped the landscape as it is seen today. Only small remnants of native vegetation exist today when compared with pre-European settlement.

Both Aboriginal and non-Aboriginal people place cultural values on natural areas, including aesthetic, social, spiritual, recreational and other values. Cultural values may be attached to the landscape as a whole or to individual components, for example to plant and animal species used by Aboriginal people. This plan of management aims to conserve both natural and cultural values. For reasons of clarity and document usefulness natural and cultural heritage, non-human threats and on-going use are dealt with individually, but their inter-relationships are recognised.

#### 2.3 NATURAL HERITAGE

## 2.3.1 Landform, Geology and Soils

The reserve is situated on the undulating slopes of County Ridge and is relatively flat in comparison to the surrounding landscape. Elevation ranges from between 380 and 450 metres above sea level. Majors Creek and several other minor ephemeral drainage lines originate in the reserve. The reserve is generally dry for most of the year, with flowing water only usually accumulating after summer storms or during the wetter winter months.

The soils of the area are variable due to changes in elevation and aspect but are generally red or yellow podsolic soils, depending on water availability. They possess a high clay content and are readily dispersible when exposed. The profile lacks a well-differentiated organic layer and is prone to sheet and gully erosion following disturbance events. Moderately weathered rock fragments and gravels are common throughout the soil profile. Sandstone, mudstone and siltstone dominate the underlying regolith, and provide evidence of a landscape dominated by deposition. The landscape in and around the reserve is undulating, generally dry and has a mean annual rainfall of between 600 and 900mm.

#### 2.3.2 Native Plants

The South West Slopes bio-region of New South Wales is one of the most highly disturbed and altered landscapes in NSW (Gibbons & Boak, 2002). Given the history of logging, burning and grazing in the region, all remaining areas of intact remnant native vegetation are now considered significant when compared to pre-1750 vegetative coverage.

The reserve was gazetted following the Southern CRA, which identified sites of significant remnant vegetation in southern NSW. The vegetation of the reserve is comprised of 3 distinct forest ecosystems. Table 1 shows the various vegetation types and their known distribution within the reserve.

Description	Lithology and Soils	Environmental Niches
Rough barked Red Box/White Box/dry shrub/forb open forest	Shallow to Moderately Deep soils	On lower slopes on flats within or just above major dry creek beds in reserve
Scribbly Gum/Nortons Box/Tussock Grass Forest	Shallow soils	On exposed slopes at higher elevations in south-eastern corner of reserve
Red Stringybark/ Scribbly Gum/Rough barked Red Box/dry forb/tussock grass Open Forest	Skeletal soils	On mid slopes and lower slopes at lower elevations on better developed soils

(EcoGIS 2002).

Of particular interest in the reserve is the presence of red box / red stringy bark communities. EcoGIS (2002) states that patterns of vegetation structure are very subtle in the reserve. Only slight changes in soils, position on slope, and elevation, bring about significant changes in vegetation ecosystems. The vegetation pattern as it is seen today displays effects of past intensive disturbance, including firewood and fence post collection throughout the reserve and grazing by both introduced stock and a high density of kangaroos.

The reserve has limited native vegetation structure in the mid and understorey levels due to grazing by agricultural species in the past, and more recently by kangaroo populations.

The surrounding agricultural land has been substantially cleared with the reserve representing a large proportion of forested land in the area. Other pockets of forested land occur sporadically throughout the area. As such, the significance of the reserve for native animal habitat is greatly increased.

#### 2.3.3 Native Animals

Fauna surveys carried out by NPWS (2001) located 4 species of reptiles, 20 species of birds, 7 species of mammals and no amphibian species, although frogs are likely to exist in the reserve during wetter periods when standing water is available. Of particular significance is the existence of the Brown Tree-creeper (*Climacteris picumnus*) within the reserve, as it is listed as being vulnerable on the *Threatened Species Conservation Act*, 1995.

Eastern Grey Kangaroos occur in high numbers within the reserve, possibly as a result of the lack of alternative refuge areas in the surrounding landscape. The reserve acts as an island of forest, and as such supports a relatively diverse suite of species, given its relatively small size. Although the forest consists of native species, the limited structure in the mid and understorey decreases the reserves potential as native species habitat.

## 2.4 CULTURAL HERITAGE

#### 2.4.1 Aboriginal Heritage

Aboriginal communities have an association and connection to the land. The land and water biodiversity values within a landscape are central to Aboriginal spirituality and contribute to Aboriginal identity. Aboriginal communities associate natural resources with the use and enjoyment of foods and medicines, caring for the land, passing on cultural knowledge and strengthening social bonds. Aboriginal heritage and nature are inseparable from each other and need to be managed in an integrated manner across the landscape.

Aboriginal artefacts have been located across a broad range of landcapes within the South West Slopes Region. The reserve lies within Wiradjuri country and falls within the Wagga Wagga Aboriginal Land Council Area.

Very little is known about the reserves significance to Aboriginal people. It is thought that, due to the small size and lack of local variation in relief and lack of permanent water in the area, the reserve has a low potential for Aboriginal sites or other evidence of prior occupation. At this stage there has been no study or research to determine Aboriginal heritage values specific to the reserve.

# 2.4.2 Historic Heritage

Nest Hill Nature Reserve was formerly managed as Pulletop State Forest. No known historic features exist within the reserve although it has a history of use for grazing and forestry activities.

#### 3. THREATS TO NEST HILL NATURE RESERVE

#### 3.1 Introduced Plants

An introduced species is defined in this plan as any plant species not endemic to the reserve. Introduced species within the reserve and on adjoining land are of concern because they have the potential to have detrimental effects on ecological values and can spread to and from neighbouring land. The *Noxious Weeds Act 1993* places an obligation upon public authorities to control noxious weeds on land that they occupy to the extent necessary to prevent such weeds spreading to adjoining lands.

The NPWS South West Slopes Region Pest Management Strategy identifies priority pest species and programs for action through set criteria. By following this same process the prioritisation of Reserve pest species programs may be established and directly linked into the regional strategies (refer to the South West Slopes Region Pest Management Strategy). This strategic approach will consider such issues as (yet not limited by) the control of weeds in endangered ecological communities, significant remnant vegetation associations, threatened/endangered species habitat and areas of community/neighbour concern.

#### 3.2 Introduced Animals

An introduced species is defined in this plan as any animal species not native to the reserve. Species of feral animal's known to occur in Nest Hill Nature Reserve include:

**Foxes:** Foxes exist within the reserve, as they do throughout the South West Slopes, although regular targeted baiting programs undertaken in cooperation with local landholders, Landcare groups and RLPBs appear to effectively control local populations. Predation by foxes on native animals has been identified as a key threatening process under the *Threatened Species Conservation Act 1995* and, as such, a Threat Abatement Plan has been formulated. This plan proposes actions to reduce the impacts of fox predation on threatened species and to help conserve biodiversity more generally.

**Rabbits:** Rabbits do occur within and around the reserve, however there are currently few rabbits in the area. It is thought that a combination of myxomatosis, rabbit calicivirus and regular landholder baiting and harbour removal programs have

controlled populations The rabbit populations will be monitored and programs undertaken when required to ensure that rabbit populations do not impact upon the reserve and adjoining properties.

The SWS Region Pest Management strategy also identifies the pest animal species known to occur within the region including the reserve and ranks them in terms of their potential to damage land, alter natural processes and/or disturb native animal populations and habitats. Management strategies for each species are outlined in this document as well as preferred methods of control.

#### 3.3 Access and Use

Nest Hill Nature Reserve is surrounded by freehold land and there is no public vehicular access within the reserve. Two dead-end management trails exist within the reserve. Recreational activities not consistent with the study of nature and natural environments are generally considered inappropriate uses of nature reserves. The reserve currently receives low levels of use for activities such as nature study, walking and bird watching. The majority of past use has been for firewood and fence post collection. There are no visitor facilities within the reserve. Reserve identification signs are located at the main entrance points.

Currently there is one neighbour that accesses their property through the reserve. This access is in accordance with the *National Park Estate* (Southern Region Reservations) Act 2000. The future management of this access will be in accordance with this Act.

#### 3.4 Fire

Fire is a natural disturbance in many environments and is essential to the survival of some plant communities. However, inappropriate fire regimes can lead to the loss of particular plant and animal species and communities. Fire can also damage cultural heritage, recreation and management facilities and can threaten visitors and neighbouring land.

The entire reserve burnt in 1952 by a major fire that started in Mangoplah and burnt to Tumbarumba. The full extent and intensity of the fire is not known. There has been are no other recorded or known wildfires or ignitions in the reserve. In May 1987 a hazard reduction burn was conducted on the southern boundary, approximately 150ha was burnt.

The fire frequency and inter-fire interval stands at 2 fires in 35 years. Based on the tallest dominant strata, the thresholds for fire frequency for the reserve are appropriate as at January 2004 (ie 2 fires within 52 years). The proposed threshold for appropriate vegetation and species management within the reserve is 2 fires in 100 years (not exceeding 3 frequencies in 100 years). Small scale, low intensity mosaic burns in strategic areas are considered acceptable within this time frame in order to reduce risks to adjacent assets. Environmental stresses such as drought and insect attack should be taken into consideration when planning any hazard or fuel reduction burning in order to minimise compounding stresses on species and communities.

Deleted: which

The closest private structural asset is the Pistol Club, approximately 500m from the northern reserve boundary. There are several other private assets including homesteads, sheds, agricultural lands (grazing and crops), fences and machinery within 1 km of the reserve boundary.

The NPWS uses a zoning system for bushfire management which is compatible with the system adopted by the Bushfire Coordinating Committee for use in District Bushfire Management Committee (DBFMC) bushfire risk management plans. The proposed zone for the reserve is a Heritage Management Zone. This allows for the protection of cultural and natural heritage values using hazard reduction and/or other methods to manipulate fuels and/or vegetation communities in order to reduce the potential for high intensity fires, while protecting assets and maintaining biodiversity.

NPWS maintains cooperative arrangements with surrounding landowners and RFS brigades and is actively involved in the Riverina Zone Bush Fire Management Committees. Cooperative arrangements include approaches to fuel management, support for neighbours fire suppression efforts and information sharing.

In accordance with legislative and policy obligations a Type 2 Fire Management Plan will be developed for this reserve.

#### 3.5 Research & Education

The density and size of the resident kangaroo population in the reserve is unknown. Similarly the carrying capacity of the reserve to support these populations is not clear. Research into the ecological interactions occurring within the reserve network will be encouraged by the Service.

#### 4. REFERENCES

- EcoGIS, (2002). Final Report on API Checking and Flora Survey in New Reserves of the South West Slopes Region. An unpublished report to the NSW National Parks and Wildlife Service, NSW.
- Gibbons, P. & Boak, M. (2002) The value of paddock trees for regional conservation in an agricultural landscape. Ecological Management and Restoration in press.
- NSW National Parks and Wildlife Service. (2001) Threat Abatement Plan for Predation by the Red Fox (Vulpes vulpes). NSW NPWS Hurstville
- NSW National Parks and Wildlife Service. (2000) Forest Ecosystem Classification and Mapping for the Southern CRA Region Volume 2: Appendices. Unpublished report to the NSW CRA/RFA Steering Committee
- NSW National Parks and Wildlife Service. (2001) Systematic Fauna survey of selected reserves SWS Region. Fieldwork undertaken by consultant and staff members.

# 5. MANAGEMENT ISSUES AND STRATEGIES

Current Situation Soil and water conservation	Desired Outcomes	Strategies	Priority
There are no major soil erosion or water quality issues within the reserve. The reserve is generally dry, with no permanent water	Soil erosion and water quality is monitored and minimised.	<ul> <li>Undertaken all works in a manner that minimises erosion and water pollution. Undertaken trail maintenance works in accordance with South West Slopes Region Environmental Safegard Code of Practice and Fire Trail Maintenance Policy (2001). Monitor the reserve and take action when needed to control erosion.</li> <li>Liaise with local authorities to maintain and improve water quality in the reserve and surrounding catchment.</li> </ul>	Medium

Current Situation	<b>Desired Outcomes</b>	Strategies	Priority
Native plant conservation Mid and understorey species have been impacted by past grazing activities and now from high densities of kangaroos.	<ul> <li>All native plant and animal species and communities are conserved.</li> </ul>	Monitor vegetation recovery upon removal of grazing and completion of fencing to a stock proof standard.	Medium
Dense regrowth occurs sporadically throughout the reserve as evidence of larger scale disturbance in the past.  No threatened flora species are known to occur in the reserve, although the reserve is	<ul> <li>Structural diversity and habitat values are restored in areas subject to</li> </ul>	Undertake surveys for threatened plant species.	Medium
considered significant in terms of remnant native vegetation conservation  The reserve is an isolated forest ecosystem with no defined links to other native forest areas	<ul> <li>Linkages may be established between the reserve and other pockets of native vegetation in the</li> </ul>	Work with neighbours and other groups like vegetation management committees to establish vegetated corridors and to encourage conservation of remnant native vegetation in the vicinity of the reserve.	Medium
The reserve boundary is fenced to a varying standard. Evidence of recent grazing exists in the reserve due to poor quality fencing.	<ul> <li>Domestic stock do not enter the reserve.</li> </ul>	<ul> <li>Enter into fencing agreements with relevant neighbours in accordance with the NPWS Boundary Fence Policy, to ensure domestic grazing stock are kept out of the reserve.</li> </ul>	High

Current Situation	Desired Outcomes	Strategies	Priority
Native animal conservation			
The reserve is an important sample of remnant native vegetation providing habitat value for a number of threatened species, particularly birds.	<ul> <li>Habitat value of the reserve is enhanced</li> </ul>	<ul> <li>Encourage natural regeneration of habitat through management of fire and other disturbance.</li> </ul>	Medium
Being an island of forested land, connectivity with other native habitat is limited.	Impacts on native species from feral animals, particularly birds, is minimised	Undertake a fox baiting program within the reserve in conjunction with neighbours and Wagga RLPB.	Medium
Lack of mid and lower storey species decreases the habitat value of the reserve. One threatened fauna species is known to occur in the reserve.	<ul> <li>Encourage grass and shrub species to regenerate through management of impacts from fire, and other disturbance.</li> </ul>	Implement measures listed in threatened species recovery plans when completed, monitor populations by undertaking targeted surveys on a periodic basis.	Medium
Kangaroos exist in high densities within, and around the reserve	<ul> <li>Carrying capacity         of the reserve         relating to         kangaroo         populations is         determined.</li> </ul>	Undertake a census of kangaroo populations in the reserve and determine carrying capacity based on results.	High

Current Situation	Desired Outcomes	Strategies	Priority
Cultural heritage			
There are no known Aboriginal sites within the reserve.	<ul> <li>Cultural features are identified, conserved and managed in</li> </ul>	Precede ground works by a check for cultural features.	Medium
	accordance with their significance.	Encourage surveys and research into the cultural heritage values of the reserve.	Low
		Consult and involve the Wagga Wagga Aboriginal Land Council in all aspects of management of Aboriginal sites, places and values.	Medium
		<ul> <li>Record all new sites on the Aboriginal Heritage Register (AHIMS) and the Historic Sites Register (HHIMS).</li> </ul>	High
Introduced species			
The reserve does not have a high diversity, or individual infestations of weeds.	<ul> <li>Reduce the populations of identified introduced species on the reserve and neighbouring lands.</li> </ul>	Control introduced plant and animal species in the reserve on a priority basis according to the regional pest management strategy and where possible eradicate introduced plant and animals species.	Medium
Pest animals include foxes and rabbits have been recorded in the reserve. On-going fox	<ul> <li>The impact of introduced species</li> </ul>	Seek the cooperation of other authorities and neighbours in implementing weed and pest animal control programs.	Medium
baiting programs are keeping the fox populations at low levels.	on native species and neighbouring lands is minimised.	<ul> <li>Undertake on-going control programs for foxes and implement rabbit control program (when required) in conjunction with neighbours and</li> </ul>	High

		other agencies.	
Current Situation	Desired Outcomes	Strategies	Priority
Fire management			
The NPWS is represented on District Bush Fire Management Committees	<ul> <li>Fire management is undertaken on a cooperative basis with neighbours and other fire authorities.</li> </ul>	Maintain coordination and cooperation with Rural Fire Service brigades, Fire Control Officers and neighbours with regard to fuel management and fire suppression.	High
Fire frequency within the reserve is within plant, animals and community thresholds.	Fire regimes are appropriate for conservation of flora, fauna and communities.	Prepare Type 2 fire management plan and fire operations map for the reserve that details life, property and natural and cultural resource protection strategies.	High
There is no immediate threat to assets adjacent to the reserve boundary, however assets exist with 500m to 1 km of the boundary.	<ul> <li>Persons and property are protected from bushfire</li> </ul>	Undertake hazard reduction operations to comply with NPWS fire management policy. Fuel modification methods other than through the use of fire should be considered.	Medium
Development of Fire Management plans are proposed in 2004. Fire operations maps (incident based) are being developed in conjunction with these fire plans.			

Current Situation	Desired Outcomes	Strategies	Priority
Visitor use			
Use of the reserve must be carefully managed since it is a relatively small and significant area of remnant vegetation.	The local community is aware of the significance of the area and of management programs.	Liaise with neighbours and community organisations to promote community understanding of the reserves values and management strategies.	Medium
There are no visitor facilities provided in the reserve.	<ul> <li>Visitor use is         ecologically         sustainable         consistent with its         management as a</li> </ul>	Maintain reserve identification signage at reserve boundaries to indicate activities that are permitted and not permitted.	High
	nature reserve.	Recreational use of the reserve will not be promoted. Camping & public vehicle access in the reserve will not be permitted. Walking access for natural and cultural heritage appreciation in the reserve will be provided.	High
One neighbour currently uses the reserve to access private property south of the reserve.	<ul> <li>Neighbour access is managed in accordance with National Park Estate (Southern Region Reservations) Act 2000.</li> </ul>	<ul> <li>Continue to manage neighbour access in accordance with National Park Estate (Southern Region Reservations) Act 2000 requirements.</li> </ul>	High

Current Situation	Desired Outcomes	Strategies	Priority
Research			
Scientific research improves understanding of the reserve's natural and cultural heritage, the processes that affect them and the requirements for management of particular species.  Vegetation and fauna surveys have been carried out in the reserve, however further research into the reserves natural and cultural features will be encouraged	Research enhances the management information base and has minimal environmental impact.	Undertake and encourage research to improve knowledge and management of natural and cultural heritage.	Medium
Management operations	Managament	Maintain trails to be retained for management	Lliab
All trails in the reserve will be for management use only	Management facilities adequately serve management needs and have acceptable impact.	Maintain trails to be retained for management purposes. Close and rehabilitate the two dead end tracks.	High

**High** priority activities are those imperative to achievement of the objectives and desired outcomes. They must be undertaken in the near future to avoid significant deterioration in natural, cultural or management resources.

**Medium** priority activities are those that are necessary to achieve the objectives and desired outcomes but are not urgent.

Low priority activities are desirable to achieve management objectives and desired outcomes but can wait until resources become available.