



Environment,  
Climate Change & Water  
National Parks & Wildlife Service



# Bees Nest Nature Reserve and Jerralong Nature Reserve

## Plan of Management





**BEE'S NEST NATURE RESERVE AND  
JERRALONG NATURE RESERVE**

**PLAN OF MANAGEMENT**

**NSW National Parks and Wildlife Service**

**Part of the Department of Environment, Climate Change and Water (NSW)**

**September 2010**

**This plan of management was adopted by the Minister for Climate Change and the Environment on 16<sup>th</sup> September 2010.**

### **Acknowledgements**

The NPWS acknowledges that these reserves lies within the traditional country of the

This plan of management was prepared by staff of the South Coast Region of the National Parks and Wildlife Service.

Valuable information and ideas were contributed to the planning process by the South Coast Region Advisory Committee and other members of the community.

For additional information or enquiries about Bees Nest Nature Reserve contact the NPWS Ulladulla office on (02) 4454 9500. For Jerralong Nature Reserve contact the Highlands Area Office on (02) 4887 8244.

Cover photograph of Bees Nest Nature Reserve looking north along the Shoalhaven River gorge by Mike Jarman, NPWS.

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## FOREWORD

Bees Nest Nature Reserve and Jerralong Nature Reserve are located on the Shoalhaven River approximately 10 kilometres north-west of Nerriga and 40 kilometres south-east of Goulburn. Bees Nest Nature Reserve has an area of 1,542 hectares and Jerralong Nature Reserve has an area of 334 hectares.

Bees Nest and Jerralong Nature Reserves conserve a number of vegetation communities that are poorly represented in the reserve system or have a restricted distribution. They also contain populations of an endangered herb and koalas. They are part of the cultural landscape of the Pejar Aboriginal people.

The New South Wales *National Parks and Wildlife Act 1974* requires that a plan of management be prepared for each nature reserve. A draft plan of management for Bees Nest and Jerralong Nature Reserves was placed on public exhibition from 25<sup>th</sup> July until 27<sup>th</sup> October 2008. The submissions received were carefully considered before adopting this plan.

This plan contains a number of actions to achieve the State Plan priority to “Protect our native vegetation, biodiversity, land, rivers and coastal waterways”, including undertaking surveys for threatened and significant native plant and animal species, control and where possible eradication of introduced plant and animal species, and fire management strategies.

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

A handwritten signature in black ink, appearing to read 'Frank Sartor', with a long horizontal flourish extending to the right.

**Frank Sartor MP**  
**Minister for Climate Change and the Environment**

## 1. LOCATION, GAZETTAL AND REGIONAL CONTEXT

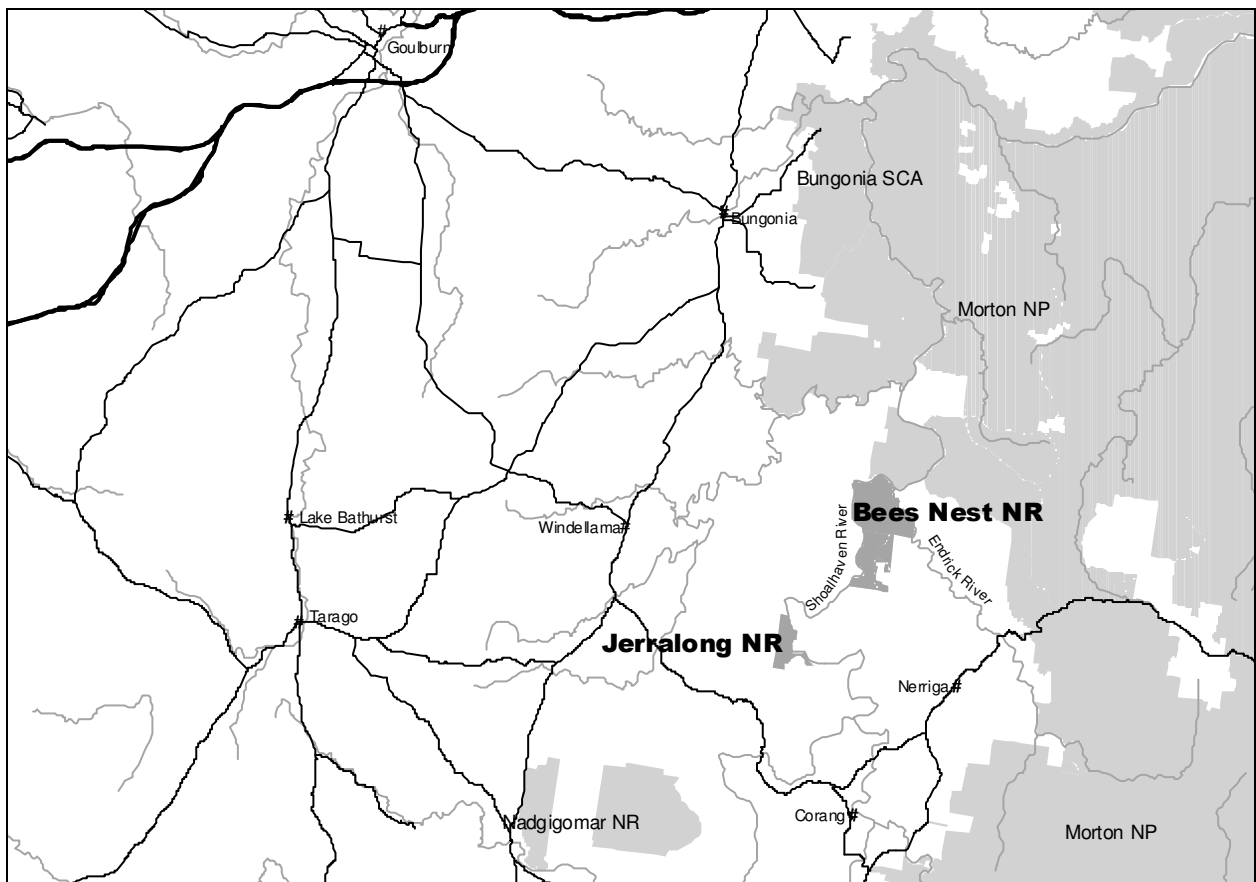
Bees Nest and Jerralong Nature Reserves are both located on the Shoalhaven River approximately 10 kilometres north west of Nerriga and 40 kilometres south east of Goulburn (see locality map below). They were dedicated in 2001 as a result of the Southern Forest Agreement.

Bees Nest Nature Reserve lies at the junction of the Shoalhaven and Endrick Rivers and adjoins Morton National Park to the north. An area of 585 hectares of Crown land was dedicated in 2001 and a 957 hectare perpetual crown lease was dedicated in January 2006, bringing the total reserve area to 1542 hectares. The reserve name is a local name for the area.

Jerralong Nature Reserve lies on the western side of the Shoalhaven River and has an area of 334 hectares. It was named after the local parish.

The reserves are located in a relatively rugged and sparsely settled part of the Southern Tablelands. The surrounding countryside is used primarily for sheep grazing, some cattle grazing and rural retreats, but retains a significant amount of native bushland.

Both reserves have significant plant and animal communities and neither has public vehicle access. They will be managed to retain or regain their natural condition as far as possible, through management of erosion, fire and introduced species.



Locality Map

## 1.2 Statement Of Significance

Bees Nest and Jerralong Nature Reserves protect samples of the upper Shoalhaven River corridor and assist in protecting the rugged scenery of the district.

They are regionally significant for their rare vegetation communities and populations of threatened species. Both reserves contain areas of Southern Tablelands Grassy Woodlands including box communities aligned with the White Box Yellow Box Blakely's Red Gum Woodland endangered ecological community. Other vegetation communities present are poorly represented in the reserve system or have a restricted distribution. Threatened plant and animal species recorded in the reserves are the endangered Illawarra Irene (*Irenepharsus trypherus*) and the vulnerable koala (*Phascolarctos cinereus*) and they are likely to also have populations of the vulnerable yellow-bellied glider (*Petaurus australis*), spotted-tailed quoll (*Dasyurus maculatus*) and other threatened species.

## 2. MANAGEMENT CONTEXT

### 2.1 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 Regulation, the *Threatened Species Conservation Act 1995* (TSC Act) and the policies of the National Parks and Wildlife Service (NPWS). The matters to be considered in the preparation of a plan of management are listed in Section 72AA of the NPW Act. NPWS policies relate to nature conservation, cultural heritage conservation, recreation, commercial use, research and information provision.

Other legislation, 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 Southern Regional Forest Agreement covers the reserves and provides for, amongst other things, ecologically sustainable forest management. Regional Forest Agreements are one of the principal means of implementing the National Forest Policy Statement of 1992, under which Commonwealth, State and Territory governments agreed to work towards a shared vision for Australia's forests.

A plan of management is a statutory document under the NPW Act. Once the Minister has adopted a plan, the plan must be carried out and no operations may be undertaken within Bees Nest or Jerralong Nature Reserves except in accordance with the plan. The plan will also apply to any future additions to the reserve. Should management strategies or works be proposed in the future that are not consistent with the plan, an amendment to the plan will be required.

### 2.2 Management Purposes And Principles

Nature reserves are reserved under the National Parks and Wildlife 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 function, 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 nature reserve's natural and cultural values; and
- provide for appropriate research and monitoring.



### **3. VALUES OF THE RESERVES**

The location, landforms and plant and animal communities of an area determine how it is used and valued. Both Aboriginal and non-Aboriginal people place values on natural areas, including aesthetic, social, spiritual, recreational and economic values. These values may be attached to the landscape as a whole or to individual components, for example plant and animal species used by Aboriginal people. This plan of management aims to conserve both natural and cultural values and recognises the inter-relationships between them.

#### **3.1 Landform, Geology and Soils**

Both reserves lie on the upper part of the Shoalhaven River Gorge. The gorge continues to the north through Morton National Park and Bungonia State Conservation Area. The landscape is dramatic and both nature reserves have panoramic views of the gorge and distant plateaus.

Bees Nest Nature Reserve covers a long ridge that defines the watershed between the Shoalhaven and Endrick Rivers. The top of the ridge is more than 600 metres above sea level (ASL) (maximum 642 metres) and it falls steeply to the two rivers via a series of spurs and gullies. The lowest point is 250 metres ASL at the junction of the rivers. The ridge-top is quite broad at its southern end.

Jerralong Nature Reserve lies on the western slope of the Shoalhaven gorge, upstream from Bees Nest. The upper slopes consist of several narrow spur ridges dissected by gullies. Altitude falls from 586 metres to 350 metres ASL, the gorge being less deep here than at Bees Nest. Little Timberlight Creek meets the Shoalhaven River at the southern end of the reserve.

The mid to lower slopes of both reserves are extremely steep, with numerous rocky outcrops and talus slopes. There are narrow areas of alluvial flats along both the Shoalhaven and Endrick Rivers, most of which are on Crown land outside the reserves.

The reserves are near the eastern edge of the Lachlan Fold Belt. The geology of the area consists of Upper Ordovician coarse sediments that have been tightly folded and metamorphosed over time to become slate, phyllite, metachert, and quartzite. Fossil evidence indicates that these rock types are approximately 450 million years old (P. Smart, pers. comm.).

The reserve soils are typically rocky, shallow and highly erosive if disturbed. There are deeper soils on the plateau area at the southern end of Bees Nest Nature Reserve, where gully erosion is occurring in cleared areas (see section 3).

#### **3.2 Native Plants**

The vegetation communities located within both reserves were mapped as part of the Southern Comprehensive Regional Assessment (CRA). This mapping was partly ground-truthed and revised for Bees Nest Nature Reserve (NGH Environmental 2005), with six communities mapped. Jerralong Nature Reserve is thought to have similar vegetation communities but has not been re-mapped, apart from a small survey in the south western corner of the reserve.

A low open forest dominated by brittle gum (*Eucalyptus mannifera*), inland scribbly gum (*E. rossii*), broad-leaved peppermint (*E. dives*) and red stringybark (*E. macrorhyncha*) occurs on the ridges and exposed upper slopes of both reserves. The understorey consists of low shrubs and a sparse ground cover of forbs and tussock grasses. The reserves make a significant contribution to the conservation of this community, which is poorly represented in the reserve system.

On less exposed upper slopes and gullies of Bees Nest Nature Reserve is a low open forest of blue-leaved stringybark (*E. agglomerata*), white stringybark (*E. globoidea*) and silvertop ash (*E. sieberi*). There is a small tree layer of black sheoak (*Allocasuarina littoralis*) and a sparse shrub understorey. This community was mapped in the CRA as also occurring in Jerralong Nature Reserve but this needs to be checked.

A similar dry shrub forest dominated by blue-leaved stringybark with coast grey box (*E. bosistoana*), yellow box (*E. melliodora*), grey box (*E. moluccana*) and possibly grey gum (*E. punctata*) occurs on upper and moderately steep slopes along the Shoalhaven and Endrick gorges in Bees Nest Nature Reserve and may also be present in Jerralong Nature Reserve.

Broad upper slopes and drainage lines in the central and south eastern parts of Bees Nest Nature Reserve support a woodland of apple box (*E. bridgesiana*), yellow box, forest red gum (*E. tereticornis*), argyle apple (*E. cinerea*) and blue-leaved stringybark. There is an open shrub layer of small trees and shrubs and a low ground cover with numerous forbs. This is a significant community (see below) but unfortunately much of its area within the reserve has been cleared (refer section 5.2). This community may also be present in Jerralong Nature Reserve as yellow box and argyle apple have been recorded in an upper drainage line.

There are small areas of wet *Themeda* grassland along upper creek lines in Jerralong Nature Reserve. This community has a variety of herbs such as swamp raspwort (*Haloragis heterophylla*) and slender mint (*Mentha diemenica*), with bracken (*Pteridium esculentum*) and occasional black wattle (*Acacia mearnsii*).

Steep central and lower slopes along the Shoalhaven and Endrick Rivers in Bees Nest Nature Reserve have extensive areas of woodland dominated by forest red gum, yellow box and red stringybark. There is a generally sparse shrub layer and a diverse ground cover of forbs and grasses. The community is very open on the steep rocky slopes and taller and denser in more sheltered locations (mapped separately as a variant on sheltered slopes). This community may also be present in Jerralong Nature Reserve. In nearby Bungonia State Conservation Area several species have been recorded in this community that were range extensions from the western slopes and plains (*Parsonsia eucalyptophylla*, *Euphorbia planiticola*, *Sida* sp. A and *Picris angustifolia*). It is possible that such species also occur in this community in the two nature reserves. The presence of forest red gum and yellow box is also significant as these species have been cleared over much of their range.

Small areas of dry rainforest appear to occur in some of the steep gullies of the Shoalhaven gorge but these have not yet been checked.

There are narrow areas of riparian river oak (*Casuarina cunninghamiana*) forest in both reserves along the Shoalhaven and Endrick Rivers and the lower reaches of some tributaries. The stands are mainly young trees, indicating that floods may hinder the

establishment of mature stands, although there are some large trees in the slightly gentler Endrick River gorge. River oak has a restricted distribution, only being found along major watercourses.

The two yellow box woodland communities fall within the ambit of the White Box Yellow Box Blakely's Red Gum Woodland endangered ecological community. The presence of forest red gum in both communities indicates that they may form a transition to the River Flat Eucalypt Forest on Coastal Floodplains endangered ecological community that occurs in coastal areas.

The threatened plant species, Illawarra Irene (*Irenepharsus trypherus*), listed as endangered under the TSC Act, has been recorded as occurring in Bees Nest Nature Reserve in the past. Illawarra Irene is a herb that occurs in a limited number of populations in the region on steep rocky slopes. Survey is needed to check the record for the nature reserve. The species is vulnerable to erosion and to trampling and grazing, and feral goats may be a threat if the species does occur in the reserve (see section 5.5).

Argyle apple has a restricted distribution and its presence in the reserves is significant.

Much of the vegetation in the two reserves is old growth or mature forest in good condition but large areas in the southern part of Bees Nest Nature Reserve have been cleared and were grazed until recent construction of boundary fencing. A smaller area in the central part of the reserve was formerly partially cleared but is regenerating well. Some parts of both reserves have been affected by grazing by feral goats.

### **3.3 Native Animals**

The reserves protect a variety of habitats for a range of native animal species. The habitats are generally in good condition, with abundant hollow-bearing trees and fallen logs. Much of the area has a relatively sparse shrub layer and hence limited shelter for fauna but there are some areas with a dense understorey.

The reserves are located near the eastern edge of the South Eastern Highlands Bioregion, close to its boundary with the Sydney Basin Bioregion. It is likely that fauna from both bioregions are present in the reserves. The Shoalhaven River corridor may channel the movement of some fauna, for example honeyeaters.

A comprehensive fauna survey has been undertaken in Bees Nest Nature Reserve (report in preparation) but there has been no survey in Jerralong Nature Reserve. Nearly 70 vertebrate species were found in Bees Nest Nature Reserve during the survey.

The vulnerable koala (*Phascolarctos cinereus*), spotted-tailed quoll (*Dasyurus maculatus*), grey-headed flying-fox (*Pteropus poliocephalus*) and woodland birds such as scarlet robin (*Petroica boodang*), varied sittella (*Daphoenositta chrysoptera*) and diamond firetail (*Stagonopleura guttata*) have been recorded within Bees Nest Nature Reserve. It is also likely that some of these species also occur in Jerralong Nature Reserve, particularly the koala as it has been observed nearby. The vulnerable yellow-bellied glider (*Petaurus australis*) has been recorded just outside Bees Nest and suitable habitat is present in both reserves. There are anecdotal reports of the

endangered brush-tailed rock-wallaby (*Petrogale penicillata*) in the area but this has not been confirmed.

The reserves provide potential habitat for several other threatened species; the heath monitor (*Varanus rosenbergi*), smoky mouse (*Pseudomys fumeus*), southern brown bandicoot (*Isodon obesulus*), large bentwing bat (*Miniopterus schreibersii*), regent honeyeater (*Xanthomyza phrygia*), swift parrot (*Lathamus discolor*), hooded robin (*Melanodryas cucullata*), masked owl (*Tyto novaehollandiae*), powerful owl (*Ninox strenua*), glossy black-cockatoo (*Calyptorhynchus lathami*), olive whistler (*Pachycephala olivacea*), speckled warbler (*Pyrrholaemus sagittatus*) brown treecreeper (*Climacteris picumnus*), pink robin (*Petroica rodinogaster*), square-tailed kite (*Lophoictinia isura*) and a number of micro bat species.

The threatened Macquarie perch (*Macquaria australasica*) is likely to occur in the Shoalhaven and Endrick Rivers adjacent to the two nature reserves. While management of threatened fish species is the responsibility of the Department of Industry and Investment, fish are part of the native animal communities of the area.

### **3.4 Aboriginal Heritage**

Aboriginal people from both the coast and the tablelands travelled through and utilised the resources of the Shoalhaven River corridor. The Dharawal, Dhurga, Gundungurra and Ngununawal language groups all had an interest in the area. The area has not been surveyed for Aboriginal sites and places but a few artefacts have been found on the main ridgeline in Bees Nest Nature Reserve and a possible knapping site has been identified immediately adjacent to the reserve's south-eastern boundary. It is likely that more sites are present along the ridgelines and the rivers within both reserves.

It is recognised that the landscape, and the plants, animals and physical features within the landscape are all an integral part of Aboriginal cultural heritage. As well as occupation sites, it is possible that there are places within the reserves of significance to Aboriginal people that do not contain any physical evidence of past use.

### **3.5 Non-Aboriginal Heritage**

Prior to dedication Jerralong Nature Reserve and the southern half of Bees Nest Nature Reserve were Crown land while the northern half of Bees Nest Nature Reserve was a perpetual Crown lease.

The Crown land areas were subject to permissive occupancies for sheep grazing although there appears to have been little grazing in Jerralong Nature Reserve. There is an old fence line in the central part of Bees Nest Nature Reserve and some wire remains from a yard at the southern end of the reserve. There are indications that fence posts were formerly cut in the reserve.

The former Crown lease area in the northern part of Bees Nest was not grazed but was used as a holiday retreat. Two huts are located on the ridge overlooking the Endrick River and the ruins of a third are located on the river bank. The oldest is a small corrugated iron hut on the ridge-top that is up to 30 years old. Next to this is a relatively large single room hut of better brick with a corrugated iron roof and a fire place. It is in

good condition and is approximately 20 years old. The ruins by the river are also between 20 and 30 years old. All the huts were built by the former lease holder.

Small dams are located in the central and northern parts of Bees Nest Nature Reserve. The former was constructed to provide water for stock while the northern dam was installed in recent years for fire management purposes.

There has been a history of gold mining in the area, however no mines are known to be located within the reserves. Two former mines are located close to the Bees Nest Nature Reserve boundary; the 'Old Phoenix Mines' (1898-1904) just to the south and the 'Leather Head Mine' (1936-37) to the east. There are no major gold bearing reefs in the area and the amount of gold removed was small.

### **3.6 Educational and Recreational Values**

The reserves protect approximately 20 kilometres of gorge along the adjacent Shoalhaven and Endrick Rivers. The rivers and banks provide opportunities for remote area walking and fishing and for canoeing from further upstream.

There are Crown road reserves leading to the boundaries of the nature reserves but there is no formed public vehicle access on the road reserves (see sections 5 and 6). Access by canoe or raft is available during periods when the Shoalhaven River is flowing freely but the section of river between the two reserves is suitable only for very experienced paddlers.

The steep country away from the rivers is not particularly attractive for walking and the reserves do not have interesting recreational or educational features compared to nearby areas such as Morton National Park. The lack of vehicle access limits value for educational visits.

#### **4. EXISTING CONDITION AND THREATS**

Overall, the reserves are in good condition, with old growth or mature forest and few introduced species. Parts of Bees Nest Nature Reserve have been affected by clearing and grazing. This has resulted in loss of a proportion of the significant apple box woodland and the development of sheet and gully erosion.

Bees Nest Nature Reserve adjoins Morton National Park to the north, across the Shoalhaven River and both reserves are adjacent to large areas of private land or Crown lease that are for the most part naturally vegetated. Consequently, the impacts of exposure from adjacent clearing and incursion of weeds, predators and stock are minor, except in the southern part of Bees Nest Nature Reserve.

There is currently no constructed legal vehicle access to Jerralong Nature Reserve or the northern part of Bees Nest Nature Reserve and establishment of access for management purposes would be desirable.

Major ongoing issues are feral animal control, particularly goats, serrated tussock control and fire management. Also important will be surveys to improve understanding of the vegetation communities in Jerralong Nature Reserve and to check for significant species such as the brush-tailed rock-wallaby.

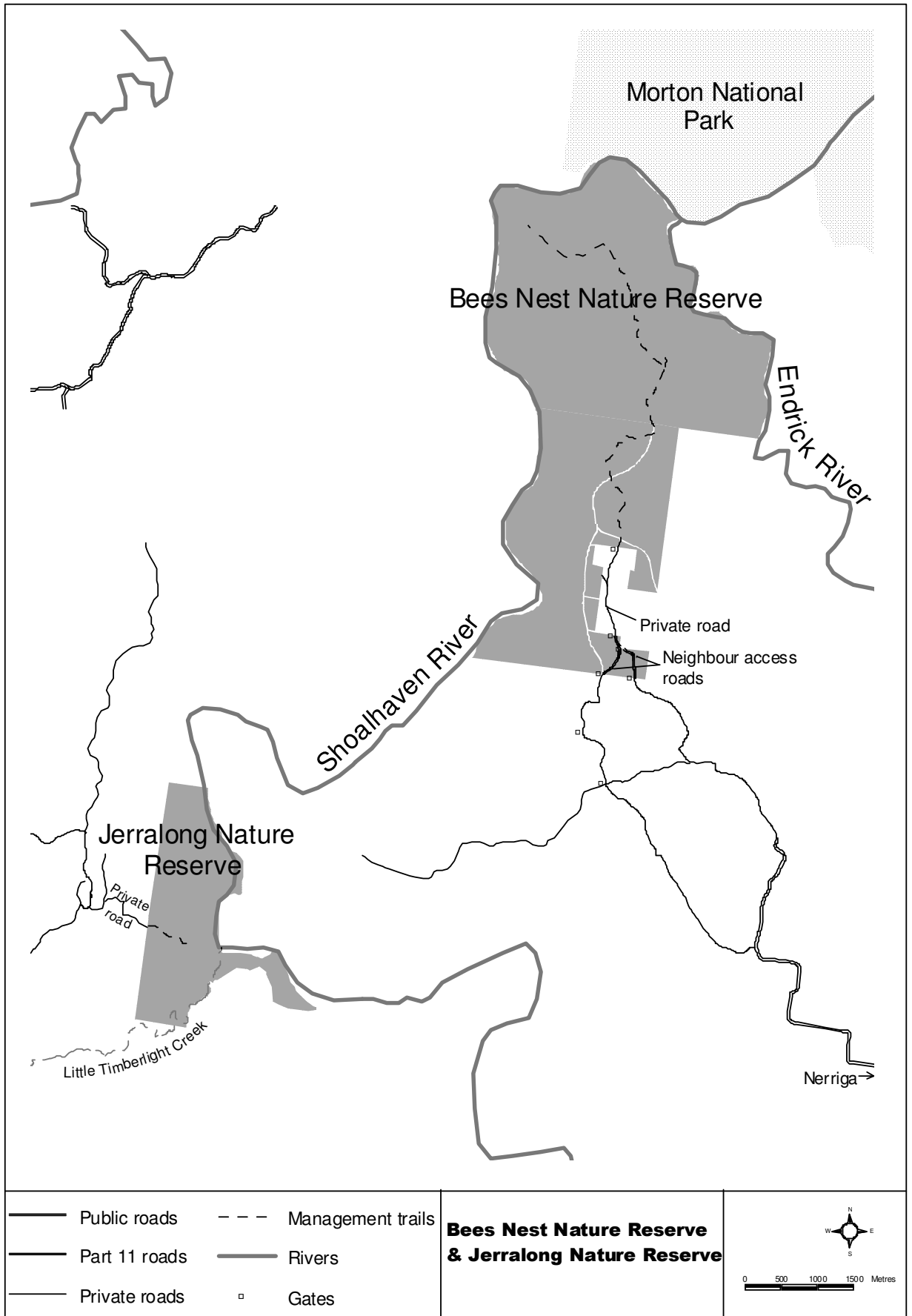
Each of these issues is considered in detail in Section 5 (Bees Nest Nature Reserve) and Section 6 (Jerralong Nature Reserve).

#### **Climate Change**

Climate change has been listed as a key threatening process under the Threatened Species Conservation Act. Projections of future changes in climate for NSW include higher temperatures, increasing sea levels and water temperatures, elevated CO<sub>2</sub>, more intense but possibly reduced annual average rainfall, increased temperature extremes and higher evaporative demand. These changes are likely to lead to greater intensity and frequency of fires, more severe droughts, reduced river runoff and water availability, regional flooding, increased erosion and ocean acidification.

Climate change may significantly affect biodiversity by changing population size and distribution of species, modifying species composition and altering the geographical extent of habitats and ecosystems. The potential impact of climate change is difficult to assess since it depends on the compounding effects of other pressures, particularly barriers to migration and pressure from feral animals. Species most at risk are those unable to migrate or adapt, particularly those with small population sizes or with slow growth rates.

Adjusting management through programs to reduce the pressures arising from other threats such as habitat fragmentation, invasive species, bushfires, pollution and urban expansion will help reduce the severity of the effects of climate change.



**Bees Nest Nature Reserve**  
**5. MANAGEMENT ISSUES AND STRATEGIES – BEES NEST NATURE RESERVE**

Current Situation	Desired Outcomes	Strategies	Priority
<p><b>5.1 Soil and water conservation</b></p> <p>Bees Nest Nature Reserve has fragile, highly erodable soils that need good vegetation cover and appropriate management. Gully erosion is occurring along drainage lines in the southern part of the reserve on land that was previously cleared and grazed. The erosion needs to be monitored to determine whether active control measures are needed. Severe sheet erosion is occurring on a previously grazed knoll in the southern part of the reserve but is expected to be corrected as vegetation regrowth occurs.</p> <p>The main trail through the northern part of the reserve was upgraded during 2001 by the Rural Fire Service. The road is steep in places and, owing to the nature of the soils in the reserve, is likely to erode during heavy rain.</p> <p>An old trail running west off the main trail in the southern part of the reserve is eroding. This trail has no management value and should be rehabilitated to encourage its closure and revegetation. Two old east-west trails in the northern part of the reserve are overgrown and not of concern.</p>	<p>Human induced soil erosion is minimised, and where necessary arrested.</p> <p>Reserve catchment values are maintained.</p>	<p>5.1.1 Undertake all works in a manner that minimises soil erosion and sediment contribution to drainage lines.</p> <p>5.1.2 Monitor formerly cleared areas that are subject to erosion. If needed, seek advice about erosion control measures on the drainage gullies in the southern part of the reserve.</p> <p>5.1.3 Assess the trail through the northern part of the reserve and carry out erosion control measures as needed.</p> <p>5.1.4 Rehabilitate the eroding east-west trail in the southern part of the reserve to encourage its revegetation.</p>	<p>As required</p> <p>Medium</p> <p>High</p> <p>High</p>



## Bees Nest Nature Reserve

Current Situation	Desired Outcomes	Strategies	Priority
<p><b>5.2 Native plant and animal conservation</b></p> <p>The reserve contains significant plant communities but there is insufficient knowledge of important plant species. A comprehensive fauna survey has been undertaken but follow-up work may identify additional species. A particular need is to establish whether the endangered brush-tail rock-wallaby is present in the reserve, because of the importance of regular fox control in its conservation.</p> <p>Under the Threatened Species Conservation Act, strategies for promoting the recovery of most threatened species have been set out in a state-wide Species Priorities Action Statement. A recovery plan has been prepared for the endangered Illawarra Irene. It provides for survey, monitoring and management of threats, including preparation of a management statement for each site.</p> <p>As previously stated, the significant yellow box/apple box/forest red gum community in the southern part of the reserve has been extensively affected by clearing and grazing. Recent construction of boundary fencing will allow regeneration to begin but there may be an ongoing need for monitoring and weed control.</p> <p>Much of the area around the reserve is naturally vegetated. Sustainable management of adjacent lands is important for the long term viability of native plant and animal populations in the reserve and the general area.</p> <p>Wire remaining from the dilapidated internal fence and yard in the reserve could pose a danger to wildlife and should be removed.</p>	<p>Native plant and animal species and communities are understood and conserved.</p> <p>Areas affected by clearing and grazing are rehabilitated.</p> <p>Connectivity between the reserves and other naturally vegetated areas is maintained.</p>	<p>5.2.1 Undertake surveys for threatened and significant plant species, including Illawarra Irene.</p> <p>5.2.2 Undertake targeted surveys for threatened species identified as having habitat within the reserve but not yet recorded, particularly the brush-tailed rock-wallaby.</p> <p>5.2.3 Implement priority measures included in the Species Priorities Action Statement and any recovery plans prepared for threatened species occurring in the reserve. Prepare a site management statement for the Illawarra Irene site.</p> <p>5.2.4 Monitor regeneration of the cleared areas at the southern end of the reserve and take any necessary actions such as weed control to encourage recovery.</p> <p>5.2.5 Investigate with neighbours any interest in entering into voluntary conservation agreements or similar mechanisms to conserve priority remnant native vegetation around the reserve.</p> <p>5.2.6 Remove wire from the former yard and from the dilapidated fence in the centre of the reserve. Retain posts.</p>	<p>Medium</p> <p>Medium</p> <p>High</p> <p>Medium</p> <p>Low</p> <p>Medium</p>

## Bees Nest Nature Reserve

Current Situation	Desired Outcomes	Strategies	Priority
<p><b>5.3 Cultural heritage</b></p> <p>A small number of Aboriginal artefacts have been found in the reserve and it is likely that other sites are present along the main ridgelines and the rivers. While NPWS has legal responsibility for the protection of Aboriginal sites and places, it acknowledges the right of Aboriginal people to make decisions about their own heritage. It is therefore policy that Aboriginal communities be consulted and involved in the management of Aboriginal sites and related issues. The nature reserve is in the area of the Pejar Local Aboriginal Land Council but other Aboriginal Land Councils, Elders groups and traditional custodial families may have an interest in the area.</p> <p>The besser brick hut in the northern part of the reserve is in quite good condition but the adjacent tin hut is dilapidated and the hut on the river bank is in ruins. The cultural heritage value of the huts has not been assessed. The besser brick hut has some management value and will be retained (see section 4.8). Because of its location and construction, the hut is vulnerable to fire and could be lost if a wildfire moved through the reserve.</p>	<p>Cultural heritage features are conserved and managed in accordance with their significance.</p>	<p>5.3.1 Consult and actively involve the Pejar Local Aboriginal Land Council and other Aboriginal community groups and individuals in the management of Aboriginal sites, places and values in the reserve.</p> <p>5.3.2 Precede all ground disturbance works in the reserve by a check for cultural features.</p> <p>5.3.3 Record the three huts and assess their significance. Subject to the assessment, remove the dilapidated hut on the ridge-top in order to improve fire protection for the adjacent besser brick hut.</p>	<p>As required</p> <p>As required</p> <p>Medium</p>
<p><b>5.4 Wilderness</b></p> <p>The far northern to north-eastern area of the reserve, bounded by the rim of the Shoalhaven and Endrick gorges, was identified as wilderness during the Southern Comprehensive Regional Assessment process. It was at that time subject to a perpetual Crown lease and was not declared as wilderness. The rugged landscape of this area has had very little disturbance and is quite remote. It potentially could be declared as wilderness in the future and should be managed to conserve wilderness values.</p>	<p>Wilderness values are conserved.</p>	<p>5.4.1 Manage the far northern part of the reserve in accordance with its potential to be declared as wilderness.</p>	<p>Ongoing</p>

## Bees Nest Nature Reserve

Current Situation	Desired Outcomes	Strategies	Priority
<p><b>5.5 Introduced species</b></p> <p>There has been no formal survey but the reserve appears to have few weeds, most of which are in cleared or disturbed areas. The noxious weed serrated tussock (<i>Nassella trichotoma</i>) is found in the reserve and on neighbouring land and control programs are being carried out.</p> <p>Goats, foxes and wild dogs are found in the reserve and on adjoining private property and rabbits and pigs may be present in low numbers. Goats are present right along the Shoalhaven gorge and can cause significant vegetation damage and erosion. A twice yearly feral goat control program has been carried out in the reserve and on adjoining private property since 2001 and goat numbers are falling.</p> <p>Foxes are a significant threat to native mammal and reptile populations, including threatened species, while wild dogs can impact on sheep adjacent to the reserve. The reserve is covered by the Braidwood / South Coast Wild Dog Management Plan. Ongoing wild dog and fox control programs are carried out by the Braidwood Rural Lands Protection Board under contract to NPWS.</p> <p>Cooperative management arrangements with neighbours are vital for the effective management of weeds and feral animals.</p> <p>Fences are in place along boundaries with grazing land in the southern and eastern parts of the reserve, including give and take boundary fencing with the inholding. It is important for effective fencing to be maintained on boundaries with grazing properties.</p>	<p>The impact of introduced species on native species and neighbouring lands is minimised.</p>	<p>5.5.1 Control and where possible eradicate introduced plant and animal species.</p> <p>5.5.2 Survey for and monitor noxious and significant environmental weeds.</p> <p>5.5.3 Continue to control serrated tussock.</p> <p>5.5.4 Continue to control feral goats in the area.</p> <p>5.5.5 Continue wild dog and fox control programs. Extend fox control if brush-tailed rock-wallabies are found in the reserve.</p> <p>5.5.6 Seek the cooperation of other authorities and neighbours where needed in implementing weed and pest animal control programs.</p> <p>5.5.7 Encourage maintenance of effective boundary fencing where needed with neighbouring grazing properties, by working closely with neighbours.</p>	<p>As required</p> <p>Medium</p> <p>High</p> <p>High</p> <p>High</p> <p>As required</p> <p>As required</p>

## Bees Nest Nature Reserve

Current Situation	Desired Outcomes	Strategies	Priority
<p><b>5.6 Fire management</b></p> <p>Fire is a natural feature of the environment of the reserve and is essential to the survival of some plant communities. Frequent or regular fire, however, could cause loss of particular plant and animal species and communities. Fire could also damage the huts and fences and threaten neighbouring land. A fire management strategy has been prepared for the reserve that sets out appropriate fire frequencies for the vegetation communities and provides for protection of the main hut.</p> <p>Most areas of the reserve have been burnt infrequently and are in good condition. A major wildfire in 1965 burnt large areas on both sides of the Shoalhaven River including the reserve area. The northern section of the reserve was burnt in the early seventies during hazard reduction burns. Fuel accumulation rates appear to be low and fires are likely to continue to be infrequent.</p> <p>Previous fire frequencies are considered appropriate for the reserve's vegetation communities but some areas are nearing the maximum fire intervals and ecological burning may be needed in the future.</p> <p>The main trail through the reserve ends on a steep ridge and is not considered to be an effective and safe fire control line. This trail has not been identified as of strategic importance to fire management but will be maintained as a reserve management trail (see section 4.8).</p> <p>The two dams in the northern part of the reserve may be of value in providing water for fire suppression, and water could also be obtained by helicopter from the Shoalhaven River.</p> <p>A slashed fire break has been established along the western portion of the boundary with the private property inholding, to protect the fence-line.</p>	<p>Persons and property are provided protection from injury or damage by bushfires as far as possible.</p> <p>Fire regimes are appropriate for conservation of plant and animal communities and the impact of fire suppression activities on natural values is minimised.</p> <p>Cultural features are afforded protection from damage by bushfires or fire suppression activities.</p>	<p>5.6.1 Implement the fire management strategy.</p> <p>5.6.2 As far as possible, keep any wild fires within the reserve.</p> <p>5.6.3 As far as possible exclude fire from brush-tailed rock-wallaby colonies if their presence in the reserve is positively identified.</p> <p>5.6.4 Avoid use of heavy machinery for fire suppression on steep slopes and in areas of rare plants and any Aboriginal sites. Rehabilitate areas disturbed by fire suppression operations as soon as practical after a fire.</p> <p>5.6.5 Use prescribed fire if needed to achieve a variety of fire regimes in appropriate vegetation types and to maintain habitat suitable for species with specific requirements.</p> <p>5.6.6 Continue to participate in the Lake George Zone District Bush Fire Management Committee. Maintain coordination and cooperation with Rural Fire Service brigades and neighbours with regard to fuel management and fire suppression.</p> <p>5.6.7 Maintain the two existing dams for fire management purposes.</p> <p>5.6.8 Maintain a slashed fire break along the western boundary with the inholding.</p>	<p>High</p> <p>High</p> <p>High</p> <p>As required</p> <p>High</p> <p>High</p> <p>Low</p> <p>High</p>

## Bees Nest Nature Reserve

Current Situation	Desired Outcomes	Strategies	Priority
<p><b>5.7 Visitor use</b></p> <p>The Shoalhaven and Endrick River gorges are scenically dramatic but the reserve does not have significant recreational or educational values because of the steep, dry, open nature of the country and difficult access.</p> <p>There is no public vehicular access to the reserve as the constructed roads do not always follow the Crown road reserves. Pedestrian access would be legally possible along the road reserves but would require a lengthy walk on unmarked routes.</p> <p>The Shoalhaven and Endrick River corridors receive low levels of use for remote area walking and recreational fishing, which may involve camping on the river banks within the nature reserve.</p> <p>Access to the reserve by canoe is only feasible for very experienced canoeists and during suitable river conditions.</p> <p>Infrequent wildfires have occurred along the Shoalhaven gorge as a result of escaped camp fires. It is appreciated that a fire is a desirable part of the camping experience but it is important for camp fires to be properly constructed and extinguished. Wildfires in the gorge are difficult to control because of its remoteness and rugged topography.</p> <p>At present the nature reserve is not identified by boundary signs, making it difficult for visitors to know if they are in the reserve.</p>	<p>Visitor use is appropriate and ecologically sustainable.</p>	<p>5.7.1 Do not encourage visitor use of the reserve but allow walking, canoeing and nature study.</p> <p>5.7.2 Install reserve identification signs at entrances.</p> <p>5.7.3 Allow canoeists and ratters to beach within the reserve.</p> <p>5.7.4 Prohibit public vehicle access within the reserve.</p> <p>5.7.5 Prohibit horse riding and cycling.</p> <p>5.7.6 Allow camping if associated with canoeing or walking, as long as use levels and impacts are low</p> <p>5.7.7 Promote safe and responsible use of camp fires including small fires and the need to completely extinguish them. Encourage use of gas or similar stoves as an alternative. If necessary, ban camp fires at specific locations or throughout the nature reserve.</p>	<p>Ongoing</p> <p>High</p> <p>As required</p> <p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>

## Bees Nest Nature Reserve

<p><b>5.8 Research and monitoring</b></p> <p>Scientific study is needed to improve understanding of the reserve's natural and cultural heritage and the requirements for management. Priority research areas have been set out above but there will be other areas that could provide useful information.</p> <p>Under the Southern RFA all forest managers must demonstrate ecologically sustainable forest management (ESFM). Monitoring will be conducted in the reserve as part of regional measurement of ESFM performance indicators, to provide feedback on management programs and directions for future adaptive management.</p>	<p>Research enhances the management information base.</p> <p>Monitoring shows the level of success in managing the reserve on an ecologically sustainable basis.</p>	<p>5.8.1 Undertake and encourage research to improve knowledge and management of the reserve's natural and cultural values.</p> <p>5.8.2 Permit vehicle access within the reserve by researchers, subject to access arrangements with neighbours. Permit researchers to use the hut for accommodation if required.</p>	<p>As required</p> <p>Low</p>
<p><b>5.9 Management operations</b></p> <p>The north-south vehicle trail is the only trail to be retained for management purposes. This trail crosses private property between the northern and southern parts of the reserve. It would be desirable to secure formal access across the private property but if this is not possible other options should be investigated.</p> <p>Crown road reserves extend into the nature reserve but do not follow the constructed roads or provide suitable alignments for road construction, being located on steep country.</p> <p>The besser brick hut provides an opportunity for basic accommodation when undertaking management operations in the reserve. It is a useful resource because of the remote location of the reserve but is not essential, and would not be replaced if destroyed.</p>	<p>Management facilities adequately serve management needs and have acceptable impact.</p> <p>Neighbours are aware of management programs.</p>	<p>5.9.1 Seek to formalise management access across the private property inholding.</p> <p>5.9.2 Maintain the north-south trail as a management trail.</p> <p>5.9.3 Provided reserve neighbours agree, seek closure of the Crown road reserves.</p> <p>5.9.4 Retain the besser brick hut for accommodation associated with management activities. Maintain in a stable condition.</p> <p>5.9.5 Keep neighbours informed about management programs in the reserve and issues of mutual interest.</p>	<p>High</p> <p>Medium</p> <p>Low</p> <p>Medium</p> <p>As required</p>

## Bees Nest Nature Reserve

Current Situation	Desired Outcomes	Strategies	Priority
<p><b>5.10 Private property access</b></p> <p>The southern part of the main north-south trail and a short parallel trail are vested in the Minister for the Environment under Part 11 of the NPW Act, and do not form part of the reserve's gazetted area. The Part 11 roads were created by the <i>National Park Estate (Southern Region Reservations) Act 2000</i> (NPE Act) to ensure that essential access arrangements that existed immediately before the reserve's creation could continue. Although not part of the reserve, the roads are managed by NPWS. The NPE Act states that the Minister cannot close any roads that provide the only means of practical access to a private land holding. These roads are shown on the map as neighbour access roads.</p>	<p>Private property access continues to be provided for where appropriate</p>	<p>5.10.1 Seek to enter into appropriate legal agreements for continued access and future maintenance of the Part 11 roads.</p>	<p>High</p>

**Jerralong Nature Reserve**  
**6. MANAGEMENT ISSUES AND STRATEGIES – JERRALONG NATURE RESERVE**

Current Situation	Desired Outcomes	Strategies	Priority
<p><b>6.1 Soil and water conservation</b></p> <p>Jerralong Nature Reserve has fragile, highly erodible soils that need good vegetation cover and appropriate management. Fortunately the reserve is in good condition, with little disturbance apart from a short, stable vehicle trail along a ridge in the central area. Timberlight Creek has an erosion gully upstream of the reserve but this does not extend into the reserve.</p> <p>The reserve provides good catchment protection because of its largely undisturbed vegetation cover.</p>	<p>Human induced soil erosion is avoided.</p> <p>Reserve catchment values are maintained.</p>	<p>6.1.1 Undertake any works in a manner that minimises soil erosion and sediment contribution to drainage lines. In particular, avoid vegetation and soil disturbance on moderate to steep slopes.</p>	<p>As required</p>
<p><b>6.2 Native plant and animal conservation</b></p> <p>The reserve is thought to contain significant plant and animal communities but there is insufficient knowledge of their occurrence and distribution. Field checking of the CRA vegetation mapping, baseline fauna survey and checking for significant plant and animal species are needed.</p> <p>Much of the area around the reserve is naturally vegetated and there is continuous vegetation cover along the Shoalhaven River gorge to the north and south. Because of the small size of the reserve, sustainable management of adjacent lands and maintenance of connections to other naturally vegetated areas, including Bees Nest Nature Reserve, are important for the long term viability of native plant and animal populations.</p> <p>A Crown road reserve of variable width abuts the northern end of the nature reserve along the river. This land is steep and does not provide access to any land other than the nature reserve. If added it would help to increase the viability of the reserve.</p>	<p>Native plant and animal species and communities are understood and conserved.</p> <p>Connectivity between the reserve and other naturally vegetated areas is maintained.</p>	<p>6.2.1 Undertake field checking of the CRA vegetation mapping and surveys for significant plant species.</p> <p>6.2.2 Undertake a comprehensive fauna survey, including threatened fauna species identified as having potential habitat within the reserve.</p> <p>6.2.3 Investigate with neighbours any interest in entering into voluntary conservation agreements or similar mechanisms to conserve priority remnant native vegetation around the reserve.</p> <p>6.2.4 Seek addition to the nature reserve of the adjoining road reserve of variable width.</p>	<p>High</p> <p>Medium</p> <p>Medium</p> <p>High</p>



## Jerralong Nature Reserve

Current Situation	Desired Outcomes	Strategies	Priority
<p><b>6.3 Cultural heritage</b></p> <p>No Aboriginal cultural heritage sites are known in the reserve but it is probable that sites are present along the main ridgelines and the river. While NPWS has legal responsibility for the protection of Aboriginal sites and places, it acknowledges the right of Aboriginal people to make decisions about their own heritage. It is therefore policy that Aboriginal communities be consulted and involved in the management of Aboriginal sites and related issues. The nature reserve is in the area of the Pejar Local Aboriginal Land Council but other Aboriginal Land Councils, Elders groups and traditional custodial families may have an interest in the area.</p> <p>No historic places are known to occur in the reserve and, given the minimal previous use and disturbance, they are unlikely to occur. There has, however, been no survey to check for historic features.</p>	<p>Cultural heritage features are conserved and managed in accordance with their significance.</p>	<p>6.3.1 Consult and actively involve the Pejar Local Aboriginal Land Council and other Aboriginal community groups and individuals in the management of any Aboriginal sites, places and values in the reserves.</p> <p>6.3.2 Precede all ground disturbance works in the reserve by a check for cultural features.</p> <p>6.3.3 Seek information about past use of the reserve from neighbouring land holders and undertake a survey to check for cultural features.</p>	<p>As required</p> <p>As required</p> <p>Medium</p>
<p><b>6.4 Introduced species</b></p> <p>There has been little formal survey but the reserve appears to have few weeds apart from a number of pasture weeds such as European sorrel (<i>Acetosella vulgaris</i>), spear thistle (<i>Cirsium vulgare</i>) and red-flowered mallow (<i>Modiola caroliniana</i>).</p> <p>The noxious weed serrated tussock (<i>Nassella trichotoma</i>) occurs on neighbouring land and may be present in the reserve. It is also possible that blackberry (<i>Rubus fruticosus</i>) occurs as it is found in the surrounding district. African lovegrass (<i>Eragrostis curvula</i>) and English broom (<i>Cytisus scoparius</i>) may be present along the river, as they occur upstream.</p>	<p>The impact of introduced species on native species and neighbouring lands is minimised.</p>	<p>6.4.1 Control and where possible eradicate introduced plant and animal species. Seek the cooperation of other authorities and neighbours where needed in implementing weed and pest animal control programs.</p> <p>6.4.2 Survey for, and where necessary treat, any noxious and significant environmental weeds in the reserve.</p>	<p>As required</p> <p>Medium</p>

## Jerralong Nature Reserve

<p>Goats, foxes, wild dogs and pigs and rabbits were found in the reserve during a survey in 2000 by the Rural Lands Protection Board. Because of the small size of the reserve, management of weeds and feral animals will be ineffective unless undertaken cooperatively with neighbours.</p> <p>Goats are present right along the Shoalhaven gorge and can cause significant vegetation damage and erosion. Aerial goat control has been carried out twice yearly in the reserve and on adjoining private property since 2001 and goat numbers are falling.</p> <p>Foxes are a significant threat to native mammal and reptile populations, including threatened species, while wild dogs can impact on sheep graziers adjacent to the reserves. Ongoing wild dog and fox control programs are undertaken by the Goulburn Rural Lands Protection Board under contract to NPWS.</p> <p>There is evidence of occasional feral pig activity in the southern part of the reserve. Pigs are present on land further west and are likely to continue to move into the nature reserve from time to time.</p> <p>The rabbit population is low density and would be difficult to eradicate.</p>	<p>6.4.3 Continue control programs in the area for feral goats, wild dogs and foxes. Implement control of other pest animals if needed.</p>	<p>High</p>
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## Jerralong Nature Reserve

<p><b>6.5 Fire management</b></p> <p>Fire is a natural feature of the environment of the reserve and is essential to the survival of some plant communities. Frequent or regular fire, however, could cause loss of particular plant and animal species and communities. Fire could also damage fences and threaten neighbouring land.</p> <p>A major wildfire in 1965 burnt large areas on both sides of the Shoalhaven River, including the reserve land, but it appears that there has been no fire since then. Fuel accumulation rates appear to be low and fires are likely to continue to be infrequent.</p> <p>Biodiversity thresholds have been developed for the major vegetation communities but will need to be adapted to the reserve following vegetation survey. It appears that the reserve is nearing the maximum fire interval for maintenance of its vegetation communities and that ecological burning may be desirable in the future. It will be difficult to conduct prescribed burns, however, because of the lack of control lines, and any burning will need to be undertaken cooperatively with neighbours.</p> <p>Because the reserve is to the east of, and downhill from, adjacent private land it is likely to pose a minimal fire hazard to grazing properties. It could, however, be at risk from any fires that begin to its west.</p> <p>The steep, highly erodable country and minimal vehicle access limits opportunities for active fire management in the reserve. Any fire suppression operations would need to avoid initiation of erosion and damage to significant plants. Water for fire fighting is available from the river by use of helicopters.</p> <p>A fire management strategy has been prepared for the reserve that sets out appropriate fire frequencies for the vegetation communities and provides information about access and fire advantages.</p>	<p>Persons and property are provided protection from injury or damage by bushfires as far as possible.</p> <p>Fire regimes are appropriate for conservation of plant and animal communities and the impact of fire suppression activities on natural values is minimised.</p> <p>Any cultural features are afforded protection from damage by bushfires or fire suppression activities.</p>	<p>6.5.1 As far as possible, keep any wild fires within the reserve.</p> <p>6.5.2 In cooperation with neighbours, use prescribed fire, if needed, for conservation of the reserve's vegetation communities and significant plant and animal species, with the aim of achieving a variety of fire regimes.</p> <p>6.5.3 Avoid use of heavy machinery for fire suppression off the ridgelines and in areas of rare plants and any cultural sites. Rehabilitate areas disturbed by fire suppression operations as soon as practical after a fire.</p> <p>6.5.4 Continue to participate in the Southern Tablelands Zone District Bush Fire Management Committee. Maintain coordination and cooperation with Rural Fire Service brigades and neighbours with regard to fuel management and fire suppression.</p>	<p>As required</p> <p>As required</p> <p>As required</p> <p>Ongoing</p>
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## Jerralong Nature Reserve

Current Situation	Desired Outcomes	Strategies	Priority
<p><b>6.6 Visitor use</b></p> <p>The reserve has minimal recreational and educational value because of its small size and steep topography. It is also remote from population centres and has no public vehicular access. Pedestrian access would be legally possible along Crown road reserves but would require a lengthy walk and be difficult to navigate.</p> <p>The Shoalhaven River corridor receives low levels of use for remote area walking and recreational fishing, which may involve camping on the river banks within the nature reserve.</p> <p>Canoeists and rafters use the Shoalhaven River upstream when water levels are sufficiently high. In the past, a commercial operation ran trips from Oallen Ford to Jerralong Nature Reserve from where they were transported back to their point of origin through an arrangement with a neighbouring land holder. The river further downstream towards Sewells Point in Bees Nest Nature Reserve is quite dangerous and few canoeists/rafters use this part of the river. Exit of canoeists and rafters through the reserve is acceptable as long as it does not result in erosion or other environmental damage.</p> <p>Infrequent wildfires have occurred along the Shoalhaven gorge as a result of escaped camp fires, lit primarily by canoeists. It is appreciated that a fire is a desirable part of the camping experience but wildfires in the gorge are difficult to control because of the steep slopes and lack of access. It is important for camp fires to be properly constructed and extinguished and kept as small as possible, to minimise both environmental impacts and risk of fire escape.</p>	<p>Any visitor use is ecologically sustainable.</p>	<p>6.6.1 Do not encourage visitor use of the reserve but allow walking, canoeing/rafting, fishing and nature study.</p> <p>6.6.2 Prohibit public vehicle access within the reserve, except by arrangement for canoeing/rafting egress (see below). Prohibit horse riding in the reserve.</p> <p>6.6.3 Permit canoeists/rafters, including commercial operations, to beach within and exit from the reserve, subject to environmental impacts being acceptable and formal consent being obtained from NPWS and neighbouring landowners for associated vehicle access.</p> <p>6.6.4 Permit camping if associated with canoeing/rafting, fishing or walking, as long as use levels and impacts are low. Promote safe and responsible use of camp fires including small fires and the need to completely extinguish them. Encourage use of gas or similar stoves as an alternative. If necessary, ban camp fires at specific locations or throughout the nature reserve.</p> <p>6.6.5 Monitor the impacts of canoeing/rafting and camping. Take action to address any impacts if needed.</p>	<p>Ongoing</p> <p>Ongoing</p> <p>As required</p> <p>Ongoing</p> <p>As required</p>

## Jerralong Nature Reserve

<p><b>6.7 Research and monitoring</b></p> <p>Scientific study is needed to improve understanding of the reserve's natural and cultural heritage and management needs. As stated above, survey of vegetation communities and for significant plant and animal species will be undertaken but other areas of research could also provide useful information.</p> <p>Under the Southern RFA all forest managers must demonstrate ecologically sustainable forest management (ESFM). Monitoring may be conducted in the reserve as part of regional measurement of ESFM performance indicators, to provide feedback on management programs and directions for future adaptive management.</p>	<p>Research enhances the management information base.</p> <p>Monitoring shows the level of success in managing the reserve on an ecologically sustainable basis.</p>	<p>6.7.1 Undertake and encourage research and monitoring to improve knowledge and management of natural and cultural heritage.</p>	<p>As required</p>
<p><b>6.8 Management operations</b></p> <p>There is presently no constructed legal vehicle access to Jerralong Nature Reserve, although Crown road reserves lead to the northern and southern boundaries. A trail runs across private property to the central part of the nature reserve but is not available for general management use. There is also a private trail, but no constructed legal access, to the northern road reserve.</p> <p>Within the reserve, access is difficult because of the steep topography and erodable soil. Construction of internal north-south vehicle access is not feasible because of the presence of east-west gullies along the entire length of the reserve. Management programs will have to be conducted largely on foot or from the air.</p> <p>The reserve boundary is only partially fenced, although it is thought that little or no cattle grazing occurs in the reserve as most adjoining land is not cleared. Clearing along the boundary to construct fencing would create serious erosion because of the steep topography and the nature of the soils.</p>	<p>Management facilities adequately serve management needs and have acceptable impact.</p> <p>Neighbours are aware of management programs.</p>	<p>6.8.1 Explore options for securing legal and practical management access to the reserve.</p> <p>6.8.2 Avoid off-road vehicle use within the reserve.</p> <p>6.8.3 Work with neighbours to establish and/or maintain effective and practical boundary fencing should this be necessary.</p> <p>6.8.4 Keep neighbours informed about management programs in the reserve and issues of mutual interest.</p> <p>6.8.5 Install reserve boundary identification signs where needed.</p>	<p>High</p> <p>Ongoing</p> <p>As required</p> <p>As required</p> <p>Low</p>

## PRIORITIES

**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.

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