

**INDWARRA NATIONAL PARK**  
**PLAN OF MANAGEMENT**

**NSW National Parks and Wildlife Service**

**March 2004**

**This plan of management was adopted by the Minister for the Environment on 15 March 2004.**

Inquiries about Indwarra National Park should be directed to the ranger at the Armidale Area Office, 85 Faulkner Street, Armidale, or by telephone on 02 6776 0000.

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## **FOREWORD**

Indwarra National Park is located on the central New England Tablelands approximately 40km north-west of Guyra.

The park is an important remnant area of vegetation indicative of vegetation communities that covered much of the central portion of the New England Tablelands prior to clearing for grazing and other activities. Remnants of these communities are often highly fragmented across the landscape.

A flora survey conducted in 2002 found a total of 257 flora species in the park. Flora models have predicted that at least ten poorly reserved forest ecosystems will occur within the park.

The park is surrounded by private property and there are no visitor facilities.

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

A draft plan of management for Indwarra National Park was placed on public exhibition from 11<sup>th</sup> October 2002 until 3<sup>rd</sup> February 2003. The exhibition of the plan of management attracted 4 submissions which raised 4 issues. All submissions received were carefully considered before adopting this plan of management.

The primary emphasis of this plan is the conservation of the natural and cultural values of Indwarra National Park. Use of the park for passive appreciation and recreation activities such as walking, bird watching and nature study will be permitted provided prior neighbour approval for access has been obtained.

This plan of management establishes the scheme of operations for Indwarra National Park. In accordance with section 75 of the *National Parks and Wildlife Act 1974*, this plan of management is hereby adopted.

**BOB DEBUS**

**MINISTER FOR THE ENVIRONMENT**

## 1. NATIONAL PARKS IN NEW SOUTH WALES

### 1.1 LEGISLATIVE AND POLICY FRAMEWORK

The management of national parks in New South Wales is in the context of the legislative and policy framework, primarily the *National Parks and Wildlife Act 1974* (NPW Act), the *Threatened Species Conservation Act 1995* (TSC Act) and the policies of National Parks and Wildlife Service (NPWS). The policies arise from the legislative background and internationally accepted principles of park management. They relate to nature conservation, Aboriginal and historic site conservation, recreation, commercial use, research and communication.

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

### 1.2 MANAGEMENT OBJECTIVES

National parks are reserved under the NPW Act to protect and conserve areas containing outstanding or representative ecosystems, natural or cultural features or landscapes or phenomena that provide opportunities for public appreciation and inspiration and sustainable visitor use.

Under the Act, national parks are managed to:

- conserve biodiversity, maintain ecosystem functions, protect geological and geomorphological features and natural phenomena and maintain natural landscapes;
- conserve places, objects, features and landscapes of cultural value;
- protect the ecological integrity of one or more ecosystems for present and future generations;
- promote public appreciation and understanding of the park's natural and cultural values;
- provide for sustainable visitor use and enjoyment that is compatible with conservation of natural and cultural values;
- provide for sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to conservation of natural and cultural values; and
- provide for appropriate research and monitoring.

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## 2. INDWARRA NATIONAL PARK

### 2.1 LOCATION, GAZETTAL AND REGIONAL SETTING

Indwarra National Park (referred to herein as 'the park'), is located on the central New England Tablelands approximately 40 km north-west of Guyra. The location of the park, nearby areas managed by the National Parks and Wildlife Service (NPWS), and nearby towns are shown in figure 1.

The park is one of 12 small, isolated reserves in the south of the New England Tablelands bioregion (an area defined by a combination of repeated biological and geographic criteria, rather than geopolitical considerations). These reserves were gazetted to conserve remnants of previously widespread Tablelands vegetation communities as part of the Regional Forest Agreement (RFA) process.

The park is approximately 940 ha in size and was dedicated in 1999. The park was formerly Buchanan State Forest prior to becoming a national park.

The park lies within Guyra Shire. Much of the surrounding land has been cleared and is used for grazing and other rural activities. Public access to the park is not possible as the park is surrounded by private land.

The name 'Indwarra' is the local Anaiwan Aboriginal name for stringybark trees.

This plan applies both to the land currently reserved as Indwarra National Park and to any future additions to the park. Where management strategies or works are proposed for the park or any additions that are not consistent with this plan, an amendment to the plan will be required.

### 2.2 LANDSCAPE CONCEPT

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 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.

The geology, landform climate and plan and animal communities of the area, plus its location, have determined how it has been used by humans. 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.

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## 2.3 NATURAL AND CULTURAL HERITAGE

### Landform, Geology and Soils

The park ranges in elevation from 1100m to 1197m above sea level. The area experiences a relatively dry climate typical of the Tablelands and receives a low annual rainfall of 700-900 mm. Drainage is predominantly to the west and north of the park into the upper reaches of Hilton Creek and other tributaries of Moredun Creek, part of the Gwydir River catchment.

The park is part of the New England Fold Belt. The oldest rocks in the park are part of the Central Block. These rocks are mainly metasediments of the Early Carboniferous Sandon beds. Rocks within this unit comprise sandstones and shales with rare cherts and metabasalts. In the far west and far east of the park granite intrudes these metasediments. In the central east of the park Late Permian volcanics of the Wandsworth Volcanic Group overlie all older units. The main volcanic rocks are rhyolitic to rhyodacitic crystal tuffs, ignimbrites and lavas.

Soils are generally well structured brown to black loams in the gullies, with coarser granitic/sandy soils on the ridges.

The park is a rugged, heavily timbered area that does not generally offer either landscape or scenic values. The highest point in the park, Mt Tingha in the south-eastern corner, provides a view to the north-west overlooking Tingha Village.

### Native Flora

The park is an important remnant area of vegetation indicative of vegetation communities that covered much of the central portion of the New England Tablelands prior to clearing for grazing and other activities. Remnants of these communities are often highly fragmented across the landscape.

Initial analysis of a flora survey conducted in 2002 has found a total of 257 flora species in the park, including the rare Youman's stringybark (*Eucalyptus youmanii*).

An as yet undescribed ground orchid was found scattered across the eastern side of the park. This orchid is botanically similar to the *Chiloglottis platyptera*, which is currently grown at the University of New England herbarium. The orchid will most likely be botanically described in 2004-2005. A new genus of bush pea (*Pultanaea* sp.) similar to *Pultanaea flexilis* was also found in the eastern side of the park (Lachlan Copeland pers. com.).

Flora models have predicted that at least ten poorly reserved forest ecosystems will occur within the park. These include:

- rough-barked apple (*Angophora floribunda*) / manna gum (*Eucalyptus viminalis*) woodland (most extensive);
- orange gum (*Eucalyptus prava*) / New England blackbutt (*Eucalyptus andrewsii*) / tumbledown gum (*Eucalyptus dealbata*) and broad-leaved stringybark (*E. caliginosa*) / apple box (*Eucalyptus bridgesiana*);
- open tumbledown gum / black cypress pine (*Callitris endlicheri*) / orange gum woodland;

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- snow gum (*Eucalyptus pauciflora*) / mountain gum (*Eucalyptus dalrympleana* subsp. *Heptantha*) / manna gum;
  - orange gum / Caley's ironbark (*Eucalyptus caleyi*);
  - yellow box (*Eucalyptus melliodora*) / Blakely's red gum (*Eucalyptus blakelyi*).

## Native Fauna

The forests and woodlands of the park support varied vertebrate fauna and are important in the context of the Tableland forests, as representative habitat for several species of drier western environments.

The park has not been surveyed for fauna. Incidental records indicate common macropods such as the eastern grey kangaroo (*Macropus giganteus*), swamp wallaby (*Wallabia bicolor*) and red-necked wallaby (*Macropus rufogriseus*) frequent the area.

Indwarra National Park protects habitat which may be important for nomadic nectivores such as the endangered regent honeyeater (*Xanthomyza phrygia*) and the endangered swift parrot (*Lathamus discolor*). These species are also listed under the *Commonwealth Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The park also protects habitat for typical tableland nectivores such as musk lorikeet (*Glossopsitta concinna*) and yellow-tufted honeyeater (*Lichenostomus melanops*).

Fauna models predict that the park provides suitable habitat for species listed as vulnerable under the TSC Act such as the border thick-tailed gecko (*Underwoodisaurus sphyrurus*) (which is also listed under the EPBC Act), and turquoise parrot (*Neophema pulchella*). Other reserved areas in the vicinity with similar habitats have recorded the squirrel glider (*Petaurus norfolcensis*), barking owl (*Ninox connivens*) and greater broad-nosed bat (*Scoteanax rueppellii*), all of which are listed as vulnerable.

The vulnerable yellow-bellied glider (*Petaurus australis*) has recently been recorded in Single National Park which is only about 13km from Indwarra National Park. It is possible that Indwarra National Park forms part of a remnant forested network for the yellow-bellied glider as a key corridor has been identified between these two parks. This is a significant population as it is at the extreme western range of the species in northern NSW and appears to be isolated from the main distribution of the yellow-bellied glider.

## 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.

The park lies within what is believed to be the territory of the Gamilaroi people, but may have been a region of overlap between the Gamilaroi and the Anaiwan people. The Gamilaroi are associated with land west of the Great Dividing Range approximately between Sydney and the Queensland border. The Anaiwan are associated with land on

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the Great Dividing Range surrounding Armidale and south towards Tamworth and Walcha (Moore, undated).

Substantial evidence of Aboriginal occupation has been found in close proximity to the park. Such evidence includes open campsites, bora/ceremonial sites, stone arrangements, scarred tree, burial site, ritual site and axe grinding grooves. There has been no research to determine the Aboriginal heritage values of the park and no sites are known in the park.

Prior to European arrival, it is believed that the Tablelands provided resources for year-round occupation, with groups undertaking a series of short journeys, principally within the Tablelands, coupled with seasonal long journeys between the Tablelands and western slopes. Resource use in the Tablelands is believed to have focussed on woodlands, native grasslands and swamplands (Sullivan, undated).

The park falls within the area of the Anaiwan Local Aboriginal Land Council.

### **History since European Occupation**

The first European to visit the New England region in 1818 was John Oxley. European squatters began to occupy land soon afterwards. The earliest permanent runs in the Bundarra-Barraba region were established in 1836.

Prior to gazettal, the park was subject to a permissive occupancy permit for grazing. Some small scale timber felling operations occurred when the park was a state forest. There are no known historic sites within the Park.

## **2.4 RESEARCH AND EDUCATION**

Whilst there are no current research activities in the park, it provides research opportunities for local tertiary institutions. Research can provide information to assist park management by the NPWS.

## **2.5 VISITOR USE**

There are no visitor facilities in the park. There is no known visitor use, as access to the park is restricted through private land. A park identification sign is located at the eastern management trail entrance.

Visitor facilities are located within 40 km of the park at Mother of Ducks Nature Reserve.

## **2.6 THREATS TO PARK VALUES**

### **Introduced Plants**

Blackberry (*Rubus fruticosus*) is the only recorded weed species within the park and is being controlled. Other weed species are expected to be recorded in the park once the flora survey has been analysed (refer to *Native Flora*).



## **Introduced Animals**

Foxes (*Vulpes vulpes*), goats (*Capra hircus*) and pigs (*Sus scrofa*) are known to use the park. Other vertebrate pests such as cats (*Felis catus*), rabbits (*Oryctolagus cuniculus*) and hares (*Lepus capensis*) may occur within the park. These species can have significant effects on the natural and cultural heritage values of the park.

## **Fire**

The effects of fire on the biota of the park remain unclear. An inappropriate burning regime or wildfire may contribute to a loss of biodiversity within the park. Fire could also damage fences and threaten neighbouring land. Fires may occur within the park due to natural causes, and may also spread into the park from neighbouring land.

The fire history of the park prior to gazettal is largely unknown. Anecdotal evidence from a previous neighbour indicates that fire swept through the park from the south-west in 1958. Approximately 95% (900 ha) of the park was burnt in 2002 when a wild fire (the Buchanan Fire) swept through adjoining land and the park.

## **Isolation and Fragmentation**

Clearing of vegetation within the bioregion has resulted in a high loss of biodiversity and fragmentation of habitat. Long term conservation of biodiversity both within the bioregion and the park depends upon the protection, enhancement and connection of remaining habitat across the landscape, involving vegetation remnants on both public and private lands.

The park is small in size. It is important therefore to consider the park in the context of surrounding remnant vegetation. Nearby vegetated areas consolidate the habitat values of the park and provide ecological corridors to other surrounding forested areas.

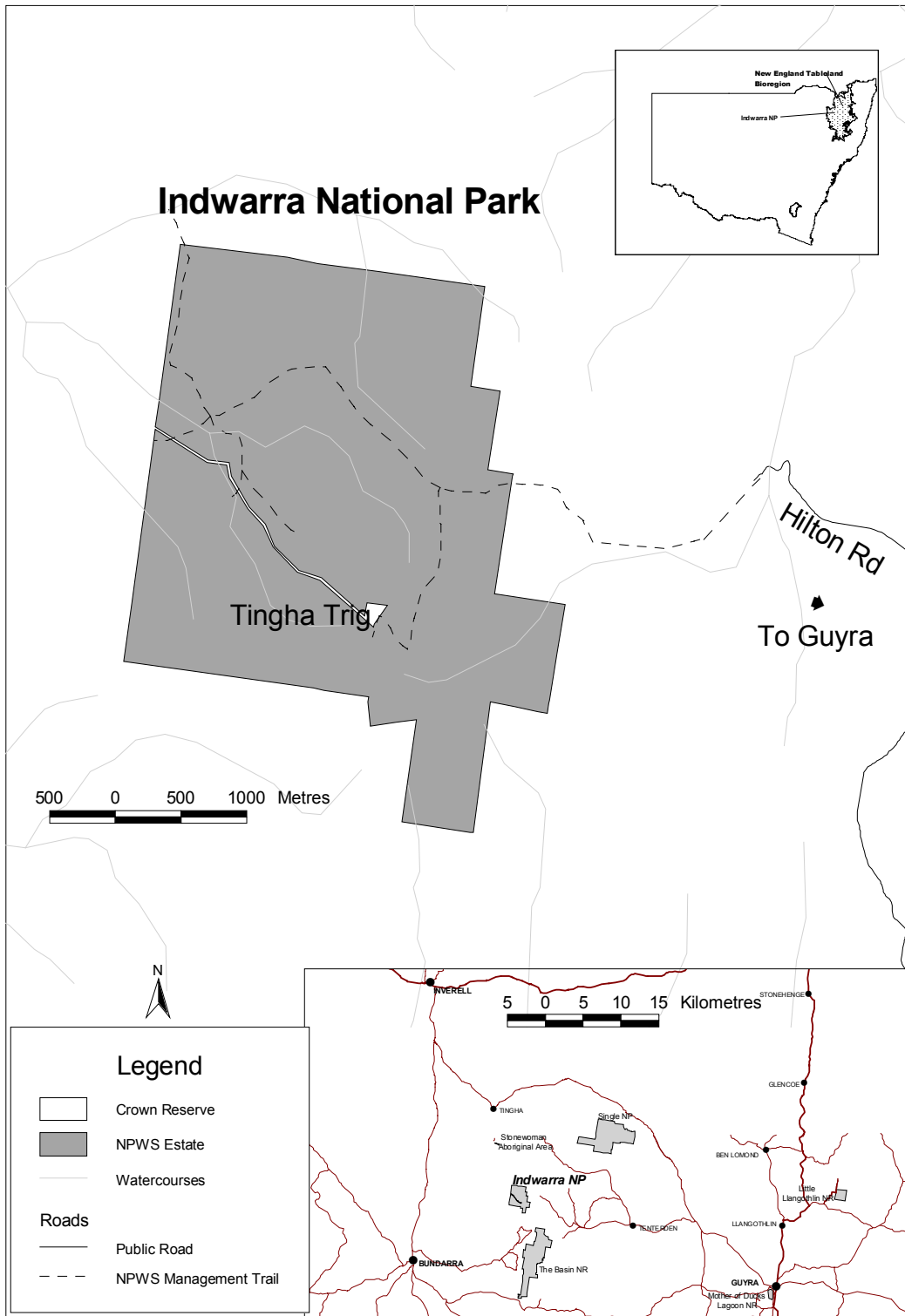
## **2.7 MANAGEMENT OPERATIONS**

### **Access to Crown Land**

There is a small crown reserve inholding on top of Mount (Mt) Tingha which contains a trig station managed by the Central Mapping Authority and a State Forests of NSW radio facility. This facility provides VHF transmission for the north and north-west of the State and is solar powered and housed in a two thousand litre concrete tank.

A CDMA tower is proposed for construction in the crown reserve on top of Mt Tingha. In July 2003, work commenced on installing an underground power cable along a disused track in the south-east corner of the park to take power to this facility.

**Figure 1: Indwarra National Park Management Infrastructure & Regional Context**



### 3. MANAGEMENT ISSUES AND STRATEGIES

Current Situation	Desired Outcomes	Strategies	Priority
Soil conservation			
<p>The soils of the park are easily eroded when disturbed.</p> <p>Management trails and ephemeral creeks are specific areas where soil erosion can be a problem.</p>	<ul style="list-style-type: none"> <li>• Soil erosion is minimised.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Management trails will be maintained to appropriate standards (refer to <i>Management Operations</i> below).</li> <li>▪ Ensure any ground disturbance works are undertaken in a manner that minimises erosion and water pollution.</li> <li>▪ Monitor gully erosion along ephemeral creeks and instigate control measures if necessary.</li> </ul>	<p>High</p> <p>High</p> <p>Medium</p>
Native plant and animal conservation			
<p>There is limited knowledge about the park's rare or threatened species.</p> <p>The park is one of the few conserved areas on the New England Tablelands that provide resources and habitat for woodland fauna species in a landscape of substantially cleared grazing land.</p> <p>Long term conservation of the park's plant and animal species would benefit from the retention of remaining vegetation on neighbouring properties and roadsides.</p> <p>Cleared areas in the west and north of the park decrease habitat values and potentially increase the prevalence of weeds.</p>	<ul style="list-style-type: none"> <li>• All native plant and animal species and communities are conserved and enhanced where possible.</li> </ul>	<ul style="list-style-type: none"> <li>• Work with relevant neighbours, Landcare groups, local Citizens' Wildlife Corridors groups, vegetation management committees and others to encourage conservation of remnant native vegetation in the vicinity of the park and to identify potential wildlife habitat corridors to link to other remnant native vegetation areas.</li> <li>• Encourage and assist the development of voluntary conservation agreements where appropriate for protection of conservation values on adjacent lands.</li> <li>• Undertake surveys for rare or threatened plant and animal species as appropriate.</li> <li>• Where relevant, implement strategies outlined in recovery plans in accordance with the TSC Act.</li> <li>• Rehabilitate cleared areas within the park by monitoring and controlling weeds, encouraging natural regeneration and, where necessary, supplement with native plantings.</li> </ul>	<p>High</p> <p>High</p> <p>Medium</p> <p>Medium</p> <p>Medium</p>

Current Situation	Desired Outcomes	Strategies	Priority
<p>Introduced species</p> <p>Blackberry is the only recorded weed species in the park and is subject to ongoing control programs in accordance with the draft Northern Tablelands Region Pest Management Strategy.</p> <p>Other weed species are likely to be recorded in the park once the flora survey has been analysed (refer to <i>Native Flora</i>).</p> <p>The small size of the park and proximity to other areas with introduced plants allows weed species the opportunity for ongoing invasion.</p> <p>Foxes, goats and pigs have been recorded in the park. Hares, cats and rabbits may also occur within the park.</p> <p>Domestic stock sometimes enter the park.</p>	<ul style="list-style-type: none"> <li>• Introduced species are controlled and where possible eradicated.</li> </ul>	<ul style="list-style-type: none"> <li>• Control and where possible eradicate introduced plants and animals from the park.</li> <li>• Develop and implement a program to monitor the distribution of introduced species in the park.</li> <li>• Undertake integrated weed control programs in liaison with the New England Weeds Authority.</li> <li>• Undertake regular integrated feral animal control programs with Armidale Rural Lands Protection Board, Landcare groups, neighbours and others.</li> <li>• Work with neighbours to ensure domestic stock do not enter the park (refer to <i>Management Operations</i> below).</li> </ul>	<p>High</p> <p>High</p> <p>Medium</p> <p>Medium</p> <p>Medium</p>

Current Situation	Desired Outcomes	Strategies	Priority
<p>Fire management</p> <p>A fire management strategy is yet to be prepared for the park.</p> <p>The effects of fire on the biota of the park remain unclear. However, frequent or regular fire can cause loss of particular plant and animal species and communities. Fire can also damage cultural features and fences and threaten neighbouring land.</p> <p>The fire history of the park is largely unknown. In 2002, a wildfire burnt the majority of the park.</p>	<ul style="list-style-type: none"> <li>• Persons and property are protected from bushfire.</li> <li>• Fire regimes are appropriate for conservation of plant and animal species and communities.</li> <li>• Identified cultural heritage features are protected from damage by fire.</li> <li>• Unscheduled fires leaving or entering the park are controlled.</li> <li>• All of the park is not burnt in a single wildfire event.</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare and implement a fire management strategy for the park.</li> <li>• Participate in district Bush Fire Management Committees.</li> <li>• Maintain coordination and cooperation with the Rural Fire Service, the Shire Council and neighbours with regard to fuel management and fire suppression.</li> <li>• As far as possible, a fire free interval of at least 10 to 15 years will be maintained in all dry sclerophyll forest types within the park.</li> <li>• Encourage further research into appropriate fire regimes for the park.</li> <li>• Prescribed fire will only be used to achieve fire regimes appropriate for maintenance of habitat in accordance with the fire management plan.</li> <li>• Prepare agreements with neighbours for access to water sources during fire emergencies.</li> <li>• Prohibit camp fires and other unauthorised fires in the park to remove a potential ignition source for fires (refer to <i>Visitor Use</i> below).</li> </ul>	<p>High</p> <p>High</p> <p>High</p> <p>High</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p>

Current Situation	Desired Outcomes	Strategies	Priority
<p>Cultural heritage</p> <p>Although substantial evidence of Aboriginal occupation has been found in close proximity to the park, no sites are known in the park and little is known about traditional Aboriginal use and values.</p> <p>Little is known about the European history of the park other than that it was a previously state forest.</p> <p>No research has been conducted into the cultural heritage values of the park.</p>	<ul style="list-style-type: none"> <li>Cultural heritage values of the park are identified and protected.</li> </ul>	<ul style="list-style-type: none"> <li>Consult the local Aboriginal community, traditional groups and the Anaiwan Local Aboriginal Land Council about potential existence of Aboriginal sites, places and other values in the park.</li> <li>Precede all ground disturbance work with a check for cultural features.</li> <li>Involve the local Aboriginal community in any works affecting Aboriginal sites and in any interpretation of Aboriginal values.</li> <li>Encourage surveys and research into the cultural heritage values of the park.</li> </ul>	<p>High</p> <p>Medium</p> <p>Medium</p> <p>Low</p>
<p>Visitor use</p>			
<p>There is no public access to the park and, as a consequence, general visitor use is low. No facilities exist within the park.</p> <p>Other areas of NPWS estate nearby provide visitor facilities and recreation opportunities.</p> <p>Use of the park must be carefully managed as it is a relatively small and significant area of remnant vegetation.</p>	<ul style="list-style-type: none"> <li>The local community is aware of the values of the park and of management programs.</li> <li>Visitor use remains low and is self-reliant and ecologically sustainable.</li> </ul>	<ul style="list-style-type: none"> <li>Promote community understanding and appreciation of the conservation values of the park through contact with neighbours, community organisations and media releases, NPWS <i>Discovery</i> programs and interpretive material as necessary.</li> <li>Permit use of the park (with prior neighbour approval for access) for passive appreciation and recreation activities (walking, bird watching and nature study). Recreation activities which do not comply with passive recreation (as outlined above) will not be permitted.</li> <li>Public vehicle use (including trail bikes), cycling, horse riding and camping will not be permitted in the park.</li> </ul>	<p>Medium</p> <p>Medium</p> <p>Medium</p>

Current Situation	Desired Outcomes	Strategies	Priority
Research			
Research will improve understanding of the natural and cultural heritage values of the park, threatening processes and the requirements for management of significant plant and animal assemblages and species.	<ul style="list-style-type: none"> <li>• Research conducted assists management of the park and has minimal impact</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage research to improve knowledge and management of natural and cultural heritage.</li> <li>• Liaise with State Forests, the University of New England and other tertiary education providers to identify any research work that may have been conducted in the park, and also about priorities for research in the park.</li> </ul>	High Medium

Current Situation	Desired Outcomes	Strategies	Priority
Management operations			
The only access to the park is through adjacent private lands. Arrangements with neighbours for access have not been formalised.	<ul style="list-style-type: none"> <li>Management facilities adequately serve management needs and have acceptable impact.</li> </ul>	<ul style="list-style-type: none"> <li>Negotiate agreement(s) with relevant neighbour(s) to ensure long-term access to the park is available to NPWS for management purposes.</li> </ul>	High
The management trails in the park have been assessed as necessary for fire control and other management purposes.	<ul style="list-style-type: none"> <li>NPWS has long term access to the park.</li> </ul>	<ul style="list-style-type: none"> <li>In conjunction with neighbours, maintain fences and determine strategies to exclude stock in areas where construction of boundary fences is difficult.</li> </ul>	High
Fencing along the park boundary is inadequate in some places to exclude stock.	<ul style="list-style-type: none"> <li>Domestic stock do not enter the park.</li> </ul>	<ul style="list-style-type: none"> <li>Vehicles will only be permitted to access the park for authorised management purposes. Any vehicles accessing the park must remain on the management trails, unless otherwise authorised for management or emergency activities.</li> </ul>	Medium
An easement agreement has been granted to Telstra to allow installation of an underground power cable through the park to the proposed CDMA tower on top of Mt Tingha.		<ul style="list-style-type: none"> <li>Figure 1 shows the trails that will be maintained for management purposes. All other trails not shown on figure 1 will be closed and where necessary rehabilitated.</li> <li>Ensure that installation of the power cable and any necessary maintenance work is carried out in accordance with the environmental conditions of the easement agreement.</li> </ul>	Medium

**Legend for priorities:**

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

**Medium** priority strategies are those that are necessary to achieve management objectives and desired outcomes but will be implemented as resources become available because the time frame for their implementation is not urgent.

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



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