



## **Plan of Management**



**Timbarra National Park** 

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**NSW National Parks and Wildlife Service** 

August 2013

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## This plan of management was adopted by the Minister for the Environment on 1 August 2013.

#### Acknowledgements

NPWS acknowledges that Timbarra National Park is in the traditional Country of the Bundjalung Aboriginal People.

This plan of management is based on a draft plan prepared by staff of the Northern Tablelands Region of the NSW National Parks and Wildlife Service (NPWS), part of the Office of Environment and Heritage.

NPWS would like to thank those people who took the time to make a submission on the draft version of this plan.

For additional information or any inquiries about this park or this plan of management, contact the NPWS Tenterfield Area Office, at 10 Miles St, Tenterfield NSW 2372, or by telephone on 02 6736 4298.

**Front cover image:** Herding Yard Creek, one of many creeks that form the upper reaches of the Timbarra River within the Clarence River catchment (Michael Lieberman, NPWS).

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## FOREWORD

Timbarra National Park was established in 2003 and covers 1772 hectares. It is situated east of Tenterfield on the Timbarra Plateau.

Timbarra National Park contains unique combinations of dry and wet eucalypt forests, rainforests and wet heaths, including an area of the endangered ecological community of Montane Peatlands and Swamps of the New England Tableland. It also contains potential habitat for 18 threatened fauna species, including the rufous bettong, spotted-tailed quoll and parma wallaby.

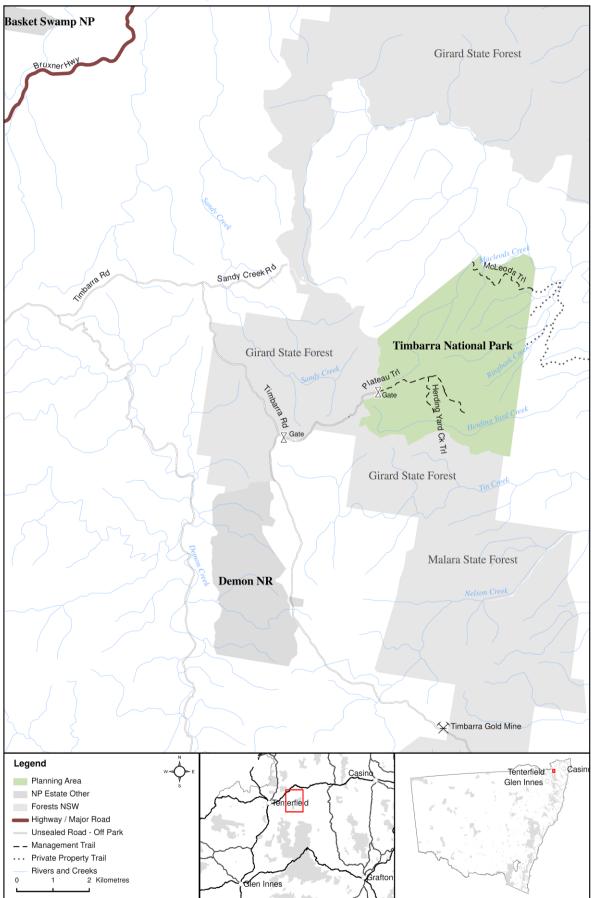
The NSW *National Parks and Wildlife Act 1974* requires that a plan of management be prepared for each national park. A draft plan of management for Timbarra National Park was placed on public exhibition from 28 October 2011 to 30 January 2012. The submissions received were carefully considered before adopting this plan.

The plan contains a number of actions to achieve the *NSW 2021* goal to protect our natural environment, including providing for protection of threatened species and communities, targeted threatened species fauna surveys, control of pest plants and animals, and fire management to protect biodiversity. Negotiations will also be undertaken to improve public access to the park.

This plan of management establishes the scheme of operations for Timbarra National Park. In accordance with section 73B of the National Parks and Wildlife Act, this plan of management is hereby adopted.

Rolagon Parker

Robyn Parker MP Minister for the Environment



Map 1. Timbarra National Park

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## 1. Location, gazettal and regional context

This plan of management applies to those lands reserved as Timbarra National Park (referred to in this document as 'the park'). Timbarra National Park is 1772 hectares in size and was reserved in January 2003.

The park is located approximately 30 kilometres east of Tenterfield (see Map 1) on the Timbarra Plateau. It is accessed from the Bruxner Highway via Timbarra Road and then Plateau Trail.

The park is located on the boundary between the New England Tableland and North Coast bioregions, within the eastern escarpment of the Great Dividing Range. It is rich in biodiversity and, although the vegetation communities are well represented throughout the park system, it protects unique combinations of dry and wet eucalypt and rainforest communities and a number of threatened fauna species.

The park adjoins Girard State Forest to the south and south-west and is surrounded by private property on the remaining sides. Other nearby parks include Washpool, Cataract, Basket Swamp, Bald Rock and Boonoo Boonoo national parks and Demon Nature Reserve.

The park is located within the geographical areas of the Tenterfield Shire Council, the New England Livestock Health and Pest Authority, the Moombahlene Local Aboriginal Land Council and the Northern Rivers Catchment Management Authority.

## 2. Management context

### 2.1 Legislative and policy framework

The management of national parks in New South Wales is in the context of a legislative and policy framework, primarily the *National Parks and Wildlife Act 1974* (NPW Act) and Regulation, the *Threatened Species Conservation Act 1995* (TSC Act) and the policies of the NSW National Parks and Wildlife Service (NPWS).

Other legislation, strategies and international agreements may also apply to management of the area. In particular, the *Environmental Planning and Assessment Act 1979* may require assessment of the environmental impacts of works proposed in this plan. The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) may apply in relation to actions that impact matters of national environmental significance, such as migratory and threatened species listed under that Act.

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 in relation to the lands to which the plan relates unless the operations are in accordance with the plan. This plan will also apply to any future additions to the park. Should management strategies or works be proposed in future that are not consistent with this plan, an amendment to the plan will be required.

## 2.2 Management purposes and principles

#### National parks

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

Under the NPW Act (section 30E), 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 or tourist 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
- provide for appropriate research and monitoring.

The primary purpose of national parks is to conserve nature and cultural heritage. Opportunities are provided for appropriate visitor use in a manner that does not damage conservation values.

## 2.3 Statement of significance

The park is considered to be of significance for the biological values it contains, which include:

- diverse ecosystems including grassy dry and wet eucalypt forests, rainforests and wet heaths
- several threatened species (including the rufous bettong, spotted-tailed quoll and parma wallaby) and the endangered ecological community of Montane Peatlands and Swamps of the New England Tableland
- its value as a regional wildlife corridor linking areas of largely intact contiguous forest.

## 2.4 Specific management directions

In addition to the general principles for the management of national parks (see Section 2.2), the following specific management directions apply to the management of Timbarra National Park:

- protection and monitoring of threatened and biogeographically significant species and communities
- protection of Aboriginal and historic heritage values
- control and, where possible, eradicate introduced plant and animal species
- management of fire to protect life and assets and conserve biodiversity
- provision of opportunities for recreation in a remote natural setting consistent with the protection of the park's natural and cultural values
- maintenance of relationships with neighbours and other organisations so as to enhance the protection and viability of the park.

## 3. Values

This plan aims to conserve both natural and cultural values of the park. The location, landforms and plant and animal communities of an area have determined how it has been used and valued by both Aboriginal and non-Aboriginal people. These 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.

## 3.1 Geology, landscape and hydrology

The park is situated within the granite belt of the northern tablelands and northern escarpment which extends from Tamworth to southern Queensland. It contains an area representative of volcanic intrusions of the New England Batholith which formed about 240 million years ago. This granite geology has resulted in highly erodible soils throughout the park, with Bungulla monzogranite in the eastern section of the park and Stanthorpe monzogranite in the western section.

The topography varies from moderate to relatively steep slopes within the park, with the steepest country in an east–west band through the centre of the park. The landscape rises from 400 metres above sea level at Macleods Creek, to 1167 metres above sea level at Table Top Hill towards the south-west boundary of the park. A series of creeks and drainage lines, including Ringbark and Herding Yard creeks, flow into Macleods Creek, forming part of the Timbarra River catchment.

## 3.2 Native plants and animals

The park contains eight vegetation communities found along the lower altitudes of the eastern escarpment and associated foothills of the Great Dividing Range, one of which has been identified as part of the Montane Peatlands and Swamps of the New England Tablelands Endangered Ecological Community (see Table 1). No threatened flora species have been identified in the park to date.

Common name	Scientific names	Area covered
Closed Forest	Orites excelsa – Caldcluvia paniculosa – Ceratopetalum apetalum	121 ha
Grey Gum – Forest Oak – Mahogany	Eucalyptus propinqua – Allocasuarina torulosa – E. carnea	599 ha
River Oak – River Red Gum	Casuarina cunninghamiana – E. tereticornis	7.5 ha
Grey Gum – Tallowwood	Eucalyptus propinqua – E. microcorys	142 ha
Outcrop Heath & Shrubland	Kunzea bracteolata – Leucopogon neoanglicus	55 ha
Wet Heath *	Baeckea omissa – Epacris obtusifolia	8 ha
Blackbutt – Stringybark – Ash	E. campanulata – E. eugenioides – E. oreades	491 ha
Blackbutt – Blue Gum – Stringybark	E. campanulata – E. saligna – E. cameronii	344 ha

Table 1. Vegetation communities of T	Timbarra National Park
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Source: Hunter 2011.

<sup>\*</sup> part of the Montane Peatlands and Swamps of the New England Tablelands Endangered Ecological Community listed on the TSC Act.

Two-thirds of the park is comprised of a densely timbered plateau interspersed with large rocky outcrops, while the north-east corner of the park becomes a steep escarpment leading down to narrow riparian open woodland with a grassy understorey next to Macleods Creek.

A preliminary fauna survey conducted by NPWS Tenterfield Area staff in November 2004 found a total of 70 animal species including 49 bird, 14 mammal, 3 reptile and 2 amphibian species. There are 18 animals listed under the TSC Act that occur in and within a 6 kilometre radius of the centre of the park (see Table 2).

Common name	Scientific name	TSC Act status	EPBC Act status
Frogs			
Stuttering frog	Mixophyes balbus	Endangered	Vulnerable
Birds			
Glossy black-cockatoo	Calyptorhynchus lathami	Vulnerable	
Powerful owl	Ninox strenua	Vulnerable	
Scarlet robin	Petroica boodang	Vulnerable	
Sooty owl	Tyto tenebricosa	Vulnerable	
Varied sittella	Daphoenositta chrysoptera	Vulnerable	
Mammals			
Beccari's freetail-bat	Mormopterus beccarii	Vulnerable	
Brush-tailed phascogale	Phascogale tapoatafa	Vulnerable	
Eastern bentwing-bat	Miniopterus schreibersii	Vulnerable	
	oceanensis		
Eastern false pipistrelle	Falsistrellus tasmaniensis	Vulnerable	
Eastern pygmy-possum	Cercartetus nanus	Vulnerable	
Greater broad-nosed bat	Scoteanax rueppellii	Vulnerable	
Hastings River mouse	Pseudomys oralis	Endangered	Endangered
Koala	Phascolarctos cinereus	Vulnerable	
Long-nosed potoroo	Potorous tridactylus	Vulnerable	Vulnerable
Parma wallaby	Macropus parma	Vulnerable	
Rufous bettong	Aepyprymnus rufescens	Vulnerable	
Spotted-tailed quoll	Dasyurus maculatus	Vulnerable	Endangered

Table 2. Threatened fauna recorded in and within 6 kilometres of Timbarra NationalPark

Source: NPWS ATLAS of NSW Wildlife, and 'Preliminary Fauna Survey for Timbarra National Park' (NPWS 2004).

Many of these species are thought to rely on the park as a stronghold between the more developed areas of the coastal fringe and the cooler areas of the tablelands. The park provides extensive habitat for large predators such as spotted-tailed quolls and dingoes. It also provides valuable habitat for medium-sized, ground-dwelling mammals such as the rufous bettong which is often observed in the grassland areas of the park.

Strategies for the recovery of threatened species, populations and ecological communities have been set out in a statewide *Threatened Species Priorities Action Statement* (PAS). As indicated in Table 2, there are currently 18 threatened fauna species found in and within 6 kilometres of the park. All of these have endorsed PAS actions and four species (the koala, Hastings River mouse, powerful owl and sooty owl) have endorsed recovery plans.

A number of key threatening processes are relevant to the management of plants and animals within the park, particularly in relation to its isolation within the landscape. These include:

- invasion of native plant communities by exotic perennial grasses
- invasion, establishment and spread of Lantana (Lantana camara)
- predation by the feral cat (*Felis catus*), the European red fox (*Vulpes vulpes*) and feral dogs (*Canis lupus* subspp.).

#### 3.4 Identified wilderness

Almost 90 per cent of Timbarra National Park has been identified as wilderness under the NSW *Wilderness Act 1987* (NPWS 2001). This is part of a larger identified wilderness covering neighbouring state forest, leasehold and freehold. Under the Wilderness Act, identified wilderness is a statement of values — it does not specify any management requirements. In contrast, land declared as wilderness must be managed for its wilderness values and certain higher impact activities are not usually permitted. The management strategies outlined in this document will not compromise the wilderness values of the park.

## 3.5 Aboriginal heritage

Aboriginal communities have an association and connection to the land. The land and water 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, kinship systems and strengthening social bonds. Aboriginal heritage and connection to nature are inseparable from each other and need to be managed in an integrated manner across the landscape.

The park is located within the Moombahlene Local Aboriginal Land Council area and the traditional lands of the Bundjalung People. An Aboriginal cultural heritage survey has not been undertaken within the park, and no sites or artefacts have been identified to date.

While NPWS has legal responsibility for the protection of Aboriginal objects and places, the NPWS acknowledges the right of Aboriginal people to make decisions about their own heritage. It is NPWS policy to encourage the Aboriginal community to participate in the management of Aboriginal cultural heritage and NPWS actively consults with relevant persons for cultural heritage information and advice.

### 3.6 European heritage

The park and surrounding area has a history of cattle grazing, timber harvesting and gold mining.

Macleods Hut, once located adjacent to Macleods Creek in the park, was comprised of a small hut and cattle yards that were used by drovers during the transportation of cattle from this area to the Tenterfield saleyards.

Extensive gold diggings can be found on the Timbarra Plateau with the earliest and richest gold having been discovered in Macleods Creek in the latter part of 1858. The Timbarra – Poverty Point goldfield was worked continuously from 1853 to 1886 and then sporadically until 1938 (Barnes et al. 1999).

The Timbarra gold mine is located approximately 8 kilometres south of the park in an area known as Poverty Point. Ross Mining commenced development of the site in 1998 as a small gold heap leach operation (86 hectares), but it was prematurely closed six months later after producing 15,000 ounces. The mine attracted unprecedented opposition and protests from non-government organisations and environmental groups from its inception, due to the operation's disturbance of the Timbarra Plateau's ecosystems, the risk of cyanide contamination of waterways, the presence of several threatened species and the presence of an Aboriginal site. The mine was eventually closed in 2003 (Dept. of Industry Tourism and Resources 2006). Environmental studies undertaken as part of the mine development and

media coverage of the protests against it, have contributed to a heightened public appreciation of the conservation values of the Timbarra Plateau.

According to neighbours there are many old gold mining relicts and evidence of old gold mines in the park that were constructed out of granite rock, often adjacent to creek lines.

The historic heritage values described above are based on information received from park neighbours and historical information on the Timbarra Plateau – Poverty Point gold mining enterprises. An historic heritage assessment has not been undertaken in the park.

#### 3.7 Visitor use and research

The park is surrounded by private property and leasehold state forest. Public access to the park is via Plateau Trail through Girard State Forest, however, vehicle access is currently limited by a locked gate, 3.5 kilometres from the park boundary on Plateau Trail in the state forest. There are no visitor facilities within the park and it is mainly used for remote bushwalking.

The park is rich in threatened species and provides opportunities for research and monitoring. Previously, studies have been undertaken by university students on the vulnerable eastern pygmy-possum.

## 4. Issues

## 4.1 Weeds and pest animals

The control of all pest species within the park is undertaken in accordance with the *Northern Tablelands Regional Pest Management Strategy* (NPWS 2007). This strategy identifies appropriate control mechanisms and management strategies for all pest species throughout the region.

Introduced animals, including wild dogs, feral cats and the European red fox, have been observed within the park, and cause damage to native animal communities through predation and competition for food and shelter. The regional pest management strategy identifies foxes and wild dogs as priority pest animal species for control in the park.

Most weed species within the park are not found in large numbers, with lantana, giant Parramatta grass (*Sporobolus fertilis*), Coolatai grass (*Hyparrhenia hirta*), tree of heaven (*Ailanthus altissima*) and whiskey grass (*Andropogon virginicus*) being the main weed species affecting the park. All these weeds are identified in the pest management strategy as priority weeds for control in the park.

## 4.2 Fire

The primary fire management objectives of NPWS are to protect life and property and community assets from the adverse impacts of fire, whilst managing fire regimes to maintain and protect biodiversity and cultural heritage.

Boundary fences are the only assets within the park that require protection from fire.

Fire is a natural feature of many environments and is essential for the survival of some plant communities. However, inappropriate fire regimes can lead to loss of particular plant and animal species and communities, and high frequency fires have been listed as a key threatening process under the TSC Act.

Historically, most of the fires occurring in the park originated from arson or lightning strikes. Within the tall open forest communities there is evidence of a dominant understorey of grasses suggesting that fires in these areas have been repeated in close succession. There have been two known wildfire events in the park since 2000–01.

A separate fire management strategy has been prepared for the park (NPWS 2005). The fire management strategy outlines the recent fire history of the park, key assets within and adjoining the park including sites of natural and cultural heritage value, fire management zones including strategic and land management zones, and fire control advantages such as management trails and water supply points. Any hazard reduction and ecological burning proposals and fire trail works are submitted annually to the Northern Tablelands Bush Fire Management Committee.

## 4.3 Climate change

Climate change has been listed as a key threatening process under the TSC Act. Projections of future changes in climate for New South Wales include higher temperatures, increasing sea levels and water temperatures, elevated carbon dioxide, 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.

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.

## 5. Implementation

#### **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.

**Ongoing** is for activities that are undertaken on an annual basis or statements of management intent that will direct the management response if an issue that arises.

Current situation	Desired outcomes	Management response	Priority*
<ul> <li>6.1 On-park ecological conservation</li> <li>The park supports a variety of forest ecosystems common to the Great Dividing Range, and a diversity of flora and fauna including a number of threatened species such as the eastern pygmy-possum and rufous bettong and an 8-hectare area of the Montane Peatlands Endangered Ecological Community.</li> <li>A preliminary fauna survey and a comprehensive vegetation survey have been completed for the park.</li> </ul>	Native plant and animal species and communities are conserved. Landscape and catchment values are protected. The effects of climate change on natural systems are reduced.	<ul> <li>6.1.1 Continue existing fire, pest and weed management to reduce the impact on threatened species and their habitat and increase the park's ability to cope with future disturbances, including climate change.</li> <li>6.1.2 Implement relevant strategies in the <i>Threatened Species Priorities Action Statement</i> (PAS) and recovery plans for threatened species, populations and ecological communities present in the park.</li> <li>6.1.3 Undertake targeted threatened species fauna surveys in the park e.g. annual monitoring of eastern pygmy-possum populations in conjunction with universities.</li> </ul>	High Ongoing High Ongoing Low Ongoing

Current situation	Desired outcomes	Management response	Priority*
6.2 Cultural Heritage			
The park is part of a landscape associated with Bundjalung Aboriginal People and the Moombahlene Local Aboriginal Land Council. Knowledge of the Aboriginal cultural heritage values of the park is limited.	Aboriginal places and values are identified and protected.	6.2.1 Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact Aboriginal or historic sites or values.	High Ongoing
The area has a history of grazing and timber harvesting and as such a number of structures including huts, dams and yards were built on the land	Aboriginal people are involved in management of the Aboriginal cultural values of the park.	6.2.3 Encourage further research into the Aboriginal and historic heritage values of the park with the Moombahlene Local Aboriginal Land Council and other relevant community organisations.	Medium Ongoing
that is now the park. The only evidence of these left today are dams and fences.	Negative impacts on Aboriginal and historic	6.2.4 Record cultural heritage sites and assess their significance.	Medium Ongoing
There is also scattered evidence of old gold mines adjacent to creek lines.	heritage values are stable or diminishing.		
6.3 Visitor use, education and research			
The park is surrounded by private property and leasehold state forest. Public access to the park is via Plateau Trail through Girard State Forest,	Visitor use is appropriate and ecologically sustainable.	6.3.1 No visitor facilities will be provided in the park. All trails within the park are for management purposes only.	High Ongoing
however, vehicle access is currently limited by a locked gate on Plateau Trail in the state forest, 3.5 kilometres from the park boundary.		6.3.2 Install gates and relevant signage at the two entrances to the park.	High Ongoing
There are no visitor facilities within the park and it is mainly used for remote bushwalking.	Park neighbours support conservation of habitat and wildlife corridors.	6.3.3 Liaise with Crown and private land owners regarding the removal of locks from the gate on the public road, Plateau Trail.	High Ongoing
		6.3.4 Negotiate as appropriate, access agreements across private land and leasehold state forests neighbouring the park.	Medium Ongoing
		6.3.5 Collaborate with universities and support research and monitoring within the park.	Medium Ongoing

Current situation	Desired outcomes	Management response	Priority*
6.4 Weeds and pest animals			
The most significant weed species in the park are lantana, giant Parramatta grass, Coolatai grass and whiskey grass. The main pest animal species within the park include	Negative impacts of weeds and pest animals on park values are stable or diminishing.	6.4.1 Manage introduced species in accordance with the regional pest management strategy. Priority for ongoing control programs will be given to lantana, foxes and wild dogs.	High Ongoing
wild dogs and foxes. Weed, wild dog and fox control is undertaken in the park when required.	Pest control programs are undertaken where appropriate in	6.4.2 Develop and implement a lantana control strategy for the park.	High Ongoing
park when required.	consultation with neighbours.	6.4.2 Seek the cooperation of neighbours in implementing weed and pest control programs. Undertake control in cooperation with the New England Livestock Health and Pest Authority and the Northern Rivers Catchment Management Authority.	High Ongoing
		6.4.3 Monitor noxious and significant environmental weeds and their impacts. Treat any new outbreaks where possible.	High Ongoing
6.5 Fire management			
Fire is a natural feature of many environments but inappropriate fire regimes can lead to loss of particular plant and animal communities. High frequency fires have been listed as a key threatening process under the TSC Act.	Life, property and natural and cultural values are protected from fire.	<ul><li>6.5.1 Implement the reserve fire management strategy.</li><li>6.5.2 Continue to be involved in the Northern Tablelands Bush Fire Management Committee. Maintain cooperative</li></ul>	High Ongoing High Ongoing
The reserve fire management strategy was approved in 2005.	Fire regimes are appropriate for conservation of native	arrangements with local Rural Fire Service brigades and surrounding landowners in regard to fuel management and fire suppression.	
Fires in the park are most often the result of lightning strikes or arson.	plant and animal communities.	6.5.3 Manage the reserve to protect biodiversity in accordance with the identified fire regimes in the fire	Medium Ongoing

Current situation	Desired outcomes	Management response	Priority*
The park contains fire-sensitive rainforest and old- growth forest communities. Further information on the effects of fire on native species and communities and appropriate fire regimes will assist future reviews of the fire management strategy.	Negative impacts of fire on natural and cultural heritage values are stable or diminishing.	management strategy.	

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