Office of Environment & Heritage
NSW National Parks & Wildlife Service

Plan of Management

Single National Park

SINGLE NATIONAL PARK

PLAN OF MANAGEMENT

NSW National Parks and Wildlife Service

December, 2012

This plan of management was adopted by the Minister for the Environment on 20th December 2012.

Acknowledgements
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, Department of Premier and Cabinet.

The NPWS acknowledges that Single National Park is in the traditional country of the Anaiwan Aboriginal people.

For additional information or any inquiries about this park or this plan of management, contact the NPWS Armidale Area Office, 145 Miller Street, Armidale, NSW, 2350 or by telephone on 02 6738 9100.

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FOREWORD

Single National Park was established in 1999 and covers 2,563 hectares. It is situated 30 kilometres north-west of Guyra.

Single National Park contains a diverse range of New England Tablelands forest and woodland ecosystems which are predominantly in old growth condition. It also contains five threatened plant species, thirteen regionally significant plants, and habitat for sixteen threatened animal species.

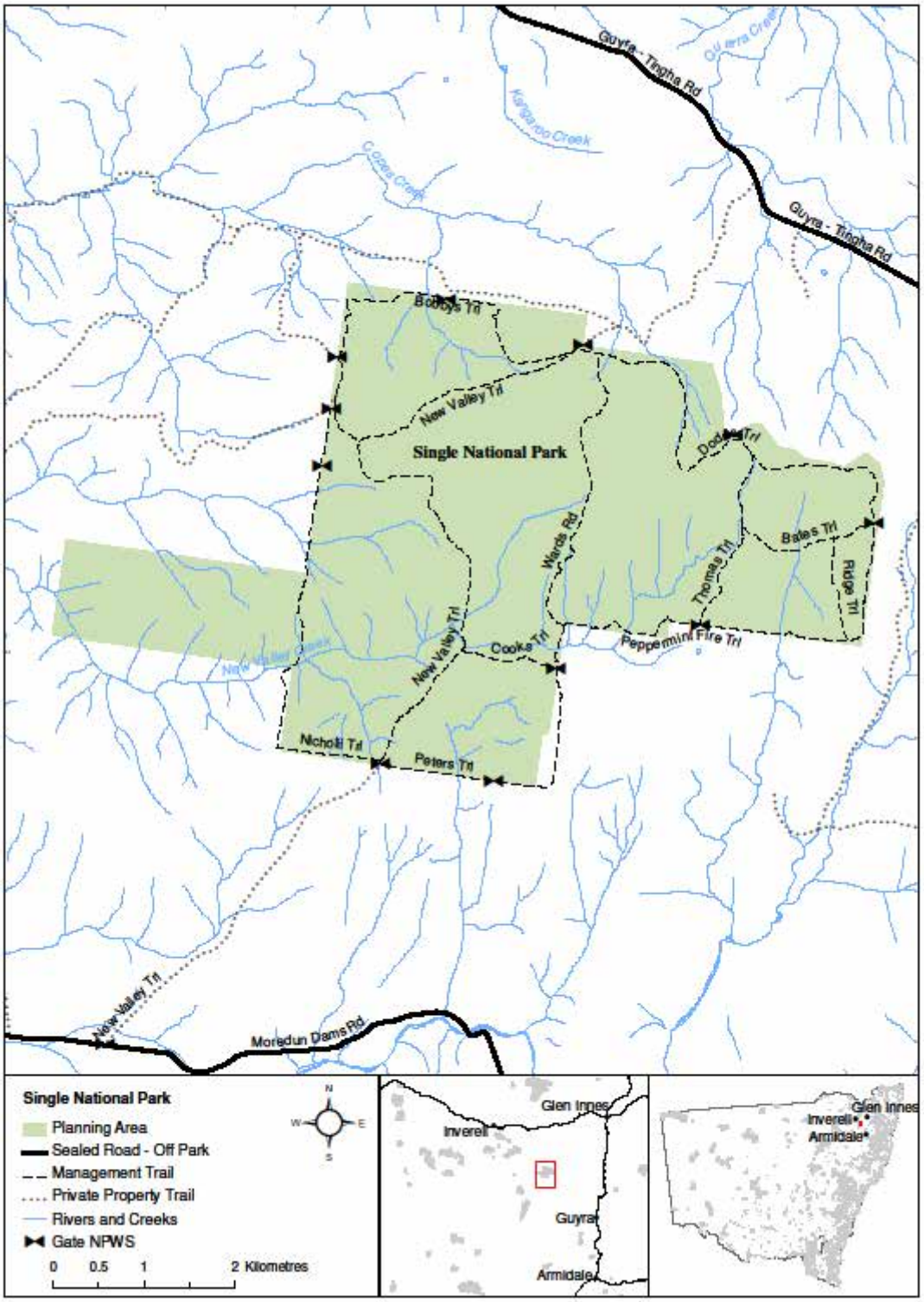
The New South Wales *National Parks and Wildlife Act 1974* requires that a plan of management be prepared for each national park. A draft plan of management for Single National Park was placed on public exhibition from 28 October 2011 to 30 January 2012. The submissions received were carefully considered 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, undertaking a fauna survey of the park where increased information is required to improve the effectiveness of management, continued control of pest species including control of coolatai grass, and fire management to protect biodiversity.

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

Robyn Parker MP
Minister for the Environment

Map 1. Map of Single National Park



1. LOCATION, GAZETTAL AND REGIONAL CONTEXT

Features	Description
Single National Park	
Location	Single National Park (referred to as 'the park' in this plan) is located at the headwaters of the Gwydir River catchment on the central New England Tablelands approximately 30 kilometres north-west of Guyra. The location of the park, nearby towns and other areas of NPWS estate are shown in Map 1. Single National Park is surrounded by private property and has no public access.
Area	The park has an area of 2,563 hectares.
Reservation Date	1 January 1999.
Previous Tenure	The park was previously Single State Forest and a Crown Flora Reserve. The Upper North East Regional Forest Agreement (RFA) covers the park and provided for major additions to the park system, including the establishment of Single National Park.
Regional Context	
Biogeographic Region	The park is one of sixteen small, isolated reserves in the south of the New England Tablelands Bioregion. These reserves were gazetted to conserve remnants of previously widespread Tablelands vegetation communities.
Surrounding Land Use	The surrounding land is private property that has been substantially cleared for grazing and other rural activities.
Other Authorities	The park is located within the geographical areas of the Anaiwan and Guyra Local Aboriginal Land Councils, the Border Rivers-Gwydir Catchment Management Authority, the New England Livestock Health and Pest Authority and the Guyra Shire Council.

2. MANAGEMENT CONTEXT

2.1. LEGISLATIVE AND POLICY FRAMEWORK

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

Other legislation, international agreements may also apply to management of the area. In particular, the *Environmental Planning and Assessment Act 1979* (EPA Act) may require the 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 on 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 within Single National Park except in accordance with the plan. This plan will also apply to any future additions to Single National Park. Should management strategies or operations be proposed in the future that are not consistent with this plan, an amendment to this plan will be required.

2.2. MANAGEMENT PURPOSES AND PRINCIPLES

National Parks
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, inspiration and sustainable visitor or tourist use and enjoyment.

Under the 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; and
- 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

Single National Park is considered to be of significance for the following reasons:
Biological Values

- The park protects a diverse range of New England Tablelands forest and woodland ecosystems which are predominantly in old growth condition.
- The park contains five plant species listed as vulnerable under the TSC Act. These species and one other are also of national concern and listed as vulnerable under the Commonwealth EPBC Act. Thirteen plant species are identified as regionally significant (refer to Table 1).
- The park provides habitat for sixteen animal species listed as vulnerable under the TSC Act, with one of these also being of national concern and listed as vulnerable under the Commonwealth EPBC Act (refer to Table 2).

Geological Values

- The park is important in ensuring the conservation of the Permian acid rocks known as the Annalee Pyroclastics, their derived soils and the vegetation assemblages they support.

Landscape / Catchment Values

- The park contains part of the headwaters of the Gwydir River, draining south into Moredun Creek and west into Copes and New Valley Creeks, together forming the Moredun Creek sub-catchment.

2.4. SPECIFIC MANAGEMENT DIRECTIONS

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

- the protection of the park's diverse vegetation communities which are remnants of the once extensive vegetation communities on the New England Tablelands;
- the protection of the park from further extensive wildfires through implementation of the Single National Park Fire Management Strategy;
- the conservation of significant plant species;
- the protection of habitat values for native animals;
- the control of pest animal and plant species; and
- visitor use of the park will not be encouraged, as it is surrounded by private land.

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 ranges in elevation from 990-1200 metres above sea level. The New England Tablelands experience a typically cool dry climate, receiving an annual rainfall of 700-900 millimetres. Drainage is predominantly to the south of the park into Moredun Creek and west into Copes Creek and New Valley Creek which together all form the Moredun Creek sub-catchment of the Gwydir River.

The topography of the park is gently undulating, with a geology of Permian age acid volcanic rocks known as Annalee Pyroclastics. In a few locations however, basalt has flowed over the acid volcanic rocks. In the eastern section of the park, outcrops of darker andesite are present. Exposed sheets of rhyolitic rocks occur on knolls throughout the park, becoming more common in the south-east section of the park (Clarke et al. 2000).

Soils on the steeper rocky slopes are poor skeletal soils, whilst better structured soils have formed on the lower slopes and valleys. Richer soils have developed on the residual basaltic flows but these are minor in distribution (Clarke et al. 2000).

3.2. NATIVE PLANTS AND ANIMALS

A flora survey undertaken in 2000 determined that the park is relatively diverse, with approximately 424 vascular plant species being identified (Clarke et al. 2000). Approximately

45 of these were introduced species. Ten vegetation communities were identified within the park. These communities, their indicator species, significance and their ecological settings are outlined in Appendix 1.

The park contains 19 plant species considered to be of particular conservation significance (refer to Table 1). Of these, 13 are considered regionally significant, five of which are listed as vulnerable under the TSC Act and six which are identified under the EPBC Act. Seven species, although nationally common, are close to their geographical distributional limits (Clarke et al. 2000) (refer to Table 1).

Table 1. Threatened and significant plant species recorded in Single National Park.

Common name	Scientific name	TSC Act Status	EPBC Act Status
New England bottlebrush	*Callistemon pungens*		Vulnerable^
Bluegrass	*Dichanthium setosum*	Vulnerable	Vulnerable ^<
Ovenden's ironbark	*Eucalyptus caleyi* subsp. *ovendenii*	Vulnerable	Vulnerable ^<▼
McKie's stringybark	*Eucalyptus mckieana*	Vulnerable	Vulnerable ^<
Narrow-leaved black peppermint	*Eucalyptus nicholii*	Vulnerable	Vulnerable ^<
Blackbutt candlebark	*Eucalyptus rubida* subsp. *barbigerorum*	Vulnerable	Vulnerable ^<
Youman's stringybark	*Eucalyptus youmanii*		^
Narrow goodenia	*Goodenia macbarronii*		^
Winged everlasting	*Ozothamnus adnatus*		^▲
Long-tailed greenhood	*Pterostylis woolsii*		^
New England bush-pea	*Pultenaea campbellii*		^
Tufted granite lily	*Thelionema grande*		^
	Zieria odorifera		^
Tingha wattle	*Acacia leptoclada*		▼
New England brachyscome	*Brachyscome nova-anglica*		▲
Plume grass	*Dichelachne parva*		▲
Small club-rush	*Isolepis gaudichaudiana*		▲
Alpine rush	*Juncus antarcticus*		▲
Narrow-leaved speedwell	*Veronica gracilis*		▲

^ Species listed as regionally significant.
< PAS Priority Actions are endorsed for this species.
▲Species is at the northern limit of its known distribution.
▼Species is at the southern limit of its known distribution.

Strategies for the recovery of threatened species, populations and ecological communities have been set out in a state-wide Threatened Species Priorities Action Statement (PAS). As shown in Table 1, there are currently five threatened plant species found within the park for which PAS priority actions have been endorsed. Individual recovery plans may also be prepared for threatened species to consider management needs in more detail. There are currently no recovery plans for threatened plant species found within the park.

The park is an important remnant of vegetation communities that once covered much of the central portion of the New England Tablelands and is therefore vital in providing habitat to animal species impacted upon by an increasingly fractured habitat.

Although a formal fauna survey has not been conducted, 16 threatened animal species have been recorded within the park (NPWS ATLAS of NSW Wildlife) and are listed in Table 2. Records also indicate that common macropods such as the eastern grey kangaroo (*Macropus giganteus*), swamp wallaby (*Wallabia bicolor*) and red-necked wallaby (*Macropus rufogriseus*) frequent the area.

The park also protects habitat which may be important for nomadic nectivores (nectar and pollen eating birds) such as the endangered regent honeyeater (*Xanthomyza phrygia*) and swift parrot (*Lathamus discolor*).

Typical Tableland nectivores such as the musk lorikeet (*Glossopsitta concinna*) and yellow-tufted honeyeater (*Lichenostomus melanops*) have also been recorded in the park.

Table 2. Threatened animal species recorded in Single National Park

Common name	Scientific name	TSC Act Status
Little eagle	*Hieraaetus morphnoides*	Vulnerable
Grey falcon	*Falco hypoleucos*	Endangered <
Glossy black-cockatoo	*Calyptorhynchus lathami*	Vulnerable <
Little lorikeet	*Glossopsitta pusilla*	Vulnerable
Turquoise parrot	*Neophema pulchella*	Vulnerable <
Brown treecreeper	*Climacteris picumnus victoriae*	Vulnerable <
Speckled warbler	*Pyrrholaemus saggitatus*	Vulnerable <
Varied sittella	*Daphoenositta chrysoptera*	Vulnerable
Hooded robin	*Melanodryas cucullata cucullata*	Vulnerable <
Scarlet robin	*Petroica boodang*	Vulnerable
Flame robin	*Petroica phoenicea*	Vulnerable
Diamond firetail	*Stagonopleura guttata*	Vulnerable <
Koala	*Phascolarctos cinereus*	Vulnerable <∞
Yellow-bellied glider	*Petaurus australis*	Vulnerable <∞
Eastern false pipistrelle	*Falsistrellus tasmaniensis*	Vulnerable <
Greater broad-nosed bat	*Scoteanax rueppellii*	Vulnerable <

∞ Recovery Plan endorsed under TSC Act.
< PAS Priority Actions endorsed for this species.
Source: NPWS ATLAS of NSW Wildlife

As indicated in Table 2, there are currently 11 threatened fauna species found within the park for which PAS actions have been endorsed and two species, the koala and the yellow-bellied glider, have endorsed recovery plans.

A number of key threatening processes (KTPs) are relevant to the management of plants and animals within the park, particularly in relation to it's isolation within the landscape. These include:

- high frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition;
- invasion of native plant communities by exotic perennial grasses;

- loss of hollow bearing trees;
- competition and grazing by the feral European rabbit (*Oryctolagus cuniculus*);
- herbivory and environmental degradation caused by feral deer (*Cervus* spp.);
- competition and habitat degradation by feral goats (*Capra hircus*);
- predation, habitat degradation, competition and disease transmission by feral pigs (*Sus scrofa*); and
- predation by the feral cat (*Felis catus*) and the European red fox (*Vulpes vulpes*).

The feral animal threat abatement plans listed in Table 3 Section 4.1 will also be consulted when managing native animals within the park.

3.4. ABORIGINAL HERITAGE

The park lies within the traditional country of the Anaiwan people. The land, water, plants and animals 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 and need to be managed in an integrated manner across the landscape.

The park falls within the Anaiwan and Guyra Local Aboriginal Land Council areas, and lies within the traditional land of the Anaiwan Aboriginal people. These people are associated with lands on the Great Dividing Range surrounding Armidale and south towards Tamworth and Walcha (Tindale 1974).

Prior to European settlement, it is believed that the Northern 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 the western slopes. Use by Aboriginal people of the traditional route, Tingha to Guyra, continued well into this century with seasonal work in the tobacco and potato industries until the mid 1990's when mechanical pickers and diggers became widespread. Resource use in the Tablelands is believed to have focussed on woodlands, native grasslands and swamplands (Sullivan undated).

There are two Aboriginal sites within the park and a number of identified sites within close proximity to the park. Sites are mostly scatters of stone flake and cores. NPWS plans to carry out further cultural assessments and research to better determine the Aboriginal heritage values of the park.

Aboriginal sites are places with evidence of Aboriginal occupation or that are related to other aspects of Aboriginal culture. They are important as evidence of Aboriginal history and as part of the culture of local Aboriginal people.

While the NSW Government has legal responsibility for the protection of Aboriginal sites and places under the NPW Act, 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, places and related issues, and the promotion and presentation of Aboriginal culture and history.

3.5. HISTORIC HERITAGE

Heritage places and landscapes are made up of living stories as well as connections to the past which can include natural resources, objects, customs and traditions that individuals and communities have inherited from the past and wish to conserve for current and future generations. Cultural heritage comprises places and items that may have historic, scientific, aesthetic and social significance. The NPWS conserves the significant heritage features of NSW parks and reserves.

The first European to visit the New England Tablelands was John Oxley in 1818. European squatters began to occupy land soon afterwards.

Harvesting of hardwood timber commenced on the New England Tablelands in the 1920s. However, harvesting was sporadic because of the relative isolation of the area and this also made marketing of New England timbers difficult (SFNSW 1995).

When the park was Single State Forest it was selectively cut for saw logs, mostly New England blackbutt (*Eucalyptus andrewsii*) and Youman's stringybark (*Eucalyptus youmanii*). A small sawmill may have existed in what is now the park, however, the former sawmill site or any associated artefacts have not been located to date.

Permissive occupancy grazing leases were also granted over most of the forest, with these permits being extinguished following gazettal as a national park. A few small dams are scattered across the flat grassy alluvial areas where grazing was most likely more concentrated.

3.6. VISITOR USE, EDUCATION AND RESEARCH

Single National Park receives very little visitation as the park is surrounded by private property and there is no public vehicle access. There are no visitor facilities within the park.

There are no research or monitoring projects being undertaken within the park, however, given its size and limited disturbance, there is potential for future biological and ecological research. Research will improve the understanding of the natural and cultural heritage values of the park, threatening processes and the requirements for management of significant plant and animal communities and species.

4. ISSUES

4.1. WEEDS AND PEST ANIMALS

Pest species are plants and animals that have negative environmental, economic and social impacts and are most commonly introduced species. Pests can have impacts across the range of park values, including impacts on biodiversity, cultural heritage, catchment and scenic values.

The Northern Tablelands Region Pest Management Strategy (NPWS 2007) identifies pest species across the region's parks and details priorities for control (including actions listed in the PAS and Threat Abatement Plans (TAPs) prepared under the TSC Act). The pest

management strategy also identifies where other site or pest specific plans or strategies need to be developed to provide a more detailed approach.

The pest management strategy identifies nine pest species as occurring in the park. High priority pest species for the park are listed below (refer to Table 3).

Table 3. Weeds and pest animals recorded in Single National Park.

Weeds		**Pest Animals**	
Common Name	**Scientific Name**	**Common Name**	**Scientific Name**
Blackberry	*Rubus fruticosus* #	Goat	*Capra hircus* ~>^<
Black thistle	*Cirsium vulgare*	European red fox	*Vulpes vulpes* ~>∞^<
Coolatai grass	*Hyparrhenia hirta* ~	European brown hare	*Lepus capensis*
Patterson's curse	*Echium plantagineum* #	Pig	*Sus scrofa* ~>^<
Sweet briar	*Rosa rubiginosa* #	European rabbit	*Oryctolagus cuniculus* ~>^<
Prickly pear	*Opuntia* spp. #		
Bathurst burr	*Xanthium spinosum* #		
Noogoora burr	*Xanthium occidentale* #		

Declared Noxious under the Noxious Weed Act 1993.
~ Key Threatening Process under TSC Act.
> Key Threatening Process under EPBC Act.
∞ Threat Abatement Plan endorsed for this species under TSC Act.
^ Threat Abatement Plan endorsed for this species under EPBC Act.
< PAS Key Threatening Process Priority Actions endorsed for this species.

The overriding objective of the pest management strategy is to minimise the adverse impacts of introduced species on biodiversity and other park and community values whilst complying with legislative responsibilities.

The impact of feral pigs on conservation values is substantial as they forage, wallow and root in wetland areas, and cause major disturbance and damage to soils, roots, sensitive ground flora and wetland environments. Areas disturbed by feral pigs are at risk from subsequent weed invasion and soil erosion. They are also a potential host of a number of exotic diseases. Predation, habitat degradation, competition and disease transmission by feral pigs (*Sus scrofa* Linnaeus 1758), is listed as a key threatening process under both the TSC Act and the EPBC Act. A Threat Abatement Plan (TAP) has been prepared under the EPBC Act which sets out a national framework to guide coordinated actions to address this threatening process.

Feral cats (*Felis catus*) and feral deer (*Cervus* spp.) may also occur within the park. Cattle and sheep from neighbouring properties occasionally stray into the park, however cooperation with neighbours has proven effective in minimising stock intrusion.

A total of forty-five introduced plant species have been recorded within the park, most being daisies (*Asteraceae* spp.), however, six are listed as noxious weeds under the Noxious Weeds Act (1993) and one, coolatai grass, is declared as a key threatening process (refer to Table 3). Generally these species only occur infrequently and along trail edges, with only a few species becoming invasive (Clarke et al. 2000). There is only one small infestation of coolatai grass, which originated from a research vehicle depositing seed. The location of this infestation has been mapped and fenced with individual plants being removed by hand and/or sprayed. The site is monitored regularly. Control with the aim of eradication is

conducted as required. Weed species are not widespread throughout the park and are being monitored. Control measures are implemented when required.

4.2. FIRE

The primary fire management objectives of the 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.

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.

The fire history in what is now the park is not well known. It appears that until extensively burnt in November 2002 by the lightning induced Strathmore fire, it may not have sustained a serious wild fire for many decades. Small areas were burnt following timber harvesting and other areas were regularly burnt to encourage 'green pick' for grazing.

A separate fire management strategy which defines the fire management approach for the park has been prepared (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 and fire control advantages such as management trails and water supply points. It also contains fire regime guidelines for conservation of the park's vegetation communities.

NPWS maintains cooperative arrangements with surrounding landowners and the Rural Fire Service (RFS) and is actively involved with the New England Bush Fire Management Committee (BFMC). Cooperative arrangements include fire planning, fuel management and information sharing. Hazard reduction programs, ecological burning proposals and fire trail works are submitted annually to the BFMC.

There are no built assets within the park, however, adjacent to the park there are private assets associated with grazing operations, such as fences, yards, farm buildings and stock.

4.3. ISOLATION AND FRAGMENTATION

The area surrounding the park has been extensively cleared, which has resulted in a high loss of biodiversity and fragmentation of habitat. The park itself is isolated and subject to edge effects making it more vulnerable to disturbances. Adjacent land uses place pressures on parks through the incursion of non-native plant and animal species.

Cooperative arrangements with neighbours are important for the management of access, fire, weeds and pest animals. Additionally, long term conservation of biodiversity depends upon the protection, enhancement and connection of remaining habitat across the landscape, incorporating vegetation remnants on both public and private lands.

Nearby vegetated areas contribute to the habitat values of the park and provide ecological corridors to other vegetated areas. Maintaining the integrity of the remaining habitat within the park and where possible, linking this to adjacent areas of vegetation to facilitate wildlife corridors, is important in ensuring the long term viability of the park's biological values.

4.4. CLIMATE CHANGE

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

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 and pollution, will help reduce the severity of the effects of climate change.

5. REFERENCES

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6. IMPLEMENTATION

This plan of management establishes a scheme of operations for Single National Park. Implementation of this plan will be undertaken within the annual program of the NPWS Northern Tablelands Region.

Identified activities for implementation are listed in Table 4 below. Relative priorities are allocated against each activity as follows:

- **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.

This plan of management does not have a specific term and will stay in force until amended or replaced in accordance with the NPW Act.

Table 4. Implementation Table

Current Situation	Desired Outcomes	Management Response	Priority*
6.1. On-Park Ecological Conservation			
The park protects a diverse range of New England Tablelands forest and woodland ecosystems which are predominantly in old growth condition within a substantially cleared landscape. The park provides habitat for five plant species listed as vulnerable under the TSC Act and six species are also listed as vulnerable under the Commonwealth EPBC Act. The park provides habitat for 16 animal species listed as vulnerable under the TSC Act. One of these is also listed as vulnerable under the Commonwealth EPBC Act.	Structural diversity and habitat values are restored in degraded areas. The habitat and populations of all threatened plant and animal species and ecological communities are conserved. Landscape and catchment values are	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. 6.1.2 Encourage the protection, retention and enhancement of native vegetation and corridors on public and private lands adjacent to the park. 6.1.3 Implement relevant strategies in the Threatened Species Priorities Action Statement (PAS) and recovery plans for threatened species, populations and ecological communities present in the park.	High Ongoing Medium Ongoing High Ongoing

Current Situation	Desired Outcomes	Management Response	Priority*
Two species, the koala and the yellow-bellied glider, have endorsed recovery plans. Climate change has been identified as a key threatening process under the TSC Act.	protected. The negative effects of isolation, fragmentation and climate change on natural systems are reduced.	6.1.4 Encourage research and monitoring of the park's natural heritage to improve knowledge for park management, including re-assessment of the park's vegetation communities to determine whether any are endangered ecological communities. 6.1.5. Undertake a fauna survey (native and feral animals) of the park where increased information is required to improve the effectiveness of management.	Low Ongoing Low
6.2. Cultural Heritage Formal cultural surveys or research to determine the Aboriginal cultural heritage values of the park have not been undertaken. There are several Aboriginal sites within the park and a number of identified sites within close proximity to the park. Little is known of the historic heritage values of the park other than its former use as a state forest which included some grazing and a possible establishment of a sawmill. Research is required to determine the Aboriginal and historic heritage values of the park.	Aboriginal places and values are identified and protected. Aboriginal people are involved in the management of the Aboriginal cultural values of the park. Negative impacts on Aboriginal and historic heritage values are minimised. Understanding of the cultural values of the park is improved.	6.2.1 Continue to consult and involve both the Anaiwan and Guyra Local Aboriginal Land Councils and other relevant Aboriginal community organisations in the management of their Country including the management of Aboriginal sites, places and cultural and natural values within the park. 6.2.2 Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact on Aboriginal or historic sites or values. 6.2.3 Encourage further research into the Aboriginal and historic heritage values of the park with both the Anaiwan and Guyra Local Aboriginal Land Councils and other relevant community organisations. 6.2.4 Record cultural heritage sites and assess their significance.	High Ongoing High Ongoing Medium Ongoing Medium Ongoing

Current Situation	Desired Outcomes	Management Response	Priority*
6.3. Visitor Use The park is surrounded by private property. There are no visitor facilities within the park. Other areas of NPWS estate nearby provide visitor facilities and recreation opportunities.	Research improves the knowledge and management of park values.	6.3.1 No visitor facilities or additional access will be provided in the park. 6.3.2 Promote community understanding and appreciation of the conservation values of the park through contact with neighbours and community organisations.	Medium Ongoing Medium Ongoing
6.4. Weeds and Pest Animals The relatively small size of the park and proximity to other areas with introduced plants facilitates weed invasion. Forty five introduced plant species have been recorded within the park, most being daisies, however six are noxious weeds and one, Coolatai grass, has been declared a key threatening process. Pigs, foxes, hares, rabbits and goats have been recorded in the park. Feral cats and deer may also occur. Cattle and sheep from neighbouring properties occasionally stray into the park. Control of pest species in the park is guided by the Northern Tablelands Region Pest Management Strategy.	Pest plants and animals are controlled and where possible eliminated. Negative impacts of introduced species on park values are minimised. Pest control programs are undertaken where appropriate in consultation with neighbours.	6.4.1 Manage introduced species in accordance with the Northern Tablelands Region Pest Management Strategy. Priority will be given to those species that are either declared noxious, are identified as a key threatening process or have an adopted threat abatement plan. 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 Border Rivers Gwydir Catchment Management Authority. 6.4.3 Monitor noxious and significant environmental weeds and their impacts. Treat any new outbreaks where possible. 6.4.4 Implement threat abatement plans for the European red fox, goats, pigs and the European rabbit in the park.	High Ongoing Medium Ongoing Medium Ongoing Medium Ongoing

Current Situation	Desired Outcomes	Management Response	Priority*
		6.4.5 Continue to control stock intrusions into the park in cooperation with neighbours. 6.4.6 Continue monitoring of the identified Coolatai grass site and implement control as required.	Medium Ongoing 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. A Reserve Fire Management Strategy (NPWS 2005) has been prepared for the park. The wildfire in November 2002 burnt most of the park. Protection of the park from further extensive wildfires in the near future is necessary to allow regeneration of native ecosystems. There are no built assets within the park, however, there are private assets associated with grazing operations, such as fences, yards, farm buildings and stock adjacent to the park. NPWS is actively involved in the New England Bush Fire Management Committee.	Fire regimes are appropriate for the conservation of native plant and animal communities. Negative impacts of fire on life, property and the environment are minimised. The potential for spread of bushfires on, from, or into the park is minimised.	6.5.1 Implement the Single National Park Reserve Fire Management Strategy. 6.5.2 Continue to be involved in the New England BFMC. Maintain cooperative arrangements with local RFS brigades and surrounding landowners in regard to fuel management and fire suppression. 6.5.3 Suppress unplanned fires in the park in accordance with the Reserve Fire Management Strategy. 6.5.4 Manage the reserve to protect biodiversity in accordance with the identified fire regimes in the fire management strategy.	High Ongoing High Ongoing High Ongoing Medium Ongoing

Current Situation	Desired Outcomes	Management Response	Priority*
6.6. Infrastructure and Maintenance There is no visitor infrastructure within the park. The only infrastructure consists of management trails and gates.	Management facilities and operations adequately serve management needs and have minimal impact. Infrastructure and assets are routinely maintained.	6.6.1 Maintain the network of management trails identified on Map 1, in accordance with NPWS Policies. 6.6.2 Gate and/or signpost management trails as necessary to restrict unauthorised access. 6.6.3 In conjunction with neighbours, maintain boundary fences to prevent stock entering the park.	High Ongoing Medium Medium Ongoing

Appendix 1. Vegetation Communities within Single National Park

Vegetation community	Indicator species	Ecological setting
Riparian scrub	*Hakea macrocarpa* *Callistemon pungens*	Riparian zones
Ephemeral wet herbfield	*Cyperus sphaeroideus* *Hypericum japonicum*	Drainage depressions on basaltic soils
Swamp woodland	*Wurmbea biglandulosa* *Brachycome scapigera*	Poorly drained basins on acid volcanic sediments
Moist gum woodland	*Eucalyptus dalrympleana subsp. heptantha* *Dichondra repens*	Open drainage depressions on fine acid volcanic sediments
Basalt grassy forest	*Eucalyptus bridgesiana* *Eucalyptus viminalis*	Basalt pockets
Shrubby New England Blackbutt forest	*Eucalyptus andrewsii* *Eucalyptus nicholii* *Aotus subglauca var. subglauca*	Valleys and slopes with deep rhyolitic soils
Shrubby stringybark woodland	*Eucalyptus youmanii* *Eucalyptus prava* *Eucalyptus banksii*	Dry rocky hills with porphyrytic rhyolite
Grassy layered forest	*Eucalyptus youmanii* *Eucalyptus andrewsii* *Acacia fimbriata*	Well drained slopes and ridges on acid volcanic soils
Grassy ironbark woodland	*Eucalyptus caleyi* *Eucalyptus prava*	Well drained slopes and ridges on acid volcanic soils
Rock outcrop heath	*Acacia granitica* *Leptospermum novae-angliae*	Rocky outcrops

Appendix 1. Map 2. Vegetation Communities