

**NSW NATIONAL PARKS & WILDLIFE SERVICE** 

# Mummel Gulf National Park and State Conservation Area

**Plan of Management** 



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#### **Foreword**

Mummel Gulf National Park and Mummel Gulf State Conservation Area are located approximately 40 kilometres south-east of Walcha and 85 kilometres west of Wauchope. Mummel Gulf National Park covers an area of 14,127 hectares, while Mummel Gulf State Conservation Area is 1162 hectares in size.

Mummel Gulf National Park contains extensive areas of old growth forest and is large enough to support space dependent top order predators such as the spotted-tailed quoll and a number of species of owl. The park also supports key populations of the parma wallaby and common wombat. It contains two plant and seventeen animal species listed as vulnerable under the Biodiversity Conservation Act. A significant area, approximately 10,700 hectares or 76% of the park, has been declared wilderness under the Wilderness Act.

Mummel Gulf State Conservation Area protects large areas of rainforest in pristine condition and provides habitat for several plant species of conservation significance.

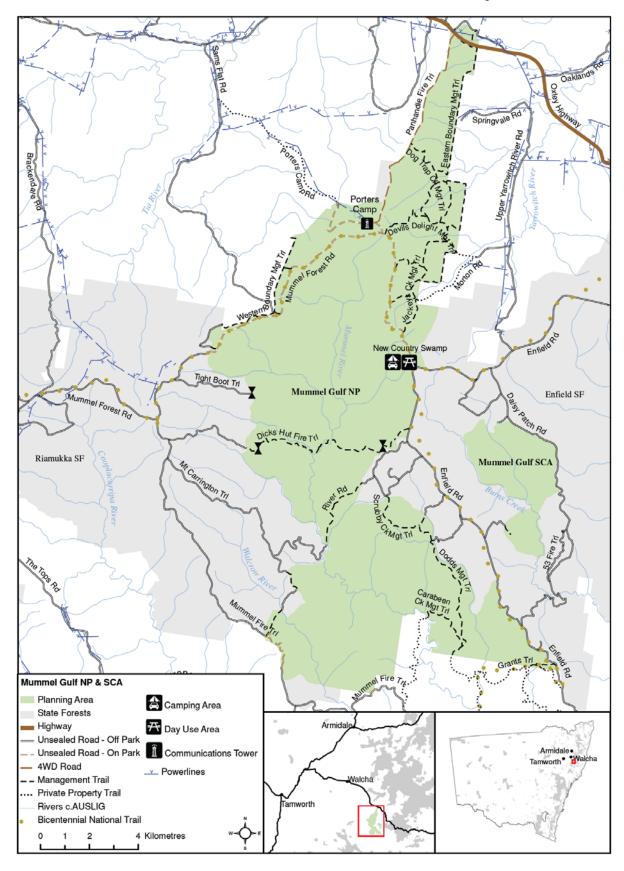
The New South Wales *National Parks and Wildlife Act 1974* requires that a plan of management be prepared for each national park and state conservation area. A plan of management is a legal document that outlines how an area will be managed in the years ahead.

A draft plan of management for Mummel Gulf National Park and Mummel Gulf State Conservation Area was placed on public exhibition from 12<sup>th</sup> February until 24<sup>th</sup> May 2010. The submissions received were carefully considered before adopting this plan.

The plan contains a number of actions aimed at protecting native vegetation, biodiversity, landscapes and waterways including fire, pest and weed management programs and the implementation of recovery actions for threatened species. The plan also contains actions which contribute to the provision of facilities and opportunities for sustainable visitor use and enjoyment including the maintenance of roads for visitor access and the maintenance of picnic and camping facilities at New Country Swamp, including facilities for horse riders using the Bicentennial National Trail.

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

Robyn Parker Minister for the Environment



Map 1 Map of Mummel Gulf National Park and State Conservation Area

## 1. Location, gazettal and regional context

Mummel Gulf National Park and Mummel Gulf State Conservation Area are located approximately 40 kilometres southeast of Walcha and 85 kilometres west of Wauchope (see Map 1).

Mummel Gulf National Park covers an area of 14,127 hectares. An original area of approximately 12,260 hectares was gazetted in January 1999 as part of the North East Regional Forest Agreement under the *Forest and National Park Estate Act 1999*, and an additional area of 1,788 hectares, known as the Dicks Hut Lease, was purchased in 2003 and gazetted as part of Mummel Gulf National Park in 2007.

Mummel Gulf State Conservation Area, formerly Daisy Patch Flora Reserve managed by Forests NSW, is 1,162 hectares in size and was gazetted in January 2003. Mummel Gulf National Park and State Conservation Area are herein referred to as "the planning area". The planning area covers 15,289 hectares in total.

The planning area is located on the high eastern edge of the southern New England Tablelands and lies within the Walcha Shire. The reserves are primarily in the traditional country of the Biripai people but also adjoin the traditional country of Thungutti/Dunghutti, Anaiwan and Nganyaywana peoples. The planning area is within the area of the Biripai, Purfleet and Amaroo Local Aboriginal Land Councils.

Major land uses in the surrounding area include timber harvesting and cattle grazing. Tourism is growing in the region and the park and the surrounding state forests are popular for scenic driving. The reserves are two of many in the area, with Cottan–Bimbang National Park, Werrikimbe National Park, and Nowendoc National Park located in close proximity and collectively they form part of a regional system of conservation reserves.

As well as the gazetted National Park and the State Conservation Area, the planning area includes lands which are vested in the Minister under Part 11 of the *National Parks and Wildlife Act 1974* (NPW Act). These lands include Mummel Forest Road, Porters Camp Road; sections of Panhandle Fire Trail and Mummel Fire Trail within Mummel Gulf National Park. These roads do not form part of the gazetted area of the planning area and were created by the *Forestry and National Parks Estate Act 1998* to meet access arrangements which existed immediately before the reservation of the national park and state conservation area (primarily for timber hauling and private property access).

## 2. Management context

## 2.1 Legislative and policy framework

The management of national parks and state conservation areas in NSW is in the context of the legislative and policy framework, primarily the *National Parks and Wildlife Act 1974* (NPWS Act) and Regulation, *Biodiversity Conservation Act 2016* (BCA Act), the *Wilderness Act 1987* and the policies of the National Parks and Wildlife Service (NPWS).

Other legislation, international agreements and charters may also apply to management of the area. In particular, the Environmental Planning and Assessment Act 1979 (EPA Act) may require the assessment and mitigation of the environmental impacts of works proposed in this plan. The Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act) also applies in relation to actions that may impact on 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, no operations may be undertaken within Mummel Gulf National Park and State Conservation Area except in accordance with this plan. This plan will also apply to any future additions to Mummel Gulf National Park and State Conservation Area. Should operations be proposed for Mummel Gulf National Park and State Conservation Area or any additions that are not in accordance with this plan, an amendment to this plan or a new plan will be prepared and exhibited for public comment.

#### 2.2 Management purposes and principles

**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 (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 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.

**State conservation areas** are reserved under the NPW Act to protect and conserve areas that contain significant or representative ecosystems, landforms or natural phenomena or places of cultural significance; that are capable of providing opportunities for sustainable visitor use and enjoyment, the sustainable use of buildings and structures, or research; and that are capable of providing opportunities for uses permitted under other provisions of the Act.

Under the Act (section 30G), state conservation areas are managed to:

- conserve biodiversity, maintain ecosystem functions, protect natural phenomena and maintain natural landscapes
- conserve places, objects and features of cultural value
- provide for the undertaking of uses permitted under other provisions of the NPW Act (including uses permitted under section 47J such as mineral exploration and mining), having regard to the conservation of the natural and cultural values of the state conservation area
- provide for sustainable visitor use and enjoyment that is compatible with conservation of the area's natural and cultural values and with uses permitted in the area
- provide for sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to conservation of the area's natural and cultural values and with other uses permitted in the area
- provide for appropriate research and monitoring.

The NPW Act requires a review of the classification of state conservation areas every 5 years in consultation with the Minister administering the *Mining Act 1992* (Mining Act). The first review occurred in 2008 with no change in classification for Mummel Gulf State Conservation Area. In the long term, it is intended for Mummel Gulf State Conservation Area to be added to Mummel Gulf National Park, and so management will also be guided by the management principles national parks where possible.

An area of approximately 10,700 hectares within Mummel Gulf National Park has been declared **wilderness** under the Wilderness Act (refer to Map 2). Wilderness areas are large natural areas of land that, together with their native plant and animal communities, are essentially unchanged by human activity. Wilderness areas provide opportunities for solitude and appropriate self-reliant recreation, however, protection of natural values has priority over providing for recreational use.

Management of natural and cultural heritage, of introduced species and fire is carried out in wilderness areas in the same manner as other parts of the planning area, with special attention to minimising impacts on wilderness values.

In accordance with section 9 of the Wilderness Act, wilderness areas are managed according to the following management principles:

- to restore (if applicable) and to protect the unmodified state of the area and its plant and animal communities
- to preserve the capacity of the area to evolve in the absence of significant human interference
- to provide opportunities for solitude and appropriate self-reliant recreation.

## 2.3 Statement of significance

Mummel Gulf National Park is considered to be of significance for the following reasons:

#### **Biological Values**

- It contains two plant and seventeen animal species listed as vulnerable under the BCA Act.
- It contains extensive areas of old growth forest and is large enough to support space dependent top order predators such as the spotted-tailed quoll (*Dasyurus maculatus*), powerful owl (*Ninox strenua*), sooty owl (*Tyto tenebricosa*) and masked owl (*Tyto novaehollandiae*).
- The park supports key populations of the parma wallaby (*Macropus parma*) and common wombat (*Vombatus ursinus*).

 It is part of a large continuous tract of undisturbed-forested land including various areas managed by NPWS, Forests NSW, freehold and leasehold country extending along the edge of the eastern escarpment of the New England Tableland and plateau from Dorrigo to the upper Manning Valley.

#### Wilderness Values

 An area of approximately 10,700 hectares has been declared as the Mummel Gulf Wilderness Area.

Mummel Gulf State Conservation Area is considered to be of significance for the following reasons:

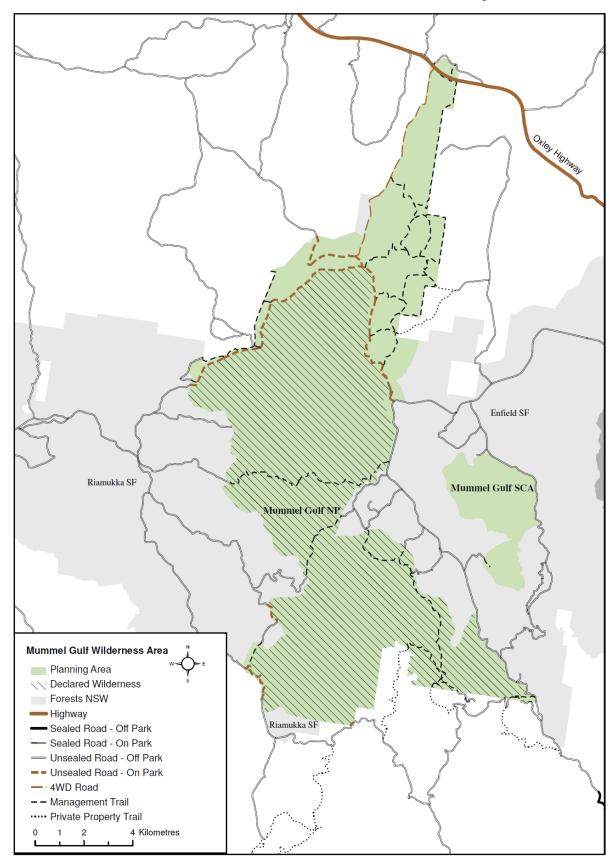
#### **Biological Values**

- It protects large areas of rainforest in pristine condition and provides habitat for several plant species of conservation significance.
- Despite a long history of logging on the plateau and upper slopes, most of the vegetation is still in good condition with only the more accessible areas of open forest showing signs of disturbance.
- There are relatively few weeds present and very few management issues need addressing to ensure the long-term maintenance of its biodiversity values (Copeland, 2007).
- The reserve provides a valuable corridor for wildlife.

#### 2.4 Specific management directions

This plan aims to conserve the natural and cultural values of the planning area. Visitor opportunities that are compatible with and promote the understanding and enjoyment of these values are also a key emphasis. This will be achieved through the following:

- protection of the old growth forest
- conservation of rare, threatened and/or isolated plant species and communities
- protection of threatened and isolated animal species and communities and their habitat
- conservation of Aboriginal and non-Aboriginal heritage values, including relics of past logging and mining activities
- management of the planning area as part of the system of protected lands along the eastern escarpment, with particular emphasis on maintenance of the ecological relationships with other reserves
- provision of opportunities for self-reliant recreation in a remote natural setting consistent with the protection of the areas natural and cultural values, including wilderness values.



Map 2 Declared Wilderness areas within Mummel Gulf National Park.

#### 3. Values

The location, landforms and plant and animal communities of an area have determined how it has been used and valued. Both Aboriginal and non-Aboriginal people place values on natural areas, including aesthetic, social, spiritual and recreational values. These values may be attached to the landscape as a whole or 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, various aspects of natural heritage, cultural heritage, threats and ongoing use are dealt with individually, but their inter-relationships are recognised.

#### 3.1 Geology, landscape and hydrology

The planning area is a wild and rugged landscape of steep gorges and valleys, cliffs and ridges on the south-eastern edge of the escarpment of the New England Tableland, which falls away steeply into the Upper Manning and Macleay valleys.

The planning area encompasses a dramatic altitudinal gradient from tableland rim to valley floor, centred on the wild and rugged Mummel River, a significant tributary to the Manning River. High points along the north-west boundary of the park form a feature known as the Panhandle and include Porters Camp (1449 metres above sea level) and Dennes Sugarloaf (1360 metres above sea level) which dominate the landscape. The planning area ranges in altitude from 450 metres above sea level where the Mummel River leaves the southern boundary of the national park, to 1449 metres at Porters Camp.

The Mummel River, which has formed a deep V-shaped gorge, or gulf, between high ridges, runs through the middle of the national park.



Figure 1 Part of the central catchment of the Mummel River.

The Mummel and Walcrow Rivers run into the Nowendoc River before flowing into the Manning River. Whilst, the state conservation area drains from Burns Creek into Rowleys River and then into the Manning River.

The area receives a moderate annual rainfall of 900 to 1200 millimetres. The wettest period is between January and March. Mean daily temperatures range from 24-28 degrees Celsius in the summer, to 10-14 degrees Celsius in winter. Frosts occur frequently between April and November. Snow occurs on higher areas during winter.

The geology of the area relates to Gondwana times showing evidence of drifting and rifting with shallow marine beds, felsic volcanic and low grade metamorphism. The area forms part of the New England Fold Belt and is characterised by highly metamorphosed Palaeozoic sedimentary rocks, intruded by granites of the Devonian age, as well as particulate covered Tertiary basalt flows. Rocks of the Devonian Sandon Association, sandstone, slates, schist, chert and jasper underlie the southern section of the park. The rest of the planning area is underlain by lithology of the Carboniferous Coffs Harbour Beds, sandstone, shales and schists. More recently, lava flowed over much of the landscape and covered some of the central part of the planning area. Volcanic rocks include Tertiary basalt, dolerite and bole (Packham, 1969).

#### 3.2 Native plants

The most extensive forest ecosystems represented in the planning area are open sclerophyll forests, including substantial areas of undisturbed old growth forest. Areas with a basalt substrate, generally occurring at higher altitudes in the north of the planning area, carry forests dominated by messmate (*Eucalyptus obliqua*), Northern Tablelands manna gum (*E. nobilis*) and brown barrel (*E. fastigata*). Snow gum (*E. pauciflora*), mountain gum (*E. dalrympleana*) and black sally (*E. stellulata*) occur in frost hollows on the basalt.

Open forests on soils derived from sedimentary rocks are dominated by a mixture of species including New England blackbutt (*E. campanulata*), silvertop stringybark (*E. laevopinea*), diehard stringybark (*E. cameronii*), Sydney blue gum (*E. saligna*), narrow-leaved peppermint (*E. radiata*), broad-leaved stringybark (*E. caliginosa*) and rough-barked apple (*Angophora floribunda*).

Warm temperate rainforests dominated by mixtures of coachwood (*Ceratopetalum apetalum*), corkwood (*Caldcluvia paniculosa*), sassafras (*Doryphora sassafras*), prickly ash (*Orites excelsa*) and crabapple (*Schizomeria ovata*) occupy the moister, fire-sheltered gullies particularly in the lower altitude sections of the planning area. On drier sites, brush bloodwood (*Baloghia inophylla*) and socketwood (*Daphnandra sp.*) are common dominants, while subtropical rainforest dominated by red cedar (*Toona ciliata*), yellow carabeen (*Sloanea woollsii*), black booyong (*Heritiera actinophylla*) and/or rosewood (*Dysoxylum fraserianum*) is present on some lower altitude sites, presumably in areas with richer soils (Copeland, 2007).

Two threatened flora species have been identified within the planning area (refer to Table 1).

Table 1 Threatened flora recorded within the planning area.

Common Name	Scientific Name	Legal Status
Elegant greenhood	Pterostylis elegans	Vulnerable*
Barrington Tops Ant Orchid	Chiloglottis platyptera	Vulnerable*

\* Status under BCA Act

Source: NPWS ATLAS of NSW Wildlife

The mosaic of high elevation moist and dry open forest ecosystems supports varied flora. There is potential habitat for other significant plant species, including the vulnerable herb *Euphrasia ciliolata* and the endangered liana *Cynanchum elegans*.



Figure 2 A typical moist forest ecosystem of Mummel Gulf NP.

Under the BCA Act recovery plans may be prepared to identify actions and priorities for threatened species, populations or ecological communities. Additionally, a threatened species Priorities Action Statement (PAS) has been prepared which outlines broad strategies and detailed priority actions in NSW to promote the recovery of threatened species, populations and Endangered Ecological Communities and to manage key threatening processes. The PAS includes detailed actions for the Barrington Tops ant orchid and will be used to guide management of threatened species in the planning area.

#### 3.3 Native animals

The planning area is part of a major wildlife corridor that links Mummel Gulf through Enfield State Forest to Cottan–Bimbang National Park, Mount Seaview Nature Reserve, and Werrikimbe, Oxley Wild Rivers, Cunnawarra and New England National Parks. This connectivity is strongest around the northern section of Mummel Gulf National Park and is particularly important for the ecological processes of vertebrate fauna of wet escarpment and eastern tablelands environments. Major landscape linkages from the planning area also extend west around the fringe of the tablelands through Riamukka State Forest and Ngulin Nature Reserve to Nowendoc and Tuggolo state forests, Nowendoc National Park and Tuggolo Nature Reserve and then to Giro State Forest and Barakee National Park and Bretti Nature Reserve.

The planning area provides important habitat for a range of vertebrate fauna including several threatened species (see Table 2). It also potentially provides habitat for species

recorded within one kilometre of the planning area (see Table 3) as well as containing areas of predicted habitat for the endangered Booroolong frog (*Litoria booroolongensis*), and the vulnerable New England tree frog (*Litoria subglandulosa*) and long-nosed potoroo (*Potorous tridactylus*). Of particular significance are the populations of three species of forest owls: the powerful owl (*Ninox strenua*), sooty owl (*Tyto tenebricosa*) and masked owl (*Tyto novaehollandiae*). These owls, as well as the yellow-bellied glider (*Petaurus australis*), have the potential to be important indicator species for the health of the planning area. They require large areas over which to range and represent faunal groups dependent on old growth forest.

Table 2 Threatened fauna recorded within the planning area.

Common Name	Scientific Name	Legal Status
Brown treecreeper	Climacteris picumnus	Vulnerable*
Eastern bent-wing bat	Miniopterus schreibersii oceanensis	Vulnerable*
Eastern false pipistrelle	Falsistrellus tasmaniensis	Vulnerable*
Eastern freetail bat	Mormopterus norfolkensis	Vulnerable*
Glossy black cockatoo	Calyptorhynchus lathami	Vulnerable*
Golden-tipped bat	Kerivoula papuensis	Vulnerable*
Greater broad-nosed bat	Scoteanax rueppellii	Vulnerable*
Koala	Phascolarctos cinereus	Vulnerable*
Large-eared pied bat	Chalinolobus dwyeri	Vulnerable*#
Large footed Myotis	Myotis macropus (formerly Myotis adversus)	Vulnerable*
Masked owl	Tyto novaehollandiae	Vulnerable*
Parma wallaby	Macropus parma	Vulnerable*
Powerful owl	Ninox strenua	Vulnerable*
Sooty owl	Tyto tenebricosa	Vulnerable*
Spotted-tailed quoll	Dasyurus maculatus	Vulnerable* Endangered#
Stuttering barred frog	Myxophes balbus	Vulnerable*
Yellow-bellied glider	Petaurus australis	Vulnerable*

<sup>\*</sup> Status under BCA Act

Source: NPWS ATLAS of NSW Wildlife

<sup>#</sup> Status under the EPBC Act

Table 3 Endangered and vulnerable fauna recorded within one kilometre of the planning area.

Common Name	Scientific Name	Legal Status
Hastings River mouse	Pseudomys oralis	Endangered*#
Eastern pygmy possum	Cercartetus nanus	Vulnerable*
Sphagnum frog	Philoria sphagnicolus	Vulnerable*
Davies tree frog	Litoria daviesae	Vulnerable*
Brown treecreeper	Climacteris picumnus	Vulnerable*
Speckled warbler	Pyrrholaemus saggitatus	Vulnerable*
Hooded robin	Melanodryas cucullata	Vulnerable*
Diamond firetail	Steganopleura guttatum	Vulnerable*

<sup>\*</sup> Status under BCA Act

Source: NPWS ATLAS of NSW Wildlife

The Threatened Species PAS contains actions and strategies to promote the recovery of threatened fauna species and populations. In addition, a recovery plan has been prepared for the Hastings River mouse. Priority actions and recovery plans will be used to guide management of threatened species in the reserves.

The planning area is a core area for the conservation of the dingo (*Canis lupus dingo*) under Schedule 2 of the Wild Dog Control Order made under the *Rural Lands Protection Act 1998* (RLP Act). The RLP Act requires a wild dog management plan to be prepared for these areas to address the control of wild dogs and conservation of dingoes (further information in Section 4.1).

## 3.4 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 connection to nature are inseparable from each other and need to be managed in an integrated manner across the landscape.

The planning area is primarily in the traditional land of the Biripai people but borders the country of several other Aboriginal peoples including that of the Anaiwan to the west, the Nganyaywana people of the southern New England Tablelands and the Dunghutti of the hinterland valleys. The planning area is largely within the area covered by the Biripai, Purfleet and Amaroo Local Aboriginal Land Councils.

Evidence from studies on the New England Tablelands shows that Aboriginal groups have been in the area for at least 4,200 years; however, it is not specifically known how the planning area was utilised by Aboriginal people. A small number of artefacts have been located in the former Dicks Hut Lease area. The area would have provided a wide variety of fruits and edible plants as well as a range of fauna species.

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.

<sup>#</sup> Status under the EPBC Act

#### 3.5 Historic heritage

John Oxley was the first explorer to venture through the area, in 1818, and wrote favourable reports about the region.

European settlement of the Tablelands began in the 1830s. By 1842 a road had been built using convict labour which linked Walcha and Port Macquarie, providing access to the forested country.

Cedar getters began logging of the general area in the 1860s, with several small mills established on the southern New England Tablelands. Many of the current roads and trails in the area follow original routes associated with logging operations that opened up the area. The area which is now Mummel Gulf National Park was previously part of Enfield State Forest. General purpose logging of rainforests accelerated from 1945 until it was phased out in 1974, with selective logging continuing until 1985. New Country Swamp (now just within the eastern boundary of the national park) was the focal point of a protest action against the logging of old growth forests in the area in 1992 by the North East Forest Alliance.

Cattle grazing greatly expanded after the area was opened up by initial logging efforts and by the early 1900s, cattle and sheep grazing were well established in the area.

The rich geology within the area led to mining for gold and manganese. The main mining periods were 1890-1900, the 1920s and 1930s during the Depression, and 1954-1966. The mines were not very successful and were generally small claims exploring surface veins and alluvial traces. There is anecdotal evidence that there may be old mine shafts and other evidence of mining activity in the planning area.

The Dicks Hut Lease area contains the remains of two huts and some artefacts of mining activity which require assessment to determine their heritage values and conservation requirements.

#### 3.6 Recreation, education and research

Visitor facilities provide opportunities for visitors to enjoy, appreciate and understand the value of our natural and cultural heritage. Visitor opportunities provided in national parks should be ecologically sustainable and contribute to visitor understanding and appreciation of the park.

Day use and camping facilities within the planning area are provided at New Country Swamp, including picnic tables, barbecues, a short walking track and a toilet. The facilities were initially constructed by the Tamworth 4WD Club with assistance from Forests NSW but have since been upgraded by NPWS. Day use and camping facilities are also provided at nearby Mooraback within Werrikimbe National Park and at Apsley Falls and Tia Falls in Oxlev Wild Rivers National Park.

Mummel Forest Road provides the main public vehicle access through the national park and is accessed off Enfield Road to the east and Brackendale Road to the west (see Map 1). Porters Camp Road also provides access to the national park. Daisy Patch Road provides access to the state conservation area.

The Bicentennial National Trail (BNT) passes just to the east of the national park along Enfield Road and then along Grants Trail through a small section of the southern part of the park. An alternate route of the BNT (Nundle Detour) goes from New Country Swamp west along Mummel Forest Road. The BNT is available for trekkers using various forms of non-motorised transport including walkers, horse riders and cyclists. Management and use of the BNT occurs under a Memorandum of Understanding (MoU) between the BNT Board and NPWS. Management and use of the BNT within this park will be consistent with this plan of management and with general NPWS policies. Horse riding in the planning area is permitted on the BNT. Horse riding is also permitted on other roads including Panhandle Fire Trail and

those parts of the Porters Camp Road, Mummel Fire Trail and Daisy Patch Road within the planning area.

Between April 2014 and April 2016, a horse riding in wilderness trial was undertaken on Dicks Hut Fire Trail and River Road (see Map 1). Horse riding is only allowed on these specific routes in the wilderness area.

The impact of horses on the facilities at New Country Swamp and the impact of horse riding on roads and trails will be monitored and ameliorated as necessary (e.g. a small holding yard may be constructed in the vicinity of the existing facilities if necessary)

The Mummel River is used infrequently for remote fishing and is classified as a 'General Trout Stream'.

Commercial and non-commercial 4WD and registered trail bike use occurs on a number of roads and trails in the planning area. Any commercial operators are required to hold a Commercial Recreation Operators Licence.

A large part of Mummel Gulf National Park (approximately 10,700 hectares) was declared as the Mummel Gulf Wilderness in March 2007 (see Map 2). No vehicle access is permitted in the wilderness for touring or for recreational purposes but the wilderness area is available for bushwalking, cycling on trails and remote walk-in camping. Vehicle access may be provided along trails within the wilderness area for approved park management, cultural heritage or research purposes.

The planning area is rugged and remote and provides opportunities for solitude and self-reliant recreation activities. The diversity of landscapes and forest types provide opportunities for bushwalking, nature observation and remote camping. Table 4 (following) identifies permissible recreation activities and their location within the planning area.

Table 4 Permissible recreation activities, their location and conditions of use.

Permitted recreational activities	Locations where activity is permissible	Conditions applying
Picnicking	Facilities provided at New Country Swamp.	Picnicking permitted elsewhere provided no fires are lit.
Car-based camping	New Country Swamp.	Must be in the designated camping area and camping is limited to a maximum of 1 week.
Remote area camping	Throughout the planning area.	Not within 200 metres of an existing visitor facility or public road. No fires permitted.  One night in one location only.
Scenic driving – 2WD vehicle	Mummel Forest Rd is the only road suitable for 2WD vehicles.	Access is from Enfield and Brackendale Roads. No public vehicle access permitted on management trails.
Scenic driving – 4WD vehicle	Mummel Forest Rd, Porters Camp Rd, Daisy Patch Road, Panhandle Fire Trail and Mummel Fire Trail within the planning area only.	No public vehicle access permitted on management trails. No public vehicle access permitted in declared Wilderness area.
Scenic driving – motor bikes	Permissible on Mummel Forest Rd, Porters Camp Rd, Daisy Patch Road, Panhandle Fire Trail and Mummel Fire Trail within the planning area - dry weather only.	Registered bikes only. No public vehicle access permitted on management trails. No public vehicle access in declared Wilderness area.

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Permitted recreational activities	Locations where activity is permissible	Conditions applying
Quad bikes	Not permitted even with recreation registration.	N/A
Nature study, photography and/or cultural awareness	Throughout the planning area.	Commercial activities must be licensed.
Horse riding	Bicentennial National Trail (including Mummel Forest Road), Porters Camp Road, Daisy Patch Road, Panhandle	Must be on designated roads and management trails.  Horse riding and camping with horses
	Fire Trail and Mummel Fire Trail within the planning area.	and other pack animals must be
	On the Dicks Hut Fire Trail and River Road.	conducted in accordance with the NPWS Horse Riding Policy.
	Camping with horses and other pack animals only permitted at New Country Swamp.	The maximum size of a horse riding group in the planning area shall be 20 horses (including pack horses).
Cycling	All roads and management trails.	Must be on designated roads and management trails – not permitted on walking tracks.
Remote area bushwalking	Throughout the planning area.	Conditions apply on camping, see above.
Recreational fishing	Throughout the planning area.	Recreational fishing is permitted in accordance with NSW fishing legislation.
Fossicking	Not permitted.	N/A
Car Rallies	Transport stages only on Mummel Forest Rd subject to NPWS approval. Not permitted elsewhere.	Must have consent under the NPW Act, and additional conditions will apply.
Adventure activities – abseiling, rock climbing etc.	Throughout the planning area subject to NPWS approval.	Must have consent under the NPW Act, and additional conditions will apply.
Group activities (including military)	Throughout the planning area subject to NPWS approval.	Must have consent under the NPW Act, and additional conditions will apply.
Commercial activities	Throughout the planning area subject to NPWS approval.	Commercial activities must be licensed under the NPW Act, and additional conditions will apply.



Figure 3 View from New Country Swamp Day Use and Camping Area.

#### 4. Issues

#### 4.1 Introduced plants and animals

The planning area is generally free of major weed infestations; however, small scattered areas of blackberry (*Rubus fruticosus*), ox-eye daisy (Leucanthemum vulgare) and crofton weed (*Ageratina adenophora*) are known to occur (NPWS, 2007). Blackberry is of concern because of its ability to invade intact native vegetation in addition to colonising disturbed areas such as roadsides and former logging areas. Annual control programs for blackberry and other weeds are conducted.

Coolatai grass (*Hyparrhenia hirta*) was discovered along the Oxley Highway in 2004. This weed has the potential to invade undisturbed forest areas and to dramatically affect biodiversity values. St Johns wort (*Hypericum perforatum*), recorded along the Oxley Highway, and nodding thistle have also been recorded in the planning area, however, there are no substantial infestations in either the national park or state conservation area (NPWS, 2007).

Phytophthora cinnamomi (root rot fungus – a slime mould) was confirmed at one location in the planning area during 2004, along a section of Dog Trap Creek Management Trail. The planning area does not fall into one of the climatic zones listed in the Threat Abatement Plan for *Phytophthora cinnamomi* as being an area of most concern. It does fall into a climatic zone where localised damage might occur on disturbed sites. There is concern about P. cinnamomi in other nearby areas where it has been recorded, such as in Werrikimbe and Barrington Tops National Parks.

There are small areas within the planning area where Bell Miner Associated Dieback appears to be affecting some eucalypt species. Lantana, which is usually associated with Bell Miner Associated Dieback, is not present in these locations.

Wild pigs (*Sus scrofa*), wild dogs (*Canis lupus familiaris*), dingoes (*Canis lupus dingo*) and their hybrids have been recorded in low numbers throughout the planning area. The impact of these species can vary seasonally.

Wild dogs, including dingoes, have been declared as pest animals under the RLP Act throughout NSW. Hence, the NPWS has a statutory obligation to control wild dogs on its estate. Under the RLP Act, however, public lands which are identified as significant habitat for dingoes in Schedule 2 of the Wild Dog Control Order will be managed with the dual objectives of managing wild dogs while at the same time conserving dingoes. Mummel Gulf National Park is a Schedule 2 area, requiring public land managers, such as the NPWS, to assist in the preparation of a local wild dog management plan in accordance with the RLP Act. These plans are to identify methods for the control of wild dogs and the conservation of dingoes. A wild dog management plan covering the planning area has been approved by the Yarrowitch Wild Dog Association.

Deer (Cervidae family), feral cats (Felis catus), rabbits (Oryctolagus cuniculus), hares (Lepus capensis) and foxes (Vulpes vulpes) are also present in the planning area but their extent is unknown (NPWS, 2007). Fox and feral cat predation are listed as key threatening processes to Australian wildlife under the NSW BCA Act and the Federal Government's EPBC Act.

The control of all pest species within the reserve is undertaken in accordance with the Northern Tablelands Regional Pest Management Strategy (NPWS, 2007 and subsequent revisions). This strategy identifies appropriate control mechanisms and management strategies for all pest species throughout the Region. In particular, it identifies ground trapping for pig control and ground baiting for wild dog control as the most effective feral animal mechanisms for these reserves.

#### 4.2 Fire

The NPWS recognises that fire is a natural feature of many environments and is essential to the survival of some plant communities and animal species. The frequency of fire, its intensity, and the season in which it occurs are collectively known as the fire regime and are some of the major factors influencing the distribution of vegetation communities and fauna species. An inappropriate fire regime may contribute to a significant loss of biodiversity, and high frequency fires have been listed as a key threatening process under the BCA Act. Any fire has the potential to damage cultural features and infrastructure in the park and may pose a threat to neighbouring properties.

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 (NPWS, 2006).

The NPWS has little information on the fire history of the area prior to its gazettal. It appears that the southern sections of the planning area have been subject to frequent fires burning from neighbouring properties. The Panhandle section of the national park has been burnt for hazard reduction purposes on an infrequent basis. The core area does not appear to have experienced many fires. Little is known about the impact of fire on the species of plants and animals found in the planning area.

A separate (map-based) fire management strategy has been prepared for the planning area (NPWS, 2007). This strategy can be viewed at the Walcha NPWS Area office and on the Department's website. The fire management strategy outlines the recent fire history of the planning area, key assets within and adjoining the planning area including sites of natural and cultural heritage value, fire management zones which may include asset protection zones, and fire control advantages such as management trails and water supply points. Hazard reduction programs, ecological burning proposals and fire trail works are submitted annually to the New England Zone Bush Fire Management Committee.

## 5. Isolation and fragmentation

The area surrounding the planning area, particularly to the north-west, has been extensively cleared which has resulted in a high loss of biodiversity and fragmentation of habitat in the region. 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 planning area and provide ecological corridors to other vegetated areas. Maintaining the integrity of the remaining habitat within the planning area and, where possible, linking this to adjacent areas of vegetation to facilitate wildlife corridors is important in ensuring long term viability of the area's biological values.

## 6. Climate change

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

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It has been suggested that the greatest detrimental impact will be on the cover and diversity of woody species. The warm to cool temperate sclerophyll forests and woodlands typical of the planning area will see an increased fire risk resulting from more droughts with a decline in shrub species and potentially an increase in invasive grasses (Bradstock, 2007).

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 weeds and 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 pressures arising from such threats, such as habitat fragmentation, invasive species, bushfires, pollution and urban expansion will help reduce the severity of the effects of climate change.

## 7. Management operations and other uses

## 7.1 General management operations

There are four Ministerial roads in the planning area that provide access to adjoining state forests and private property. The Ministerial roads are: Mummel Forest Road, Porters Camp Road; sections of Panhandle Fire Trail and Mummel Fire Trail. These roads were vested in the Minister administering the NPW Act to ensure the continuation of access arrangements, which existed immediately before the gazettal of the national park. While these roads do not form part of the gazetted park, the management of these roads is subject to the provisions of this plan.

In addition to the Ministerial roads, there is a network of management trails within the planning area (see Map 1). The primary purpose of the management trail system is to provide access for fire and pest species management and research activities. These management trails are for use by authorised vehicles only. There are also several boundary access trails which will be retained for management purposes only (see Map 1). There are no roads or management trails within the state conservation area, however, Daisy Patch Road provides access along the northern boundary of the state conservation area.

As a result of past forestry management there are a large number of "snig" trails within the planning area, many of which are partially or completely overgrown with vegetation and fallen timber. These trails are not required for management purposes and have been closed and allowed to revegetate.

There are four quarries in the planning area which existed prior to gazettal of the park, located on the Oxley Highway, Mummel Forest Road, Devils Delight Management Trail and Jackeys Creek Management Trail. These quarries will be used for the essential maintenance of park roads, management trails and Ministerial roads. All quarries will be managed according to the NPWS Quarry Safety Management System and relevant policies and guidelines.

The following table lists the roads and trails in the planning area which will be retained and identifies management responsibility where the road or trail is not managed by NPWS. It also identifies which roads and trails are available for public use, which management trails are for management use only and which management trails can be used for horse riding.

Table 5 Vehicle Access within the Planning Area

Table 3 Vehicle Access within the Flamming Area						
NAME OF ROAD/ TRAIL	PUBLIC 2WD	PUBLIC 4WD	MANAGEMENT ACCESS ONLY	HORSE RIDING	COMMENTS	
Dicks Hut Fire Trail	N	N	Y	N	Section of Ministerial road within park to be gazetted as park. The section of this road within the park is in the declared Wilderness area and is closed to public vehicle access. Horse riding is allowed on this trail.	
Grants Trail	N	N	Y	Υ	Private road - part of the Bicentennial National Trail. Only small section in park.	
Mummel Fire Trail	N	Y	N	Y	Ministerial road. Road mostly in state forest and private property. Only a small section is on park.	
Mummel Forest Rd	Υ	Y	N	Y	Main public access through park. Alternative route for the BNT. Ministerial road.	
Panhandle Fire Trail	N	Y	N	Y	Also part Ministerial road to provide access to small section of Enfield State Forest.	
Porters Camp Rd	Ν	Υ	N	Υ	Ministerial road.	
River Rd	N	N	Y	N	Management use only on section in park. Western end of trail is in state forest. The section of road within the declared Wilderness area is closed for vehicle public access. Horse riding is permitted on this trail.	
Daisy Patch Road	N	Υ	N	Υ		
All other trails shown on Map 1 as being "Management Trails"	N	N	Υ	N	Are to be used for management purposes only. Horse riding is permitted on the BNT.	
Any other closed or partially closed trails and snig tracks	N	N	N	N	Treated as closed. May be temporarily reopened for fire management purposes and rehabilitated after use.	

A number of the trails in Table 5 run partly on state forest estate. This plan does not make decisions regarding future use or appropriate recreational use of those trails or sections of trail on state forest.

Some trails enter private property. Permission from landholders is required before accessing private lands or accessing the planning area through those lands.

#### 7.2 Mining and mineral exploration

The last known mining in the planning area occurred during the early 1970s. There are three inactive areas of mining activity but no current mining leases or exploration licences in the planning area.

The Resources and Energy Division of the Department of Trade and Investment, Regional Infrastructure and Services is the lead authority for mining, mineral exploration and mine site rehabilitation. The Division of Resources and Energy is required under the *Environment Planning and Assessment Act 1979* to undertake environmental assessments for mining and exploration activities in all state conservation areas. The existing Memorandum of Understanding (MoU) between NPWS and the Division of Resources and Energy describes the management and consultative arrangements associated with exploration and mining in state conservation areas.

Exploration licences and assessment leases may be granted within state conservation areas without the concurrence of the Minister administering the NPW Act, but approval must be obtained before any rights under that lease or licence can be exercised. Likewise, the concurrence of the Minister administering the NPW Act must be obtained before any mining lease is issued. In the case of exploration licences and other prospecting titles, an access agreement under the Mining Act will also be required between the titleholder and the NPWS in order for the titleholder to conduct prospecting operations within a state conservation area.

#### 7.3 Communications tower and transmission lines

There are three telecommunication towers and associated facilities at Porters Camp in Mummel Gulf National Park. These uses predate gazettal of the park. The Airservices Australia facilities and the Essential Energy facilities were subject to Occupation Permits previously granted by the Forestry Commission of NSW. These occupancies have now been formalised with licences under the National Parks and Wildlife Act 1974. There is no occupancy agreement in place for the Telstra tower and facilities. Access to Porters Camp is via Porters Camp Road (refer to Map1).

An Essential Energy transmission line runs from east to west through the section of the park to the north of the Oxley Highway. A transmission line also provides power to the facilities at Porters Camp. These transmission lines are subject to an Occupation Permit previously granted by the Forestry Commission of NSW. This permit is now administered by the Department of Planning, Industry and Environment.

#### 8. References

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NPWS 2007, Mummel Gulf National Park and State Conservation Area Reserve Fire Management Strategy. NSW National Parks and Wildlife Service, Hurstville.

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# 9. Implementation

Current Situation	Desired Outcomes	Management Response	Priority*
9.1 On Park Ecological Conservation			
Soil erosion hazard is a minor problem on steep slopes and disturbed areas such as old log dumps, mine sites, gravel pits, quarries, roads and trails.	Soil erosion is minimised.  Water quality and health of streams in the planning	9.1.1. Implement relevant actions in the Threatened Species Priorities Action Statement and recovery plans for threatened species in the planning area.	High Ongoing
The Planning Area is covered by the Hunter Central Rivers Catchment Management Plan.	area is maintained or improved.	9.1.2. Continue existing fire, pest and weed management programs to protect wilderness values and increase the planning area's ability to cope with future disturbances,	High Ongoing
The planning area contains habitat and potential habitat for a number of threatened plant and animal species.	Native plant and animal species and communities are conserved.	including climate change, and encourage research into appropriate indicators to monitor the effects of climate change.	
A Priorities Action Statement has been prepared that identifies strategies and actions to promote the recovery of threatened species, populations and ecological communities and manage key threatening	Biodiversity is maintained and threatened species in the park are not further	9.1.3. Undertake or encourage surveys and DNA sampling of dingo populations to determine the degree of hybridisation of dingoes in the planning area.	Medium
processes.	threatened.	9.1.4. Assist the Livestock Health and Pest Authority and Wild Dog Associations in the implementation of the wild dog	
The planning area has been identified as being significant core habitat for dingoes.	Values of the park are protected, conserved, preserved and where	management plan for the control of wild dogs and the conservation of dingoes in the planning area (refer to Section 4.1).	Medium
The area demonstrates values that warrant investigation for its nomination for World Heritage listing as part of Gondwana Rainforests World Heritage Area.	necessary rehabilitated.  Core dingo populations	9.1.5. Investigate nomination for addition to the Gondwana Rainforests World Heritage Area.	Ongoing
Climate change has been identified as a key threatening process under the BCA Act.	are conserved while ensuring wild dogs are controlled.	9.1.6. Encourage and/or facilitate appropriate research that allows identification and documentation of the values of the planning area, including threatened plant and animal species,	Medium
			Ongoing

The Wilderness area includes a small area of cleared and disturbed country.	The effects of climate change on natural systems are reduced.	species that have been poorly represented in previous surveys such as frogs, and potential World Heritage values.	Medium
	Wilderness areas restored where necessary and are managed to	9.1.7. Work with Hunter Central Rivers Catchment Management Authority to implement the Hunter Central Rivers Catchment Management Plan.	ongon,
	preserve the capacity of the area to evolve in the absence of significant human interference.	9.1.8. Close former log dumps and trails no longer required for management and allow to naturally regenerate.	Medium
	numan interreterice.	9.1.9. Monitor natural regeneration of disturbed areas within the declared wilderness area. Implement revegetation works if required.	Ongoin
			Low
			Low
			Low Ongoing
9.2 Cultural Heritage			
9.2 Cultural Heritage  The planning area is part of a landscape associated with the Biripai, Anaiwan, Nganyaywana and Dunghutti Aboriginal people.	Cultural heritage sites are identified, conserved, recorded and managed in accordance with their significance.	9.2.1. Consult with relevant Aboriginal communities, Elders, individuals and land councils about management of Aboriginal sites, places and values, including the recorded Aboriginal artefact scatter.	
The planning area is part of a landscape associated with the Biripai, Anaiwan, Nganyaywana and Dunghutti Aboriginal people.  A small number of Aboriginal sites have been recorded	identified, conserved, recorded and managed in accordance with their significance.	individuals and land councils about management of Aboriginal sites, places and values, including the recorded Aboriginal artefact scatter.  9.2.2. Undertake or encourage cultural heritage surveys	Ongoing
The planning area is part of a landscape associated with the Biripai, Anaiwan, Nganyaywana and Dunghutti	identified, conserved, recorded and managed in accordance with their	individuals and land councils about management of Aboriginal sites, places and values, including the recorded Aboriginal artefact scatter.	Ongoine High Ongoine

Knowledge about Aboriginal and non-Aboriginal cultural heritage values within the planning area is limited. There have been only minimal systematic surveys	Understanding of the cultural values of the park	remnants elsewhere, to determine their cultural heritage significance and appropriate management.	Low
undertaken.	is improved.	9.2.4. Provide information on the cultural heritage of the area at New Country Swamp.	
			Medium
9.3 Visitor Use and Services			
Public vehicle access to the planning area is provided by the Oxley Highway and through state forest via Mummel Forest Rd, Daisy Patch Rd, Enfield Rd, Walcrow Rd and Porters Camp Rd.	Visitor use is appropriate and ecologically sustainable.	9.3.1. Maintain public vehicle access within the planning area as identified in Map 1 and Table 5. Public vehicle access will not be permitted on management trails.	High Ongoing
The park receives a low level of visitor use. Visitors are predominantly involved with self-reliant recreational	Negative impacts of visitors on park values	9.3.2. Permit recreation activities as identified in Table 4.	
activities such as camping and bushwalking. Much of the national park is declared wilderness.	are stable or diminishing.	9.3.3. Maintain existing day use and camping facilities at New Country Swamp.	High Ongoing
Day use and camping facilities and a walking track are provided at New Country Swamp.	Visitor use and services encourage appreciation of the park's values.	9.3.4. Provide minimal impact use information at New Country Swamp as well as information on natural and cultural values, fire, and pest management.	High Ongoing
The Bicentennial National Trail (BNT) traverses the park (see Map 1).	Minimal visitor facilities are provided in the park.		Medium
Horse riding is permitted on a number of roads and trails within the planning area. It is recognised that	and provided in the paint	9.3.6. Allow horse riding on the BNT, Panhandle Fire Trail and those parts of the Porters Camp Road, Mummel Fire Trail and Daisy Patch Road that are within the planning area. Horse riding in wilderness areas is allowed on Dicks Hut Fire Trail and River	Ongoing
larger group activities of any nature may increase risks of environmental damage and may impact on other users in the planning area. Horse group size limits will apply within the planning area consistent with the		Road. Groups of more than 20 horses (including pack horses) will not be permitted on wilderness area routes. Allow overnight camping with horses at New Country Swamp only. Horses and	Medium Ongoing

approach taken for the BNT in the nearby Oxley Wild Rivers National Park.		other pack animals are not permitted in the campground and must be yarded, fed and watered in the yards provided.	
Commercial and non-commercial 4WD and registered trail bike use occurs within the park and adjoining state forest.		9.3.7. Undertake monitoring of visitor use levels and impacts during routine activities, including at New Country Swamp and on roads and trails. Implement actions if necessary to control impacts.	
			Medium Ongoing
9.4 Weeds and Pest Animals			
Introduced plant species recorded in the planning area include crofton weed, blackberry, coolatai grass, St Johns wort and nodding thistle	Introduced plants and animals are controlled and where possible	9.4.1. Manage introduced pest species in accordance with the Northern Tablelands Regional Pest Management Strategy, in association with neighbours and other control authorities.	High Ongoing
Seasonal weed control programs are conducted within the planning area.	eliminated.		

Negative impacts of weeds on park values are stable or diminishing.	9.4.2. Monitor environments currently free of introduced species and treat any outbreaks.	High Ongoing
Negative impacts of pest animals on park values are stable or diminishing.	9.4.3. Encourage the construction and maintenance of boundary fences. Fencing assistance may be provided in accordance with NPWS policy.	High Ongoing
Pest control programs are undertaken where appropriate in consultation with neighbours.	9.4.4. Undertake control of wild dogs in strategic locations along the planning area perimeter utilising ground control baiting techniques in accordance with the Wild Dog Management Plan. Cooperate with Yarrowitch Wild Dog Association in localised control programs. Encourage neighbouring landholders to erect dog proof fencing.	High Ongoing
	9.4.5. Restrict or prohibit access in areas found to be infected with Phytophthora cinnamomi and implement management protocols for plant and equipment. Monitor affected areas and take additional action as required	
	9.4.6. Undertake surveys to determine the extent of introduced species in the planning area including deer, cats, goats, cattle and foxes.	High Ongoing
		Medium Ongoing
	weeds on park values are stable or diminishing.  Negative impacts of pest animals on park values are stable or diminishing.  Pest control programs are undertaken where appropriate in consultation with	weeds on park values are stable or diminishing.  9.4.3. Encourage the construction and maintenance of boundary fences. Fencing assistance may be provided in accordance with NPWS policy.  9.4.4. Undertake control of wild dogs in strategic locations along the planning area perimeter utilising ground control baiting techniques in accordance with the Wild Dog Management Plan. Cooperate with Yarrowitch Wild Dog Association in localised control programs. Encourage neighbouring landholders to erect dog proof fencing.  9.4.5. Restrict or prohibit access in areas found to be infected with Phytophthora cinnamomi and implement management protocols for plant and equipment. Monitor affected areas and take additional action as required  9.4.6. Undertake surveys to determine the extent of introduced species in the planning area including deer, cats, goats, cattle

plant and animal communities. High frequency fires have been listed as a key threatening process under the BCA Act.	Life, property and natural and cultural values are protected from bushfire.	9.5.1. Implement the Reserve Fire Management Strategy including undertaking prescribed burning as necessary and as opportunities arise.	High Ongoing
A Reserve Fire Management Strategy has been prepared for the planning area.  The planning area 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 is required.  Fire and fire related activities may damage cultural features in and adjoining the planning area.	Fire regimes are appropriate for conservation of plant and animal species and communities.	9.5.2. Participate in the New England Bush Fire Management Committee. Maintain coordination and cooperation with Rural Fire Service, Forests NSW and neighbours regarding fuel management, fire suppression and notification procedures.	High Ongoing
	Negative impacts of fire on natural and cultural heritage values are stable or diminishing.	<ul><li>9.5.3. Collate information on fire history including frequency and identified fire paths within and adjoining the park and use of prescribed burning operations on neighbouring properties.</li><li>9.5.4. Encourage further research into the ecological effects of fire in the park and appropriate burning regime.</li></ul>	Medium Ongoing
		9.5.5. Undertake minimal environmental impact fire management practices in the identified wilderness. Prescription burning may be undertaken in wilderness areas if required.	Medium Ongoing
			Medium Ongoing

#### 9.6 Infrastructure and Maintenance

The network of roads and management trails in the planning area has been assessed for their suitability for public access, fire control, and other management purposes.

Quarries on Oxley Hwy, Mummel Forest Road, Devils Delight Management Trail and Jackeys Creek Management Trail are used for park maintenance works.

The Airservices Australia facilities and the Country Energy facilities at Porters Camp are licensed under the NPW Act. There is no occupancy agreement in place for the Telstra tower and facilities.

An Essential Energy transmission line runs from east to west through the section of the park to the north of the Oxley Highway. A transmission line also provides power to the facilities at Porters Camp. The Occupation Permit for these lines is now administered by the Department of Planning, Industry and Environment.

Management facilities are adequate for management needs, and have minimal impacts on natural and cultural values.

Non-NPWS uses are managed in accordance with formal agreements.

Infrastructure and assets are routinely maintained.

9.6.1. Maintain the network of roads and management trails identified on Map 1, in accordance with NPWS policies, being mindful to minimise erosion and water pollution.

9.6.2. Work cooperatively with neighbours to establish vehicle access arrangements where needed for management purposes.

9.6.3. Identify old mining and quarry sites within the planning area, and develop and implement management plans as required.

9.6.4. Gate/signpost management trails to restrict unauthorised access.

9.6.5. Manage existing non NPWS uses at Porters Camp in accordance with Occupational Permits and licences.

Medium

Medium

High

Ongoing

Medium

Medium

Ongoing

\* **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.