



Office of
Environment & Heritage
NSW National Parks & Wildlife Service



Plan of Management



Warrumbungle National Park

WARRUMBUNGLE NATIONAL PARK

PLAN OF MANAGEMENT

NSW National Parks and Wildlife Service

November 2012

This plan of management was adopted by the Minister for the Environment on 26th November 2012.

Acknowledgements

This plan of management is based on a draft plan prepared by staff of the Northern Plains 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 this park is in the traditional country of the Gamilaraay and Weilwan Aboriginal people.

Cover photo: View from the Grand High Tops of Bluff Mountain with Tonduron Spire in background by Boris Hlavica / OEH.

For additional information or any inquiries about this park or this plan of management, contact the NPWS Coonabarabran Area Office, 30 Timor Street Coonabarabran or by telephone on 02 68421311.

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FOREWORD

Warrumbungle National Park covers an area of 23,312 hectares and is located between the towns of Coonabarabran, Gilgandra and Coonamble on the north-west slopes of New South Wales.

Warrumbungle National Park was placed on the National Heritage List in 2006 in recognition of its geological and biological values. It contains a spectacular landscape shaped by an ancient volcano which has eroded over millions of years. Over 520 species of native plants and 311 species of native animals have been recorded in the park and it provides a refuge for the endangered brush-tailed rock-wallaby.

Warrumbungle National Park contains heritage items of local and regional significance, including the Tara Woolshed, Strathmore Homestead, and walking tracks dating from the 1950s. It also contains a range of Aboriginal sites, including rock shelters and sites of cultural significance to the Gamilaraay and Weilwan Aboriginal people.

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 Warrumbungle National Park was placed on public exhibition from 21 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 monitoring of erosion and remedial works where necessary, protection of threatened species, continued revegetation of the central valley of the park, continued control of pest species, and fire management. It also contains actions to enhance recreation opportunities, including upgrading of walking tracks, upgrading of camping areas, additional picnic shelters, continuation of the annual Warrumbungle Crooked Mountain Concert and Tooraweenah Endurance Ride, and improved visitor information and interpretation.

This plan of management establishes the scheme of operations for Warrumbungle 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

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1. LOCATION, GAZETTAL AND REGIONAL CONTEXT

Warrumbungle National Park is situated on the north-west slopes of New South Wales, approximately 33 kilometres west of Coonabarabran, 90 kilometres north of Gilgandra and 75 kilometres east of Coonamble (see map 1). It adjoins the Siding Spring Observatory and covers the western end of the Warrumbungle Range. The park straddles three local government areas, Warrumbungle Shire to the east, Gilgandra Shire to the south and Coonamble Shire to the west.

A proposal to reserve the more scenic parts of the Warrumbungle Range as the "Warrumbungle National Monument" was first initiated by the National Parks and Primitive Areas Council in 1936. A national park was not declared until 1953 when 3,360 hectares of privately owned land were reserved as Warrumbungle National Park. In 1961, a re-assessment of the park led to revocation of the original reserve and re-notification of about 3,240 hectares as a Reserve for Public Recreation. The *National Parks and Wildlife Act 1967* re-established the reserve as a national park, and added a further 2,995 hectares to the park making a total of about 6,235 hectares. Since then additional lands on the boundary of the park have been added, resulting in a present park area of 23,312 hectares.

Apart from the observatory, the park is surrounded by rural properties. Cattle grazing, wool and cereal crops are the important local agricultural industries. More recently some of the larger parcels of pastoral and agricultural land around the park, particularly in the Timor Valley, have been converted into smaller rural subdivisions.

Timber production is a significant industry in the nearby Pilliga Forest. Following completion of the Brigalow Belt South Bio-regional Assessment, management of some nearby areas of State forest and other crown lands was transferred to the National Parks and Wildlife Service for conservation.

Tourism has evolved as an important contributor to the local economy, with the major attractions of the area being the national park and adjoining Siding Spring Observatory. The observatory, officially opened in 1965, was constructed on the boundary of the park partly because the park provided a light-free environment. This high-profile scientific facility consists of several internationally important telescopes and has considerable socio-economic importance to the local Coonabarabran community.

The park is within the Pilliga Subregion of the Brigalow Belt South Bioregion, the Namoi and Central West Catchment Management Authorities, and the Coonabarabran and the Weilwan Local Aboriginal Land Councils.

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* (NPW Act), the NPW Regulation, the *Threatened Species Conservation Act 1995* (TSC Act), 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 and values of a National Heritage site.

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 Warrumbungle National Park except in accordance with the plan. This plan of management is the third plan for this park and replaces the 1997 plan. This plan will also apply to any future additions to Warrumbungle National Park. Should management strategies or works be proposed for Warrumbungle National Park or any additions that are not consistent 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

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 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.

National Heritage

The Commonwealth EPBC Act prescribes criteria for considering areas for listing as National Heritage places. National heritage places contain outstanding examples of natural, historic or indigenous significance to the Australian nation. On December 15 2006 Warrumbungle National Park was placed on the National Heritage List (Commonwealth of Australia, 2006) in recognition of its importance:

- as an extensive and spectacular geomorphological site with bold volcanic landforms that are unrivalled anywhere else in Australia;
- for its unique values as a transition zone between the arid western and wetter coastal zones; and
- its significance as an important refugium in inland south-east Australia.

The Warrumbungle area supports exceptionally high numbers of species, and is one of a small number of places in inland southern Australia that are centres of richness for plant and animal taxa (ANHAT 2005, cited in Commonwealth of Australia Gazette, 2006). The listing also states that the integrity and scenic vistas of the features within the Warrumbungle National Park are of outstanding value to the community.

The National Heritage management principles are established under schedule 5B of the regulations to the EPBC Act (Commonwealth of Australia, 2000). These principles state that the primary objectives for the management of National Heritage places are to identify, protect, conserve, present and transmit National Heritage values to future generations. The principles also require opportunities to be provided for continuing community and technical input in the management of National Heritage places.

2.3 STATEMENT OF SIGNIFICANCE

Warrumbungle National Park protects an area of isolated, rugged mountains at the upper reaches of the Castlereagh River Catchment. The geology, landform, climate, plants, animals, past use by Aboriginal people and early European settlers and bushwalkers, define the values of the park and the reasons for its inclusion on the National Heritage List.

- Geological, Landscape/Catchment Values: Warrumbungle National Park is a spectacular landscape shaped by an ancient volcano eroded over millions of years. About 17 million years ago, hot magma exploded through the 'Pilliga sandstone' bedrock and the formation of a huge shield-shaped volcano began. Subsequent erosion has exposed a wide array of volcanic features including lava flows, domes, vents and dykes that constitutes the best representation of exposed volcanic features within the main north south

volcanic line in eastern Australia (Duggan and Knutson 1993, cited in Commonwealth of Australia, 2006).

- Biological Values: Over 520 species of native plants and 311 species of native animals have been recorded in Warrumbungle National Park. The park provides a refuge for the endangered brush-tailed rock-wallaby (*Petrogale penicillata*). The great diversity of plant and animal life is a reflection of the varied landscape and geology, wide temperature ranges and rainfall patterns. It includes plants and animals of both the arid plains to the west and forested ranges to the east.

Warrumbungle National Park is located within the Brigalow Belt South Bioregion. It is one of a small number of locations within the bioregion with a high concentration of significant plant species, due to the diverse range of habitats within the park.

- Aboriginal Heritage Values: Archaeological research into rock-shelters in the Warrumbungle area has shown the presence of Aboriginal people dates to at least 20,000 years before present. The park is valued by local Aboriginal people because the various sites demonstrate how Aboriginal people lived traditionally. The physical presence of the mountains looms large in the cultural identity of local people.
- Historic Heritage Values: Prior to the establishment of the park, the central valley around Wambelong Creek was used for pastoral production and some cropping. Some heritage items of local and regional significance remain from this historical period, including the Tara Woolshed and the Strathmore Homestead.

The spectacular scenery of the Warrumbungle Mountains had attracted the attention of bushwalkers by the 1930s. Some of the walking tracks in the park date from the establishment of the park in the 1950s and now have heritage value.

- Recreation Values: The park is a popular venue for bushwalking, camping and rock climbing. Walking tracks like the Grand High Tops circuit are widely recognised as iconic bushwalks in New South Wales.

The park is a key regional attraction for tourists. Annual visitation to the park is approximately 35,000 visitors. It is promoted by the tourism industry locally and regionally. Economic studies have shown the park has a significant beneficial impact on the local Coonabarabran economy.

- Research/Education Values: The park has been used by universities for geological and biological studies. Its geology has been progressively researched and is the subject of several publications. Since 1991, the Department of Education and Training has been operating an environmental education centre in the park for school students.

2.4 SPECIFIC MANAGEMENT DIRECTIONS

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

- Continued efforts to conserve threatened species in the park such as the brush-tailed rock-wallaby by implementing key actions in relevant recovery plans and the Priorities Action Statement (PAS).
- Providing a range of quality visitor facilities and a range of recreational experiences. The focus will be on upgrading existing facilities rather than the development of new facilities in new locations.
- Encouraging visitors to enjoy and learn about the natural features of the park in a way that does not damage the park's values.
- On-going fire management so that people and property are protected from wildfire, biodiversity values are maintained and the other objectives of this plan are achieved.
- On-going control of pest species to minimise their impact on park values.
- Protection, and where necessary restoration of natural vegetation.
- Protection of cultural heritage places in partnership with the community, particularly members of the local Aboriginal community.
- Enhanced interpretation of the park.
- Encouraging use of the park for environmental education in cooperation with the Warrumbungle Environmental Education Centre.

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 to individual components, for example to plant and animal species used by Aboriginal people. This plan of management aims to conserve both natural and cultural values. For reasons of clarity and document usefulness, various aspects of natural heritage, cultural heritage, threats and on-going use are dealt with individually, but their inter-relationships are recognised.

3.1 GEOLOGY, LANDSCAPE AND HYDROLOGY

Geology, weathering and time have created the spectacular landscape that is now protected within the Warrumbungle National Park. The park contains the best representation of exposed volcanic features within the main north-south volcanic line in eastern Australia, and this contributed significantly to the park's listing as a National Heritage site.

The eroded remnants of the Warrumbungle Shield Volcano rise to a maximum of 1,206 metres above sea level at Mount Exmouth. Throughout the millions of years since volcanic activity ceased, weathering and erosion has reduced the height of the volcanic shield, exposed much of the underlying Pilliga sandstone and carried huge quantities of fine rock particles onto the surrounding countryside. Visitors driving through the park along the John Renshaw Parkway can glimpse various aspects of the sedimentary sequences underlying the area including numerous localised faults in the strata, several dyke intrusions and pyroclastic deposits. The many plugs, dykes and flows which give the skyline of the Warrumbungle Mountains such a distinctive character were also exposed by erosion. The scene that is revealed by satellite imagery is one of a great crater with huge lobes, radiating in all directions, occupying an area of nearly 600 square kilometres. The park itself takes in about one-third of this area.

The local topographic relief is considerable. The many peaks standing in excess of 1,000 metres above sea level contrast with the nearby plains to the west (maximum of 300 metres above sea level) and the hilly country to the east (about 600 metres above sea level). The rivers and creeks, which drain the Warrumbungle volcanic pile, form a radial pattern common to many volcanic landscapes. Quaternary deposits of unconsolidated sand and silt occur locally along most watercourses. The underlying Pilliga Sandstone is one of the main intake aquifers for the Great Australian (Artesian) Basin and marks the eastern margin of the Basin.

Volcanic rocks occupy the majority of the land surface of the park. Most pinnacles, peaks and mountains are dykes, plugs and domes of igneous origin and thus the steeper, higher country (above 650 metres) is generally volcanic. Dominant volcanic rock types include trachyte, trachyandesite and basalt.

The alluvial fans of the Warrumbungle Ranges form part of the recharge zone of the Coonamble embayment of the Great Artesian Basin.

Erosion is a naturally occurring process, however, recreational, management and other uses of roads, walking tracks and management trails, and fires within and adjoining the park, have the potential to accelerate levels of erosion.

Desired Outcomes

- Geological features are conserved and accelerated rates of erosion are minimised or eliminated.
- Scenic views of significant geological features and the natural skyline of the park are maintained.

Management Response

3.1.1 Locate and design upgrades to management and visitor facilities and any new facilities to minimise their physical impact and ensure scenic views are not impaired.

3.1.2 Monitor erosion on management trails, walking tracks and in visitor areas. Undertake remedial actions if needed to minimise erosion.

3.2 NATIVE PLANTS

Warrumbungle National Park is located in the Pilliga sub-region of the Brigalow Belt South Bio-region (BBS) and on the boundary with Darling Riverine Plain Bioregion. A key finding of the BBS Bioregional assessment (NPWS, 2002a) was that the Warrumbungle Mountains are a hot-spot for rare plants within the bio-region. A total of 779 plant species from 397 families and 111 genera are found within the park. This is the highest richness yet found for a reserve on the North Western Slopes (Hunter, 2008).

Under the TSC Act, 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). A number of threat abatement actions are outlined in the PAS, including specific survey, monitoring and research actions. Individual recovery plans for particular species may also be prepared to consider management needs in more detail. One threatened plant species has been recorded in the park, the vulnerable square raspwort *Haloragis exalata* subsp. *exalata*, which grows in damp places near watercourses. However a high number of plants have been identified as being of conservation significance (Briggs and Leigh 1996), including *Acacia forsythii*, *Asterolasia hexapetala*, *Discaria pubescens*, *Dodonaea rhombifolia*, *Leionema viridiflorum* and *Persoonia cuspidifera*. Many of these plants occur on volcanic outcrops.

In 2008 a vegetation and floristic survey (Hunter, 2008) defined nine vegetation communities within the park, these are:

- Red Stringybark – Gum Scree Slopes *Eucalyptus macrorhyncha*-*Angophora floribunda*;
- Black Pine – Ironbark *Callitris endlicheri*-*Eucalyptus crebra*;
- White Box – Ironbark – White Pine *Eucalyptus albens*-*Eucalyptus crebra*-*Callitris glaucophylla*;
- Apple Gum – Yellow Box – Red Gum *Angophora floribunda*-*Eucalyptus melliodora*-*Eucalyptus blakelyi*;
- Patterson’s Curse – Weeping Grass *Echium plantagineum*-*Microlaena stipoides*;
- Speargrass Grassland – Cleared Lands *Austrostipa scabra* subsp. *scabra* – *Austrostipa verticillata*;
- Ironbark – Bloodwood – Scribbly Gum *Eucalyptus crebra*-*Corymbia dolichocarpa*-*Eucalyptus rossii*;
- Motherumbah – Black Pine *Acacia cheelii*-*Callitris endlicheri*; and
- Motherumbah – White Pine *Acacia cheelii*-*Callitris glaucophylla*.

Benson et al (2010) defined 20 vegetation communities in the park.

Vegetation communities of the Warrumbungle Mountains and the national park show affinities with the central-western slopes and the central-western plains which lie to the east and west respectively. They also reflect variations in altitude, range, slope and aspect, and the important influence of a number of different rock or substrate types. Many species in the Warrumbungle Mountains and the national park that would usually be separated by considerable distances occur within close proximity to one another.

Generally, large-scale differences in vegetation are related to differences in soil parent material. Thus the distribution of the floristically rich and arid-adapted vegetation of lower elevations coincides with the nutrient poor soils of the Pilliga Sandstone, while less floristically diverse vegetation, generally over 650 metres above sea level, is related to the volcanic flows and deposits.

In its isolated position on the edge of the western plains, the Warrumbungle Mountains, and in particular the Warrumbungle National Park, perform an important function as a refuge for many species. The extensive changes to the ecosystems of the adjacent plain and hill country have increased this level of importance.

Although the rugged mountainous areas were grazed they remained largely free from agricultural development, while the valleys were cleared and cultivated. Approximately 12% of the park was cleared of timber for agricultural purposes before reservation of the national park, and is now grassland. For the most part, the clearings are situated on the valley floors and adjacent lower slopes on alluvium and on soils derived from the Pilliga Sandstone. Small scale clearing also occurred in the

more rugged parts of the park where some limited, yet relatively level, terraces of volcanic rock occur. Some of these areas have regenerated with dense stands of Callitris pines, but the central valley of the park is still largely cleared and has been slow to naturally regenerate, despite a program of planting native trees and shrubs from locally collected seed over many years (refer also section 3.3). A revegetation strategy (Porteners, 2003) has been prepared to guide revegetation efforts in the central valley which identifies priority areas, species and methodologies.

Desired Outcomes

- Native plant species and communities are conserved.
- Structural diversity and habitat values are restored in areas subject to past clearing, and particularly the central valley area.

Management Response

- 3.2.1 Implement relevant strategies in the PAS for threatened plant species.
- 3.2.2 Continue revegetation and exclusion fencing of the central valley in accordance with the revegetation strategy, using a combination of tree planting and direct seeding using endemic species and natural regeneration.
- 3.2.3 Monitor the revegetation, and revise the revegetation strategy as necessary.
- 3.2.4 Undertake burning for ecological purposes (e.g. to encourage germination, growth of a species or to provide habitat for threatened species) subject to environmental assessment.
- 3.2.5 Program and implement monitoring programs consistent with the Northern Plains Regional Biodiversity Monitoring Strategy

3.3 NATIVE ANIMALS

The Warrumbungle Mountains provide suitable habitat for many native animals. Mammals commonly found in the park include the koala (*Phascolarctos cinereus*), echidna (*Tachyglossus aculeatus*), brush-tailed possum (*Trichosurus vulpecula*), ring-tailed possum (*Pseudocheirus peregrinus*), greater glider (*Petauroides volans*), yellow-footed antechinus (*Antechinus flavipes*), common dunnart (*Sminthopsis murina*), eastern water rat (*Hydromys chrysogaster*), little brown bat (*Vespadelus pumilus*) and five species of macropods: the brush-tailed rock-wallaby; the eastern grey kangaroo (*Macropus giganteus*); the wallaroo (*Macropus robustus*); the red-necked wallaby (*Macropus rufogriseus*); and the swamp wallaby (*Wallabia bicolor*).

The population of eastern grey kangaroos in the park is particularly high. A three year research project on the population was undertaken from 1997 to 2000 (Moss, 2000). In an area of approximately 700 hectares in the central valley of the park, 2,200 eastern grey kangaroos or 3.1 kangaroos/hectare were counted. Grazing pressure from kangaroos is thought to be a factor in the lack of natural regeneration

and the dominance of weeds through the central valley of the park. When native groundcovers are eaten out, conditions are more favourable for weeds that respond positively to on-going disturbance. Overgrazing is also recognised as a threat to the survival of many woodland bird and mammal species that depend on grassy understoreys.

A kangaroo exclusion fence was first erected on Beloungery Flats within the park in 1987 in an attempt to reduce grazing pressure on native grasses and forbs and to reduce the dominance of weeds. This area was expanded in 1997 to cover an area of 70 hectares. Kangaroos are not totally excluded from this area. Through occasional mustering, a population density of approximately one per hectare is maintained. There has been some improvement in the recovery of native grasses and groundcovers under this regime. Weed densities have also been reduced to some extent. Further work is underway to better quantify the differences in vegetation at sites inside and outside the exclusion block and to relate this to kangaroo densities.

In contrast to the over-abundance of eastern grey kangaroos in the central valley, the brush-tailed rock-wallaby population in the park has declined to the point where it is in danger of extinction. Brush-tailed rock-wallabies are listed as endangered under the TSC Act and a recovery plan (DECC, 2008) has been prepared for this species. The main threats are thought to be fox predation and competition from feral goats (refer to section 4.1). Habitat loss may be an issue elsewhere but it is unlikely to be a problem in the Warrumbungle National Park. However the unique nature of the Warrumbungle National Park terrain, where isolated refuges are separated by many kilometres, may be an inherent limitation to the survival of the population. Several colonies have been regularly monitored over the past decade, using a variety of survey methods. The best present estimate is that the populations in the monitored colonies are stable, however, rock wallabies have disappeared from two other sites in the past five years. This has occurred despite a large program of fox and goat control.

Given the continued decline of the population, 23 captive-bred brush-tail rock-wallabies from Waterfall Springs Wildlife Sanctuary were released on Square Top Mountain in April 2009. Supplementary releases of eight animals were undertaken in February and March 2010. The aim of these releases is to raise the population to a level where recruitment overcomes reproductive constraints of low population density and allow/encourage eventual dispersal of individuals on to nearby colonies and suitable habitat (DECC, 2009).

The presence of people is known to disturb rock wallabies and consequently visitors are excluded from areas where colonies occur in the park. Visits for research and recovery activities continue and steps are taken to ensure disturbance is minimised.

The Warrumbungle National Park also contains a viable breeding population of koalas. The koala is listed as vulnerable under the TSC Act because it is an ecological specialist and its population and distribution have been severely reduced. It has poor recovery potential. The koala population within the park appears to be of considerable size and particularly healthy.

Warrumbungle National Park is home to a range of birds. Commonly seen birds include the emu (*Dromaius novaehollandiae*), wedge-tailed eagle (*Aquila audax*), peregrine falcon (*Falco peregrinus*), boobook owl (*Ninox connivens*), swift parrot (*Lathamus discolor*), white-browed scrub-wren (*Sericornis frontalis*) and turquoise parrot (*Neophema pulchella*). The regent honeyeater (*Anthochaera phrygia*), which is listed as critically endangered under the TSC Act, is a seasonal visitor and a program of banding regent honeyeaters is ongoing. In total 185 bird species have been recorded in the park.

Desired Outcomes

- Native animal species and communities are conserved.
- Brush-tailed rock-wallaby populations are increased to a viable level.

Management Response

- 3.3.1 Continue targeted pest control programs around known brush-tailed rock-wallaby colonies.
- 3.3.2 Continue to undertake actions identified in the brush-tailed rock-wallaby recovery plan.
- 3.3.3 Continue research and monitoring to quantify the effectiveness of exclusion fencing and to develop strategies for the management of eastern grey kangaroos in the park.

3.4 ABORIGINAL HERITAGE

Aboriginal communities have an association and connection to the land. The land and water within a landscape are central to Aboriginal spirituality and contribute to Aboriginal identity. Aboriginal communities associate natural resources with the use and enjoyment of foods and medicines, caring for the land, passing on cultural knowledge, kinship systems and strengthening social bonds. Aboriginal heritage and connection to nature are inseparable from each other and need to be managed in an integrated manner across the landscape.

The Warrumbungle Mountains is the traditional area of the language groups Gamilaraay, Kawambarai and Weilwan. The park is within the area of the Coonabarabran Local Aboriginal Land Council and the Weilwan Local Aboriginal Land Council. The NPWS liaises with members of these Land Councils along with the Burra Bee Dee Elders Group and Gamilaraay Language Circle when cultural heritage management issues arise.

Archaeological research shows Aboriginal people were hunting and gathering bush foods in the area approximately 20,000 years ago. Twenty-two Aboriginal sites have been recorded to date in the park, including burial sites, axe grinding grooves, rock engravings, with the most common being stone flakes used as implements. There

are a number of cave shelters in the park of archaeological significance. Most of the present day camping sites are situated on top of scattered artefacts from previous Aboriginal camps. Predictive modelling indicates that sites are most likely to occur on alluvial terraces along the larger creeks as well as nearby low stony ridges.

There are very few sites in the region where Aboriginal heritage is interpreted 'face-to-face', despite a high level of visitor interest. Tara Cave, at the western end of the park, is an exception. It has become a focus for the interpretation of local Aboriginal culture. Guided walks, led by local Aboriginal guides, operate regularly. A track has been constructed from Pinchams Woolshed to the cave and interpretive signs have been erected. A protective cage covers the cave entrance to prevent public entry and protect the artefacts within it.

While NPWS presently has legal responsibility for the protection of Aboriginal sites and places, it acknowledges the right of Aboriginal people to make decisions about their own heritage. It is therefore policy that Aboriginal communities are consulted and involved in the management of Aboriginal sites, places and related issues and the promotion and presentation of Aboriginal culture and history. The NPWS is committed to engaging with Aboriginal communities and building relationships that enable them to take part in the ongoing management decisions for the planning area, and to benefit from this culturally, socially and economically.

Desired Outcomes

- Aboriginal places and values are identified and protected.
- Aboriginal people are involved in management of the Aboriginal cultural values of the park.

Management Response

- 3.4.1 Continue to consult and involve the Coonabarabran and Weilwan Local Aboriginal Land Councils, the Burra Bee Dee/Coonabarabran Aboriginal Elders group and other relevant Aboriginal community organisations in the management of Aboriginal sites, places and values, including interpretation of places or values. Only Aboriginal sites or places approved by the Aboriginal community will be open to visitation.
- 3.4.2 Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact on Aboriginal sites and places.
- 3.4.3 Encourage surveys and further research into the Aboriginal heritage values of the park with the Coonabarabran and Weilwan LALC, Burra Bee Dee / Coonabarabran Aboriginal Elders Group and the Gamilaraay Language Circle. Priority for surveys will be given to areas of high recreational use, areas of potential damage from management operations such as fire trail maintenance, and areas identified as being of high priority by local Aboriginal people.
- 3.4.4 Require commercial tour operators who propose to visit approved Aboriginal sites or places to engage a local Aboriginal Discovery guide for the activity.

- 3.4.5 Undertake conservation works in consultation with the local Aboriginal community to protect Aboriginal sites if any are being negatively impacted by visitors, feral animals or any other natural or artificial processes.

3.5 HISTORIC HERITAGE

The first European record of the Warrumbungle Mountains was by Surveyor-General Oxley in 1818 on his second inland expedition. He gave the mountains the name "Arbuthnots Range", and passed close to the northern boundary of the park en route to the Pilliga and the Liverpool Plains. Oxley was followed by other explorers, who were in turn followed by bushrangers and settlers from about the 1830s. In contrast to the surrounding plains, large rugged tracts of forested lands such as the Warrumbungle Mountains were left comparatively untouched although some logging and limited grazing did take place. The central valley and edges of the park were cleared for small farms and retain evidence of this past use, including exotic species at some old homestead sites like Camp Blackman, Gunneemooroo and Greenslopes.

By the 1930s bushwalkers and rock climbers had discovered the Warrumbungle Mountains, and the first proposal for a national park was made in 1936 by the National Parks and Primitive Areas Council. World War II resulted in the proposal being deferred and it was not until January 1952 when, with the agreement of the owner, approval was given for 2,428 hectares to be withdrawn from the Crown Lease held by Mr Alfred Pincham and reserved for public recreation. On 30th October 1953 an area of 3,360 hectares was notified as Warrumbungle National Park under the care, control and management of Trustees appointed by the Minister. At the same time, in order to protect the natural vegetation on adjoining lands, some 2,300 hectares of Crown land were declared a Reserve for Public Recreation under the management of the same Trustees. This area did not actually form part of the park, though much of it was subsequently added.

Most of the walking track system was constructed between 1958 and 1962 under the Trust's direction by the first (honorary) ranger, Carl Dow. Five huts were also constructed along the Grand High Tops during this period, however Balor Hut is the only one remaining.

In 1967 the National Parks and Wildlife Service took over management of the park from the Trust. A monument to the memory of Alfred Pincham and his donation of land to the park is located at the entrance to the Pincham Trail. Another monument is located in the White Gum Lookout Car Park. It commemorates the opening of John Renshaw Parkway in 1966 and Len Stockings, who led the first vehicular crossing of the Warrumbungle Ranges in 1947.

Most structures from the pastoral period have been removed over the years since the park was proclaimed. Structures which remain include a shed, yards and concrete dam near Wheeh Peaks; yards at Gunneemooroo; Pinchams Woolshed and the Strathmore Homestead. Pinchams Woolshed is used for group accommodation, whilst Strathmore Homestead was converted to house prisoners

working on the park in 1973 and then converted again into a staff residence. Other historic features on the park include part of an old dingo fence on the High Tops; the remains of the Buckleys Creek Sawmill; the stumps of the Tara Woolshed; and the shafts of unsuccessful gold, silver and diamond mines at Tara, Wambelong Creek and Timor Rock. In addition, the early walking tracks and other works undertaken soon after the park was declared are now of historic value.

Some non-endemic plants, such as mugga ironbark (*Eucalyptus sideroxylon*), were planted in areas such as Camp Blackman and Pincham to provide shade, while other non-endemic species were planted around the old property buildings and yards. A stand of manna gum (*Eucalyptus viminalis*) was planted around the Pincham Car Park to entice koalas into the area. Many of these trees perished in the recent drought and had to be removed due to the hazard they presented to visitors.

The park is not known to contain significant valuable mineral deposits, however some exploration was undertaken in the past on a minor scale for gold, silver and diamonds. Some small, isolated mineshafts of unknown origin are listed as heritage sites. There are also a number of disused quarries along the edge of John Renshaw Parkway.

Desired Outcome

- Historic features are appropriately conserved and managed.

Management Response

- 3.5.1 Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact on historic sites and places.
- 3.5.2 Maintain the Strathmore Homestead and shearers' quarters while protecting the integrity of the existing heritage fabric.
- 3.5.3 Maintain Balor Hut for visitor use in partnership with the Coonabarabran Bushwalking Club.
- 3.5.4 Maintain Pinchams Woolshed. Make alterations to allow for wheel-chair access and ensure compliance with relevant building safety codes.
- 3.5.5 Retain in situ the remains of the sawmill, the Tara Woolshed stumps, the monuments, and the dingo fence.
- 3.5.6 Record the mineshafts in the park, assess for public safety and undertake any necessary protection works.
- 3.5.7 Progressively record other historic places and values, assess their significance and develop appropriate management strategies.

3.6 RECREATION AND EDUCATION

Warrumbungle National Park is an iconic national park in central western New South Wales. Visitation to the park has stabilised over the last 10 years at approximately 35,000 visitors per year, with peak visitation during the Spring and Easter school holidays. Bushwalking, camping and rock climbing are the main recreational opportunities sought by visitors to the park.

Visitors primarily enter the park from Coonabarabran via the John Renshaw Parkway, which was originally constructed in 1965, or from Gilgandra via Tooraweenah. Both routes are sealed and form a tourist drive off the Newell Highway between Coonabarabran and Gilgandra. Visitors can also enter the park via unsealed roads from Coonamble and Baradine (see map 1).

Visitors to the park originate mainly from Sydney, interstate (particularly Victoria and Queensland) and other regional centres such as Dubbo, Tamworth and Newcastle. International independent travellers are also an identifiable group, particularly during summer. Large numbers of school children, mostly from NSW schools, also visit the park on school excursions. Only a small number of commercial tour operators use the park regularly. They mainly bring small groups for short stays as part of a longer itinerary.

Length of stay for visitors is generally between 2-3 days however this can vary through the year. During school holidays, for example, large groups often spend several nights in the park. At other times many use the park as a one night stop-over, en route to their destination.

3.6.1 Interpretation, Education and Information

Park facilities and services provide opportunities to enjoy, appreciate and understand the value of our natural and cultural heritage. Only areas that can sustain use are promoted in this way. Information provision at such places assists the protection of natural and cultural heritage, promotes support for conservation and increases the enjoyment and satisfaction of visitors.

Promotion of the park emphasises its spectacular scenery, its wildlife, the range of walking, camping and picnicking facilities available, and its location within close proximity to other areas of interest, such as the Siding Springs Observatory and the Pilliga Forest. Telling the story of the landscape was part of the vision of influential park pioneers like Allen Strom. He developed a network of walking tracks that did more than allow access to views - the tracks 'walked' visitors through a narrative of the land and its history.

An interpretive plan has been prepared for the park (NPWS, 2004). The purpose of the plan is to define the messages that need to be passed on to visitors through interpretation. It also categorises visitors into target groups (or audiences) and details how to best deliver information. The interpretive plan states that four main themes are to be interpreted in the park:

- The unique volcanic landscape, linked to other extinct volcanoes in Australia.
- Outstanding natural values with a surprising diversity of flora and fauna and important habitat for many threatened species including the brush-tailed rock wallaby.
- A long human history featuring Aboriginal people, pastoralists and recreation use.
- A bushwalker's park with a bushwalker's past.

Tourism market research has identified three different categories making up the majority of visitors to the Coonabarabran area. They are Australian families travelling mainly in school holidays; older retired couples who are self-sufficient and 'time-rich'; and young to middle-age travellers who travel alone seeking new experiences and adventure. A range of information presented through different media (e.g. website, signs, brochures, face-to face) is required to meet the varied needs of these visitor groups.

At present, the park is interpreted in a variety of ways. The NPWS website provides basic maps and information to allow visitors to find their way to and around the park. The Visitor Centre, located in the centre of the park just off the John Renshaw Parkway, provides visitors with an introduction to the park. Refurbished in 2008, a permanent interpretive display provides information on various aspects of the park based on the themes outlined in the interpretative plan. Visitor brochures provide additional maps and information. More in-depth information on geology, history, flora and fauna is available via a range of guide books.

Signs are located throughout the park, mainly on walking tracks as well as at camping and day-use areas. Their function is to orientate visitors, provide information on appropriate activities, and interpret the landscape.

Face to face interpretation is provided by Discovery Rangers and visitor centre staff. Some of these activities are used by schools, however these activities are not designed around formal educational outcomes.

The Warrumbungle Environmental Education Centre is run by the Department of Education and Training and operates out of the field studies centre located on the park at Camp Walaay. It performs an important function in providing educational information to many schools who visit the park, focusing on field based lessons that meet curriculum objectives.

3.6.2 Camping

Along with bush walking, camping is the most popular visitor activity in the Warrumbungle National Park with the peak periods being Easter and Spring school holidays.

The first camping area to be developed by the Park Trust was Wambelong Camp in 1957. In the same year a road was constructed from Wambelong Camp to Camp Pincham (i.e. Pincham's Camping Area), where minimal facilities were and continue to be provided for day visitors and campers.

With the gift of 25 hectares by Mr Blackman in 1959, the Trust established a new area for caravans, camping and day use which they named Canyon Camp. Six old Sydney trams were fitted out for holiday rental and located at Canyon Camp. In 1986, due to on-going maintenance issues, the trams were removed, camping was relocated to Camp Blackman, and the area renamed Canyon Picnic Area (see Section 3.6.3).

Existing facilities provide a range of recreational opportunities (Table 1). At one end of the range are unmodified settings like Hurleys Camp which provides opportunities for solitude. At the other end are modified areas with developed services like Camp Blackman, which provides opportunities for large numbers to camp in the park with ease and convenience.

Camp Blackman (see map 2) is the main camping area in the park and has been operating as a campsite for more than 30 years. It is located close to the site of the original "Belougerly" homestead owned by the Blackman family and consists of three distinct nodes: Blackman 1 (the original Blackman campsite), Blackman 2 and Blackman 3.

Blackman 1 has 36 unpowered camp sites each with a wood barbeque, a large amenity block with hot showers, flushing toilets and a camp kitchen. The site was upgraded in 2003 and is in relatively good condition.

Blackman 2 has a powered site area that caters for approximately 25 powered sites and has the capacity to also accommodate approximately 50 unpowered sites. Blackman 2 has not been upgraded for many years and is in relatively poor condition. The area suffers from congestion and soil erosion, particularly around the powered sites which are located close to the creek.

Blackman 3 has 32 powered sites, eight unpowered sites and composting toilets. The site was developed in 2007 to replace the old powered sites at Blackman 2 and is in good condition.

Camp Walaay and Pinchams Woolshed (see map 2) are designated as group camping areas. Walaay was specifically designed to cater for large groups and buses and was completed in 2001. It has five camping nodes located around a circular access road. The largest node can accommodate up to three buses and 150 people. Visitors to these sites are required to book in advance. Both Walaay and Pinchams Woolshed provide basic amenities for groups, particularly schools such as composting toilets and communal fireplaces. They also provide an overflow area for other campers during peak times such as Easter.

Gunneemooroo, located in the far south of the park (see map 1), has no facilities other than pit toilets.

Walk-in pack camping occurs at the old hut sites on the Pincham Trail, although most sites have no water supply or toilets. Balor Hut is the only remaining hut on the trail and is maintained by the Coonabarabran Bushwalking Club. The hut is locked and visitors must book and obtain a key to the hut through the Visitor Centre.

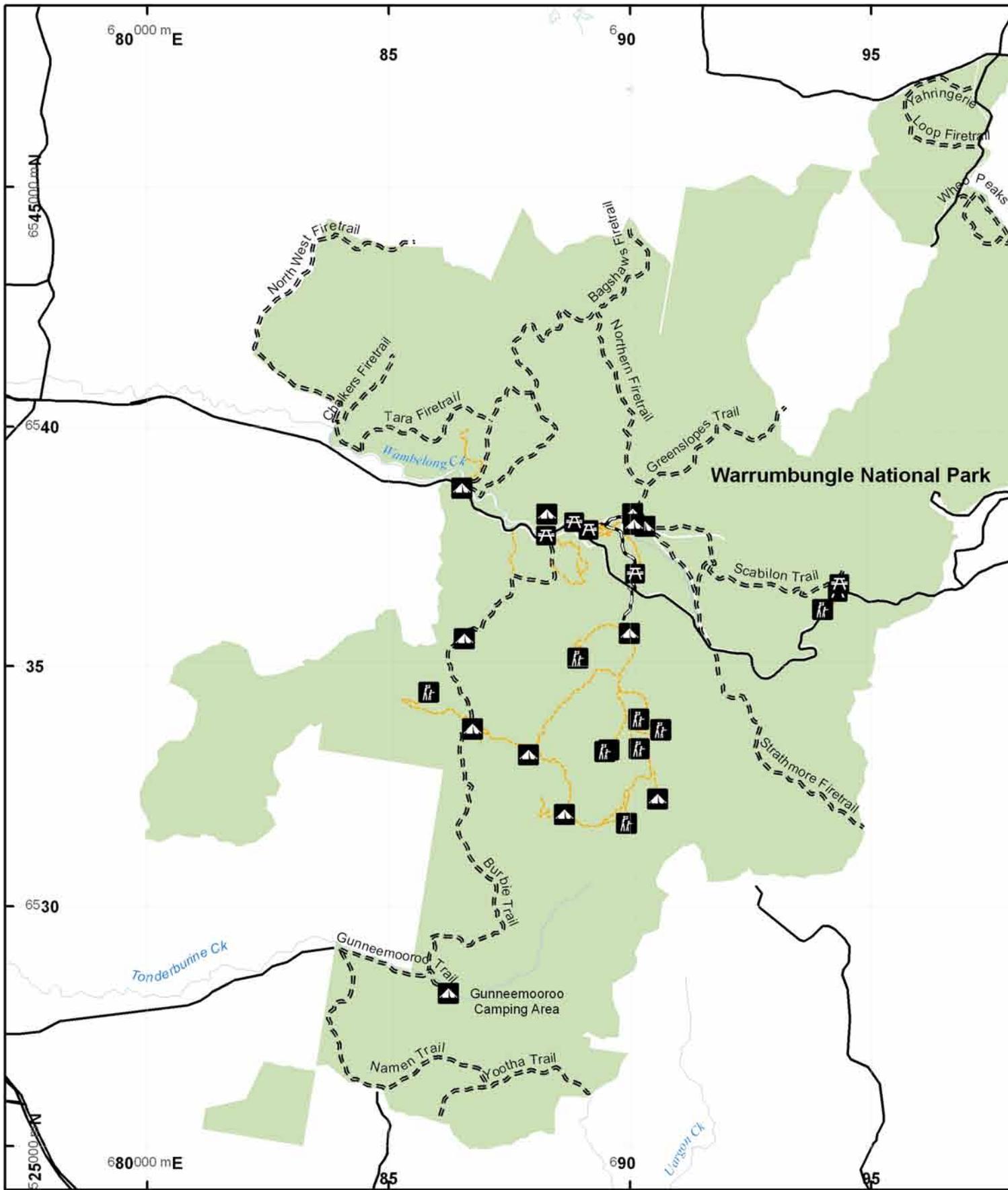
Table 1: Camping area facilities

Designated Camping Area	Number of camp sites	2WD Vehicular Access	4WD Vehicular Access	Caravans/ campervans permitted	Toilet /shower Facilities	Composting Toilet	Gas BBQs	Wood fires permitted in fireplaces	Communal Fire place	Tables	Information Panels/ shelter
*Camp Blackman											
Powered (B3)	31	✓	✓	✓		✓			<input checked="" type="checkbox"/>		✓
Un-powered (B1)	36	✓	✓	✓	✓		✓	✓			
Un-powered (B2)	75	✓	✓	✓		✓		✓	<input checked="" type="checkbox"/>	✓	
*Walaay (group camping)	6	✓	✓		✓	✓	✓		✓	✓	
*Wambelong	35	✓	✓	✓	✓	✓				✓	
Pincham (walking access only)	6				✓	✓				✓	
Balor Hut (walking access only)	3				✓	✓					
Dows (walking access only)	3										
Ogma (walking access only)	6										
Danu (walking access only)	3										
Burbie (walking access only)	10										
Hurleys (walking access only)	3										
Gunneemeeroo	10		✓	✓							

Campsite numbers are existing except for Balor Hut

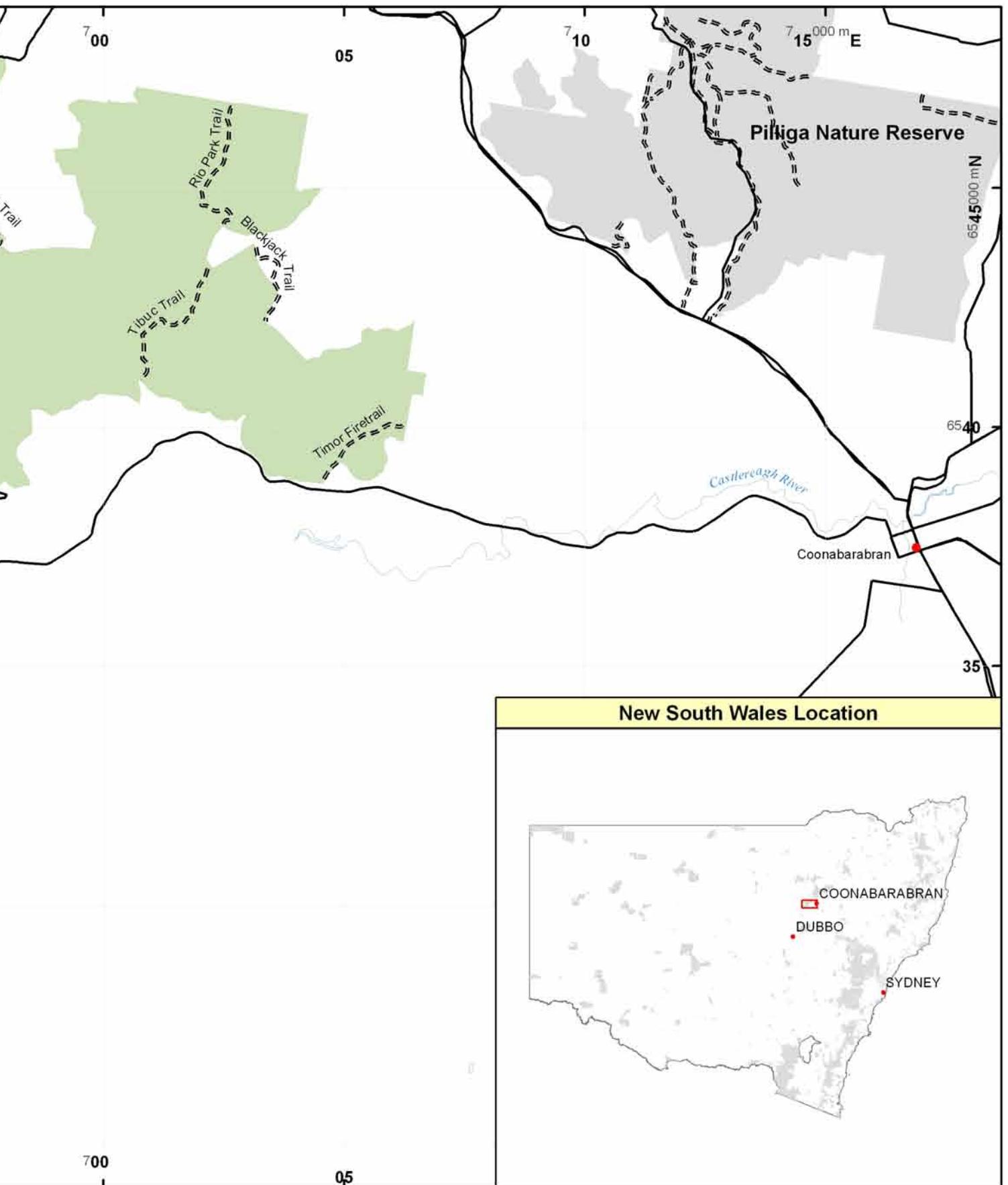
- ✓ facility provided
 facility proposed

Firewood collection has been a long-standing issue in the park as it causes damage to the natural environment and habitat. Firewood collection is not permitted in the park, however firewood may be purchased outside the park for use in specified areas. Wood barbecues in Canyon Picnic Area have been removed and replaced with electric barbecues. Metal fireplaces which only allow small fires have been placed in Camp Blackman and Camp Wambelong. New gas cooking plates have also been placed in Camp Blackman. Large fire-pits, to restrict large groups to a single communal fire, have been placed in Camp Walaay. Fireplaces are not provided at pack camping sites, however campfires at these sites continue.

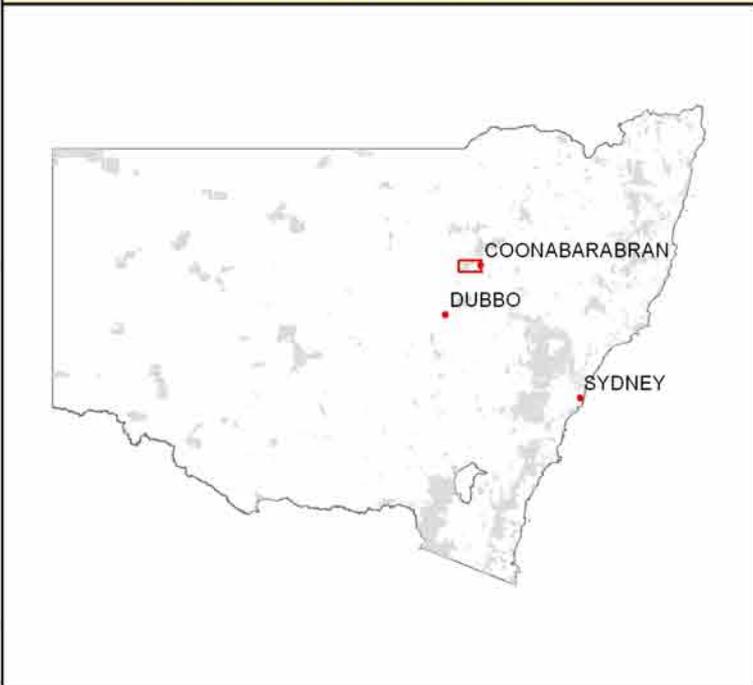


	Town / City		Camping Area
	River / Creek		Day Use Area
	Public Road		Lookout
	NPWS Roads		Walking Track
	Sealed		Warrumbungle NPWS
	Unsealed		Other NPWS Estate

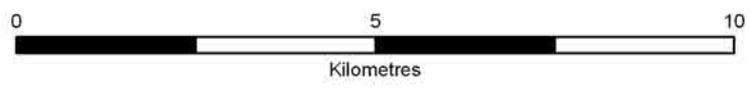
Warrumbungle National Park



New South Wales Location



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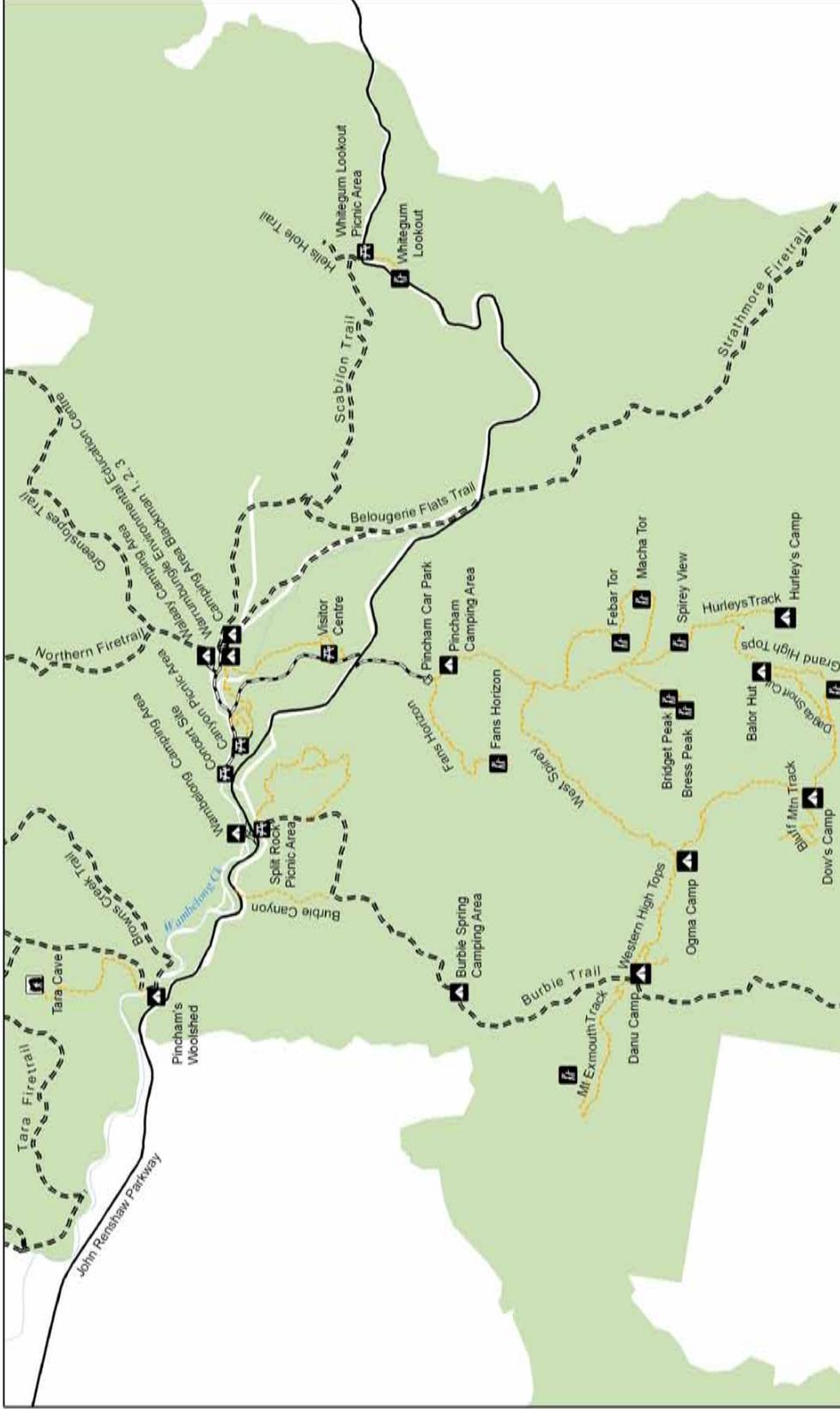


Scale 1:100,000

Datum/Projection: Geocentric Datum of Australia (GDA) 1994
Map Grid Australia (MGA) Zone 55; 5 Kilometre Grid



MAP 2 MAIN VISITOR PRECINCTS



Detail View
Warrumbungle National Park
Main Visitor Precincts

Scale 1:50,000
Datum Projection: Geocentric Datum of Australia (GDA) 1964
Map Grid Australia (MGA) Zone 55

Legend

- Blue Creek
- Public Road
- NP/NS Roads
- Sealed
- Unsealed
- Walking Track
- C Camping Area
- P Day Use Area
- L Lookout
- W Warrumbungle NP

0 0.5 1 2 3 4 5
Kilometres

3.6.3 Day Use

There are three designated day use areas within the park located at Canyon Picnic Area, Split Rock Car Park and White Gum Lookout Car Park (see map 2), however day visitors are not excluded from camping areas or facilities.

Previously used as the main camping area within the park, Canyon Picnic Area is now the primary day use area. The site consists of a car park, composting toilet, four electric barbecue shelters each with two barbecues, picnic tables and water tanks. A decommissioned toilet block and an old picnic table are the only remnants of the camping ground that once occupied the site.

At the western end of Canyon Picnic Area is a large open grassy area where the annual Warrumbungle Crooked Mountain Concert has been held since 2003 (see section 3.6.8). In recent years minor modifications, including a parking bay for food vendors at the concert, have been completed.

Basic day use facilities are located at the track heads to White Gum Lookout and Split Rock Circuit (see map 2). At the White Gum Lookout Car Park is a small picnic area with two picnic tables. Split Rock Day Use Area comprises a small paved area adjacent to the track head and car park with picnic tables, an interpretative sign, and a composting toilet that is often used by campers from nearby Wambelong Camping Area.

3.6.4 Walking Tracks

Walking, along with camping, is the most popular activity undertaken in Warrumbungle National Park. There are approximately 50 kilometres of walking track in the park. The majority were constructed between 1958 and 1962 and the steep grades necessitate ongoing maintenance. Maintenance over recent years has focussed on repairs to the main Pincham Trail (see map 2). Sections of the track have been paved and a large steel staircase has been constructed below Balor Hut and the Breadknife. The walking track to Tara Cave (see map 2) has also been significantly upgraded over recent years. The upper end of the track has been paved and a steel viewing platform has been constructed at the cave itself.

A strategy to guide management and maintenance of walking tracks has been prepared (NPWS, 2003). The strategy outlines the approach to maintenance and upgrade of the track network between 2004 and 2013. Sections which are degraded and require repair are identified for each track and all tracks are given a classification based on the Australian standard. Indicative costs and a priority list are provided. The strategy identifies tracks which will require further paving, and others where natural surfaces should be retained.

The walking tracks in the park are listed in Table 2.

Table 2: Walking Tracks

Walking Track	Distance (km)	Current Standard	Proposed Standard
Whitegum Lookout	0.5	All access path (Class 1)	All access path (Class 1)
Gurianawa Track	1.0	All access path (Class 1)	All access path (Class 1)
Wambelong Nature Track	1.1	Walking Track (Class 3)	Walking Track (Class 3)
Fan's Horizon	2.5	Walking Track (Class 3)	Walking Track (Class 3)
Pincham Trail	6.4	Walking Track (Class 3)	Walking Track (Class 3)
Dagda Shortcut	1.2	Hiking Track (Class 4)	Hiking Track (Class 4)
Bluff Mountain	1.3	Hiking Track (Class 4)	Hiking Track (Class 4)
Gould's Circuit	3.0	Walking Track (Class 3)	Walking Track (Class 3)
Spirey View	0.15	Walking Track (Class 3)	Walking Track (Class 3)
Hurley's Track	0.15	Hiking Track (Class 4)	Hiking Track (Class 4)
Dow's High Tops	3.4	Walking Track (Class 3)	Walking Track (Class 3)
West Spirey Creek Track	3.15	Walking Track (Class 3)	Walking Track (Class 3)
Western High Tops Track	1.55	Walking Track (Class 3)	Walking Track (Class 3)
Cathedral and Arch Track	0.52	Hiking Track (Class 4)	Hiking Track (Class 4)
Mt Exmouth	2.6	Hiking Track (Class 4)	Hiking Track (Class 4)
Bress Peak	1.1	Hiking Track (Class 4)	Hiking Track (Class 5)
Burbie Canyon Track	1.0	Walking Track (Class 3)	Walking Track (Class 3)
Tara Track	2.0	Graded Path (Class 3)	Graded Path (Class 2)
Split Rock Walking Track	4.6	Hiking Track (Class 4)	Hiking Track (Class 4)

Walking Track Classification System AS 2156.1. There are six classes of walking tracks outlined in this standard with Class 1 being the most developed and suitable for all access through to Class 6 which is an unmarked route.

3.6.5 Horse Riding

Horse riding was not permitted in the park until an amendment to the Plan of Management was approved in 2005. The amendment followed representations from the organisers of the Tooraweenah Endurance Ride to allow the riders to use a short section of fire trail in the south western corner of the park for their annual ride.

The Tooraweenah Endurance Ride has been held most years since 2005. The section of ride in the park is a one day event and has been restricted to Namen and Yootha management trails (see map 1). A limit of 80 riders has been imposed since the trial event in 2005 and post event inspections indicate that impacts on the trails and other park values have been minimal.

3.6.6 Cycling

Cycling, particularly mountain bike riding is becoming an increasingly popular activity in the park, particularly during the school holidays. The flatter areas of the park provide opportunities for less experienced riders and families. The long and somewhat steeper management trails offer more challenging opportunities for experienced mountain bike riders.

Several organised bicycle rides through the park have been organised in the past, with up to 60 riders participating.

3.6.7 Adventure Activities

The main adventure activities undertaken in the park are rock climbing and abseiling, and to a lesser extent orienteering/rogaining.

After walking, camping and scenic driving, the most popular activity undertaken in the park is rock climbing. There are four main climbing areas in the park - Crater Bluff, Belougery Spire, Tonduron and Bluff Mountain. They offer some of the best traditional long climbing routes in Australia. Rock climbers are required to register at the Visitor Centre before climbing in the park.

Some locations are not available for rock climbing and controls are imposed on available sites to protect plant and animal communities of environmental significance, to protect fragile geological structures, to prevent rock climbing in close proximity to walking tracks, and to maintain the adventure climbing experience.

3.6.8 Events and Commercial Activities

The Warrumbungle Crooked Mountain Concert is an annual music event held in the park that arose from the Warrumbungle National Park jubilee celebrations in 2003. The purpose of subsequent concerts was to engage the community, attract new visitors and a different visitor type to the park, and to increase visitor numbers during a period of generally low visitation.

The concert is held at the western end of Canyon Picnic Area (see map 2) and features contemporary musical performers, children's entertainment, as well as food and beverage stalls. All stage and sound equipment, power generators and toilet facilities are brought in to the park for the concert. The concert attracts between 500 and 2,400 people, many of whom camp in the park for the weekend of the concert. The largest concert crowd was in 2007 with over 2,400 people.

Commercial tour operators occasionally use the park.

Large group activities and competitive events (such as a cycling or running event on management trails) require a licence or consent from NPWS, and commercial operations require a licence from NPWS.

Desired Outcomes

- Visitor use is appropriate and is ecologically sustainable.
- The range of walking tracks, camping facilities and activities within the park is maintained.
- Park values are not diminished by ongoing visitor activity.

- Visitor use and services encourage appreciation of the park's values.
- A range of education and interpretation programs are provided to cater for diverse visitor needs.

Management Response

- 3.6.1 Implement the actions outlined in the Warrumbungle National Park Walking Track Strategy 2004, Precinct Plan 2002 and Interpretation Strategy 2004 and ensure these documents are reviewed and updated as required.
- 3.6.2 Promote use of the park for low-key nature based activities such as bushwalking, camping, cycling, photography, bird watching and nature study.
- 3.6.3 Promote park visitation out of peak seasons to increase overall visitation without impacting on park values or the visitor experience.
- 3.6.4 If necessary, introduce a booking system to limit numbers of campers in certain areas to prevent overcrowding and conflict between users, permit revegetation, and/or to protect fragile geological features or native species.
- 3.6.5 Close sections of camping areas and undertake rehabilitation works as necessary to protect the natural environment, in particular threatened species.
- 3.6.6 Investigate options and determine the feasibility of introducing a policy of visitors removing their own rubbish.
- 3.6.7 Monitor visitation and visitor use patterns within the park through surveys, vehicle and pedestrian counters on roads and walking tracks and regular park user fee compliance checks at camping areas and car parks.
- 3.6.8 Develop and implement a visitor impact monitoring system for the park to assess and monitor environmental impacts in camping areas and on walking tracks to enable decisions about site protection, and protection of significant species or communities.
- 3.6.9 Redevelop Blackman 2 to address erosion, protection of Aboriginal sites and protect the creek bank and riparian vegetation. Remove old power outlet infrastructure, remove campsites within 20 metres of Mopra Creek to create a vegetation buffer along the creek, improve the access road and formalise parking and camping areas.
- 3.6.10 Develop a key pick-up and fee collection system with the Visitor Centre and Tooraweenah businesses for vehicular access to Gunneemooroo camping area, which will remain a basic camping area with no new facilities provided.
- 3.6.11 Develop and implement a communications strategy to inform visitors of changed access requirements for Gunneemooroo including new or additional signage and amendments to web site.

- 3.6.12 Gate the management trail which passes through the Gunneemooroo camping area just past the camping area to prevent public vehicle access beyond this point.
- 3.6.13 In conjunction with Gilgandra Shire Council, improve the safety of the Pinchams Woolshed vehicle entry point from the John Renshaw Parkway.
- 3.6.14 Develop and install interpretative signage at Pinchams Woolshed outlining the history and values of the Pinchams Woolshed and identifying the Tara Cave track head.
- 3.6.15 Options for providing better access to shower facilities for campers at Walaay and Blackman 3 will be explored. They include providing all weather access across Wambelong Creek to the amenity block or the provision of shower facilities at Camp Blackman 3. The most cost effective and practical option will be implemented.
- 3.6.16 Continue to allow walk-in pack camping at Balor Hut, Danu Camp, Dows Camp, Gales Bore, Hurleys Camp, Ogma Camp and Burbie Spring. Pack camping is also permitted at other sites within the park that are at least 500 metres from roads.
- 3.6.17 Develop 2-3 small tent sites alongside Balor Hut in order to alleviate soil erosion and improve camping facilities.
- 3.6.18 Continue to require walk-in pack campers to register at the Visitor Centre to provide information on numbers and location and to encourage appropriate behaviour. Limits will be placed on the size and number of groups seeking pack camping if necessary to reduce visitor impacts on pack camping sites.
- 3.6.19 Provide minimal impact camping information at the Visitor Centre and at walk-in pack camp sites. This will include information that no wood fires are permitted at pack camp sites and fuel stoves must be used for cooking.
- 3.6.20 Permit wood fires only within barbecues or communal fire places provided in camping areas. Additional gas cooking facilities may be installed to further reduce the impact of wood fires.
- 3.6.21 Maintain and upgrade walking tracks to the standards listed in table 2 (section 3.6.4) in accordance with the Warrumbungle National Park Walking Track Strategy.
- 3.6.22 Review and upgrade directional signage on walking tracks.
- 3.6.23 Permit horse riding by consent on Namen and Yootha management trails (see map 1), consistent with the NPWS Horse Riding Policy and subject to the conditions of consent and monitoring of environmental impacts.
- 3.6.24 Allow cycling on roads and management trails.

- 3.6.25 Continue to prohibit rock climbing on the Breadknife, and on Chalkers Mountain, Square Top Mountain and Black Jack Mountain to prevent disturbance to rock wallabies. Rock climbing is generally permitted on all other peaks within the park, although temporary seasonal closures or other restrictions on times and numbers of climbers may be imposed if necessary. Marking or bolting of climbing routes is prohibited. Climbers are encouraged to register at the Visitor Centre.
- 3.6.26 Extend the current barbecue shelters at Canyon Picnic Area to provide additional shelter for picnic tables.
- 3.6.27 Continue to permit an annual concert in the park. Limit attendance at the concert to 2000 people. Install an electricity transformer and underground cabling at the concert site if a cost/benefit analysis indicates it is feasible.
- 3.6.28 Improve interpretation in the park by improving signs and providing a range of education and interpretation programs in accordance with the park interpretation plan.
- 3.6.29 Continue to promote face-to-face interpretation through the corporate Discovery program. Ensure the program is run at a level that is meeting demand and encourage the use of Aboriginal Discovery staff where appropriate.
- 3.6.30 Encourage use of the park for environmental education purposes. The activities of the Warrumbungle Environmental Education Centre will be promoted through the Visitor Centre and where appropriate in visitor information material.
- 3.6.31 Develop a written agreement with the Department of Education and Training outlining the partnership and site use conditions with the Warrumbungle Environmental Education Centre.

4. ISSUES

4.1 WEEDS AND PEST ANIMALS

An introduced species is defined in this plan as any plant or animal species not native to the park. Introduced species within the park and on adjoining land are of concern because they have the potential to have detrimental effects on ecological values and can spread to and from neighbouring land.

In addition, the NPWS has a number of statutory responsibilities in relation to pest management. The *Noxious Weeds Act 1993* identifies noxious weeds and their respective control measures, as well as the roles and responsibilities for their control for both public and private land managers/owners. The *Rural Lands Protection Act 1998* binds the Crown for the control of pest animals declared under that Act. This includes rabbits, wild dogs and feral pigs, which must be controlled to the extent necessary to minimise the risk of the pest causing damage to any land.

Weeds are a particular problem in areas of the park which were previously cleared, then used for grazing and cropping. Blue heliotrope (*Heliotropium amplexocaulum*) is of concern both within the park and on adjacent properties. Other weed species of concern include Patterson's curse (*Echium plantagineum*), blackberry (*Rubus fruticosus*), prickly pear (*Opuntia spp.*), sweet briar (*Rosa rubiginosa*), Noogoora burr (*Xanthium strumarium*), khaki burr (*Alternanthera pungens*), green cestrum (*Cestrum parqui*), St Johns wort (*Hypericum perforatum*) and spiny burr grass (*Cenchrus incertus*). There is some concern that Coolatai grass (*Hyparrhenia hirta*) and bridal creeper (*Myrsiphyllum declinatum*) may be emerging weed issues because they have recently been found close to the park. Current and emerging pest issues are dealt with in the Northern Plains Region Pest Management Strategy (DECC 2007).

Control of weeds has included herbicide treatment in campgrounds, picnic areas and roadsides, planting of native tree species and the erection of exclusion fencing in the central valley, and the introduction of bio-controls. Results of control programs have been mixed. Small infestations of St Johns wort and spiny burr grass have been controlled and prevented from spreading across large areas. Infestations of blackberry, green cestrum and sweet briar have responded to treatment and been reduced, however attempts to control blue heliotrope have been limited to small high priority areas that can be regularly treated. The erection of an exclusion fence around 70 hectares of the central valley has reduced both the density of this weed and possibly the amount of seed in the soil in this area. On-going planting of native trees has also helped in some areas as the density of heliotrope seems to be reduced under shade and leaf litter. The blue heliotrope leaf feeding beetle (*Deuterocampta quadrijuga*) was introduced in 2001 but has not yet proven to be an effective control.

Introduced animals found in the park include rabbits (*Oryctolagus cuniculus*), foxes (*Vulpes vulpes*), feral cats (*Felis catus*), wild dogs (*Canis lupis*), goats (*Capra hircus*) and pigs (*Sus scrofa*). Control is undertaken in accordance with the Northern Plains Region Pest Management Strategy (DECC 2007). The highest priority is to reduce the impacts of goats and foxes around known habitats of brush-tailed rock-wallabies.

Goats impact on brush-tailed rock-wallabies through competition for food and shelter. They also contribute to soil erosion and through selective grazing can have substantial impacts on some of the sensitive vegetation found within the park. Where goats are present, it is noticeable that some of these plants can be heavily grazed. This may threaten the survival of some sensitive vegetation populations in the park and further investigation is therefore required. Goats are controlled via aerial shooting programs which usually occur twice a year. The presence of goats at selected rock-wallaby colonies is monitored by pellet plot counts. Results indicate that control is successful and the current effort is maintaining numbers at a low level. However re-infestation is a constant problem. Ground-based shooting is also occasionally used, for example when goats are moving down into valleys during drier conditions.

The park is identified as a priority fox control area under the NSW Fox Threat Abatement Plan (Fox TAP) to protect the endangered population of brush-tailed rock-wallabies within the park. Fox control is undertaken via intensive ground baiting and targeted ground shooting and is aimed at minimising predation on brush-tailed rock-wallabies. Since the implementation of the Fox TAP in 2001 NPWS has increased the amount of fox control undertaken in the park. In the recent past Landcare groups, the Namoi Catchment Management Authority and the Central North Livestock Health and Pest Authority have supported a coordinated baiting program on neighbouring properties aimed at creating a fox control buffer around the brush-tailed rock-wallaby colonies. Monitoring of fox tracks show that the number of foxes is reduced and is consistently much lower than numbers recorded outside the park, however reinfestation is a problem.

Rabbits, which are mainly found in the central valley, can affect revegetation programs unless kept under control. Rabbit control is a priority. Various control methods are used including ripping and fumigating warrens, poisoning and the release of Myxomatosis and Rabbit Calicivirus Disease.

Feral pigs cause damage to vegetation, spread weeds, contaminate water, damage fences, and predate on small native animals. Pig activity is regularly monitored and populations are controlled by trapping, shooting and baiting.

Cats are a threat to small animals. They are difficult to control. Traps are set in response to sightings, particularly around visitor areas. Elsewhere in the park they are shot.

Wild dogs can have significant impacts on neighbouring sheep and goat producers. In recent years a small number of stock attacks from wild dogs have occurred on properties adjoining Warrumbungle National Park. Control programs, mainly via soft-jaw trapping, have been undertaken in response to these stock attacks.

Desired Outcomes

- Introduced plants and animals are controlled and where possible eliminated.
- Pest control programs are undertaken where appropriate in consultation with neighbours and local land management authorities.

Management Response

- 4.1.1 Control introduced species in accordance with the Northern Plains Regional Pest Management Strategy. Control methods may include herbicides, bio-controls, trapping, baiting and aerial and ground shooting.
- 4.1.2 Monitor noxious and significant environmental weeds. Treat any new outbreaks where possible.
- 4.1.3 Implement the threat abatement plan for foxes in the park to reduce their impact on the brush-tailed rock-wallaby population. Undertake control where possible in cooperation with the Central North Livestock Health and Pest Authority, Landcare and the Namoi and Central West CMAs.
- 4.1.4 Continue to seek the cooperation of neighbours in implementing weed and pest control programs.
- 4.1.5 Ensure stock are removed from the park as soon as possible.
- 4.1.6 Assess existing boundary fencing and where required provide assistance under the terms of the NPWS boundary fencing policy to ensure effective fencing is in place.

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. Past research indicated that fire was detrimental to brush-tailed rock-wallabies, however recent research has indicated that the benefits of fire in providing new food sources may outweigh the negative impacts. An amendment to the previous plan of management was adopted in 2003 to permit controlled burning for ecological purposes to take place in and around rock-wallaby colonies.

Fire incidence in the park is low. Wild fires generally travel from west to east through the park, usually ignited by lightning, and spread under the influence of hot northerly and westerly winds. The majority of the park has not been affected by wildfire for many years. The last large fire occurred in the 1950s. A major fire in 1967 also burnt over 5,000 hectares of the park. More recently, in 2001 a wildfire burnt approximately 3,000 hectares around Mount Exmouth, whilst another similar-sized fire at nearby Angels Gap was prevented from spreading into the park.

A fire management strategy has been prepared for the park (NPWS, 2001). 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 which includes 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 discussed with other stakeholders in the Castlereagh and North West Bush Fire Management Committees.

Desired Outcomes

- Life, property, and natural and cultural values are protected from fire.
- Fire regimes are appropriate for conservation of native plant and animal communities.

Management Response

- 4.2.1 Implement the Warrumbungle National Park Fire Management Strategy. Regularly review and update the strategy.
- 4.2.2 Continue to participate in the Castlereagh and North West Bush Fire Management Committees. Maintain cooperative arrangements with local Rural Fire Service brigades, fire control officers, other fire authorities, the Siding Spring Observatory and surrounding landowners in regard to fuel management and fire suppression.
- 4.2.3 Manage fire in the park to protect assets and biodiversity in accordance with the fire regimes/thresholds identified in the fire management strategy.

4.3 CLIMATE CHANGE

Climate change has been listed as a key threatening process under the TSC Act. Projections of future changes in climate for NSW include higher temperatures, increasing sea levels and water temperatures, elevated CO₂, more intense but possibly reduced annual average rainfall, increased temperature extremes and higher evaporative demand. These changes are likely to lead to greater intensity and frequency of fires, more severe droughts, reduced river runoff and water availability, regional flooding, increased erosion and ocean acidification.

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

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

Desired Outcome

- The effects of climate change on natural systems are reduced.

Management Response

- 4.3.1 Continue existing fire, pest and weed management programs to increase the ability of plant and animal communities to cope with future disturbances, including climate change.

5. MANAGEMENT OPERATIONS AND OTHER USES

In order to achieve protection of the values of the park, to provide opportunities for visitors and to facilitate management operations, it is important to build and maintain appropriate infrastructure. Infrastructure may also be provided on the park by other authorities or for other purposes authorised under the NPW Act.

A workshop and small office is located on the park for field staff. Staff accommodation is available at the Strathmore Homestead and quarters. The quarters are regularly used by visiting staff, researchers, volunteers and contractors.

A number of management trails that are not available for public vehicle access are located on the park. They are used regularly in pest control and fire management. A helipad is located close to the workshop at Strathmore.

Rubbish is removed from the park under contract. Recycling bins for aluminium cans and bottles are provided at Camp Blackman and the Visitor Centre. Rubbish bins are provided at all car-based camping areas and the main day use areas. Throughout the remainder of the park, campers and day visitors are required to remove their own rubbish.

Sewerage disposal in the park is by septic systems. The NPWS has in recent years invested substantial funding and infrastructure in upgrading the system to make sure it complies with current Australian standards. The septic tanks and pumps at Camp Blackman have been overhauled. The black-water and grey-water from Camp Blackman is pumped via a new pipeline to evaporation ponds in a nearby area known as Greenslopes. The ponds have been lined with specialised black plastic to ensure that no effluent escapes into the ground and also to increase evaporation rates. However, the ponds do not have the capacity to always cope with the volumes of effluent generated by visitors. If high visitor use corresponds with high rainfall for example, the ponds can fill quickly. The levels are monitored and in certain circumstances it is necessary to spray some of the effluent around the ponds to increase evaporation. The possibility of using grey-water to water a 'woodlot' on the clearing adjacent to the ponds has also been under investigation as another measure to reduce pond levels.

Due to the age of the main Camp Blackman amenities block, it is expected that at some point during the life of this plan the facilities will need to be replaced.

Water for domestic purposes is extracted under licence from 2 bores and a well located along Wambelong Creek. Water consumption has been reduced in recent years through the introduction of timed and low flow rate showers. This has also reduced the input of effluent to the evaporation ponds. New composting toilets at Camp Blackman, Camp Walaay and Canyon Picnic Area have significantly reduced the amount of water being used at the main amenities block and the amount of effluent produced. The bore water in the park contains many dissolved minerals that react with the pipes and water heaters reducing their life span. In 2009 a water conditioning system that removes many of these reactive minerals was installed to improve the water quality, reduce maintenance and cyclic replacement of pipes and water heaters.

Power is supplied into the park by the original overhead homestead line from the west. This has a limited capacity that has been reached with the present developments in the park. The line is managed by Country Energy. The power line is under continual threat from overhanging or falling branches and trees and this situation has worsened in the recent drought which has caused the death of many large trees. There are both environmental and economic constraints on relocating the line. Some small sections have been realigned. Maintaining a clearing along the line is essential if power is to be supplied to the infrastructure in the park.

Telephone services were previously supplied via another overhead line through the western end of the park. This service was unreliable, again due to trees continually falling over the line in storms. Telstra installed a new radio tower at the Visitor Centre to receive signals from the Needle Mountain tower. This has improved the capacity and reliability of the telephone services and allowed for the removal of approximately 5 kilometres of telephone lines in the park.

The John Renshaw Parkway is managed by Gilgandra Shire and passes through the centre of the park.

The Siding Spring Observatory is located on the eastern boundary of the park and a Telstra tower is located just outside the southern park boundary on Mt Cenn Cruaich. Access roads to the observatory and tower are also located outside the park.

A Regional Environmental Plan has been prepared which establishes thresholds for light emissions which have the potential to affect observations of the night sky from the Siding Spring Observatory. The existing and proposed development areas within Warrumbungle National Park are within 18 kilometres of the observatory and all permanent lighting in the park must be in accordance with the constraints imposed by the Regional Environmental Plan.

A water pipeline to the Observatory passes through a small section of the park along Timor Road. An easement agreement with the Australian National University has been completed to cover maintenance access to the park for the pipeline.

Desired Outcomes

- All infrastructure functions effectively and efficiently.
- Existing non-park infrastructure is managed to minimise impacts on natural and cultural values.
- Improve the sustainability and safety of management facilities and infrastructure.
- Amenities are clean, safe and of an acceptable standard.

Management Response

- 5.1 Develop a tree lot to use excess grey water from the waste water treatment ponds in accordance with regulations.
- 5.2 All new toilet facilities will be composting toilets where practical.
- 5.3 Where feasible, install solar power and rainwater tanks to buildings.
- 5.4 Investigate options and implement recommendations for upgrading or replacing the Camp Blackman amenity block.

6. IMPLEMENTATION

This plan of management establishes a scheme of operations for Warrumbungle National Park.

Activities identified in the plan are listed in the table 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.

Table 3: Implementation Priorities

Management Response	Priority*
Geology, Landforms and Hydrology	
3.1.2 Locate and design upgrades to management and visitor facilities and any new facilities to minimise their physical impact and ensure scenic views are not impaired.	Ongoing
3.1.2 Monitor erosion on management trails, walking tracks and in visitor areas. Undertake remedial actions if needed to minimise erosion.	Ongoing
Native Plants	
3.2.1 Implement relevant strategies in the PAS for threatened plant species.	High
3.2.2 Continue revegetation and exclusion fencing of the central valley in accordance with the revegetation strategy, using a combination of tree planting and direct seeding using endemic species and natural regeneration.	High
3.2.3 Monitor the revegetation, and revise the revegetation strategy as necessary.	Medium
3.2.4 Undertake burning for ecological purposes (e.g. to encourage germination, growth of a species or to provide habitat for threatened species) subject to environmental assessment.	Ongoing
3.2.5 Program and implement monitoring programs consistent with the Northern Plains Regional Biodiversity Monitoring Strategy	Ongoing
Native Animals	
3.3.1 Continue targeted pest control programs around known brush-tailed rock-wallaby colonies.	High

3.3.2	Continue to undertake actions identified in the brush-tailed rock-wallaby recovery plan.	Ongoing
3.3.3	Continue research and monitoring to quantify the effectiveness of exclusion fencing and to develop strategies for the management of eastern grey kangaroos in the park.	Medium
Aboriginal Heritage		
3.4.1	Continue to consult and involve the Coonabarabran and Weilwan Local Aboriginal Land Councils, the Burra Bee Dee/Coonabarabran Aboriginal Elders group and other relevant Aboriginal community organisations in the management of Aboriginal sites, places and values, including interpretation of places or values. Only Aboriginal sites or places approved by the Aboriginal community will be open to visitation.	Ongoing
3.4.2	Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact on Aboriginal sites and places.	Ongoing
3.4.3	Encourage surveys and further research into the Aboriginal heritage values of the park with the Coonabarabran and Weilwan LALC, Burra Bee Dee / Coonabarabran Aboriginal Elders Group and the Gamilaraay Language Circle. Priority for surveys will be given to areas of high recreational use, areas of potential damage from management operations such as fire trail maintenance, and areas identified as being of high priority by local Aboriginal people.	Ongoing
3.4.4	Require commercial tour operators who propose to visit approved Aboriginal sites or places to engage a local Aboriginal Discovery guide for the activity.	Ongoing
3.4.5	Undertake conservation works in consultation with the local Aboriginal community to protect Aboriginal sites if any are being negatively impacted by visitors, feral animals or any other natural or artificial processes.	Medium
Historic Heritage		
3.5.1	Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact on historic sites and places.	Medium
3.5.2	Maintain the Strathmore Homestead and shearer's quarters while protecting the integrity of the existing heritage fabric.	Medium
3.5.3	Maintain Balor Hut for visitor use in partnership with the Coonabarabran Bushwalking Club.	Ongoing
3.5.4	Maintain Pinchams Woolshed. Make alterations to allow for wheel-chair access and ensure compliance with relevant building safety codes.	Medium
3.5.5	Retain in situ the remains of the sawmill, the Tara Woolshed stumps, the monuments, and the dingo fence.	Medium
3.5.6	Record the mineshafts in the park, assess for public safety and undertake any necessary protection works.	Medium
3.5.7	Progressively record other historic places and values, assess their significance and develop appropriate management strategies.	Medium
Recreation and Education		
3.6.1	Implement the actions outlined in the Warrumbungle National Park Walking Track Strategy 2004, Precinct Plan 2002 and Interpretation Strategy 2004 and ensure these documents are reviewed and updated as required.	High

3.6.2	Promote use of the park for low-key nature based activities such as bushwalking, camping, cycling, photography, bird watching and nature study.	Ongoing
3.6.3	Promote park visitation out of peak seasons to increase overall visitation without impacting on park values or the visitor experience.	Ongoing
3.6.4	If necessary, introduce a booking system to limit numbers of campers in certain areas to prevent overcrowding and conflict between users, permit revegetation, and/or to protect fragile geological features or native species.	Ongoing
3.6.5	Close sections of camping areas and undertake rehabilitation works as necessary to protect the natural environment, in particular threatened species.	High
3.6.6	Investigate options and determine the feasibility of introducing a policy of visitors removing their own rubbish.	Medium
3.6.7	Monitor visitation and visitor use patterns within the park through surveys, vehicle and pedestrian counters on roads and walking tracks and regular park user fee compliance checks at camping areas and car parks.	Medium
3.6.8	Develop and implement a visitor impact monitoring system for the park to assess and monitor environmental impacts in camping areas and on walking tracks to enable decisions about site protection, and protection of significant species or communities.	Medium
3.6.9	Redevelop Blackman 2 to address erosion, protection of Aboriginal sites and protect the creek bank and riparian vegetation. Remove old power outlet infrastructure, remove campsites within 20 metres of Mopra Creek to create a vegetation buffer along the creek, improve the access road and formalise parking and camping areas.	High
3.6.10	Develop a key pick-up and fee collection system with the Visitor Centre and Tooraweenah businesses for vehicular access to Gunneemooroo camping area, which will remain a basic camping area with no new facilities provided.	High
3.6.11	Develop and implement a communications strategy to inform visitors of changed access requirements for Gunneemooroo including new or additional signage and amendments to the web site.	High
3.6.12	Gate the management trail which passes through the Gunneemooroo camping area just past the camping area to prevent public vehicle access beyond this point.	High
3.6.13	In conjunction with Gilgandra Shire Council, improve the safety of the Pinchams Woolshed vehicle entry point from the John Renshaw Parkway.	Medium
3.6.14	Develop and install interpretative signage at Pinchams Woolshed outlining the history and values of Pinchams Woolshed and identifying the Tara Cave track head.	Low
3.6.15	Options for providing better access to shower facilities for campers at Walaay and Blackman 3 will be explored. They include providing all weather access across Wambelong Creek to the amenity block or the provision of shower facilities at Camp Blackman 3. The most cost effective and practical option will be implemented	Low

3.6.16	Continue to allow walk-in pack camping at Balor Hut, Danu Camp, Dows Camp, Gales Bore, Hurleys Camp, Ogma Camp and Burbie Spring. Pack camping is also permitted at other sites within the park that are at least 500 metres from roads.	Ongoing
3.6.17	Develop 2-3 small tent sites alongside Balor Hut in order to alleviate soil erosion and improve camping facilities.	Medium
3.6.18	Continue to require walk-in pack campers to register at the Visitor Centre to provide information on numbers and location and to encourage appropriate behaviour. Limits will be placed on the size and number of groups seeking pack camping if necessary to reduce visitor impacts on pack camping sites.	Ongoing
3.6.19	Provide minimal impact camping information at the Visitor Centre and at walk-in pack camp sites. This will include information that no wood fires are permitted at pack camp sites and fuel stoves must be used for cooking.	Medium
3.6.20	Permit wood fires only within barbecues or communal fire places provided in camping areas. Additional gas cooking facilities may be installed to further reduce the impact of wood fires.	Ongoing
3.6.21	Maintain and upgrade walking tracks to the standards listed in Table 2 (section 3.6.4) in accordance with the Warrumbungle National Park Walking Track Strategy.	Ongoing
3.6.22	Review and upgrade directional signage on walking tracks.	High
3.6.23	Permit horse riding by consent on Namen and Yootha management trails (see map 1), consistent with the NPWS Horse Riding Policy and subject to the conditions of consent and monitoring of environmental impacts.	Ongoing
3.6.24	Allow cycling on roads and management trails.	Ongoing
3.6.25	Continue to prohibit rock climbing on the Breadknife, and on Chalkers Mountain, Square Top Mountain and Black Jack Mountain to prevent disturbance to rock wallabies. Rock climbing is generally permitted on all other peaks within the park, although temporary seasonal closures or other restrictions on times and numbers of climbers may be imposed if necessary. Marking or bolting of climbing routes is prohibited. Climbers are encouraged to register at the Visitor Centre.	Ongoing
3.6.26	Extend the current barbecue shelters at Canyon Picnic Area to provide additional shelter for picnic tables.	Medium
3.6.27	Continue to permit an annual concert in the park. Limit attendance at the concert to 2000 people. Install an electricity transformer and underground cabling at the concert site if a cost/benefit analysis indicates it is feasible.	Ongoing
3.6.28	Improve interpretation in the park by improving signs and providing a range of education and interpretation programs in accordance with the park interpretation plan.	Medium
3.6.29	Continue to promote face-to-face interpretation through the Discovery program. Ensure the program is run at a level that is meeting demand and encourage the use of Aboriginal Discovery staff where appropriate.	High

3.6.30	Encourage use of the park for environmental education purposes. The activities of the Warrumbungle Environmental Education Centre will be promoted through the Visitor Centre and where appropriate in visitor information material.	Ongoing
3.6.31	Develop a written agreement with the Department of Education and Training outlining the partnership and site use conditions with the Warrumbungle Environmental Education Centre.	High
Weeds and Pest Animals		
4.1.1	Control introduced species in accordance with the Northern Plains Regional Pest Management Strategy.	High
4.1.2	Monitor noxious and significant environmental weeds. Treat any new outbreaks where possible.	High
4.1.3	Implement the Fox TAP in the park to reduce their impact on the brush-tailed rock-wallaby population. Undertake control where possible in cooperation with the Central North Livestock Health and Pest Authority, Landcare and the Namoi and Central West CMAs.	High
4.1.4	Continue to seek the cooperation of neighbours in implementing weed and pest control programs.	Ongoing
4.1.5	Ensure stock are removed from the park as soon as possible.	High
4.1.6	Assess existing boundary fencing and where required provide assistance under the terms of the NPWS boundary fencing policy to ensure effective fencing is in place.	Medium
Fire		
4.2.1	Implement the Warrumbungle National Park Fire Management Strategy. Regularly review and update the strategy.	High
4.2.2	Continue to participate in the Castlereagh and North West Bush Fire Management Committees. Maintain cooperative arrangements with local Rural Fire Service brigades and fire control officers, and other fire authorities, the Siding Spring Observatory and surrounding landowners in regard to fuel management and fire suppression	High
4.2.3	Manage fire in the park to protect assets and biodiversity in accordance with the fire regimes/thresholds identified in the fire management strategy.	High
Climate Change		
4.3.1	Continue existing fire, pest and weed management programs to increase the park's ability to cope with future disturbances, including climate change.	Ongoing
Management Operations and Other Uses		
5.1	Develop a tree lot to use excess grey water from the waste water treatment ponds in accordance with regulations.	High
5.2	All new toilet facilities will be composting toilets where practical.	Ongoing
5.3	Where feasible, install solar power and rainwater tanks to buildings.	Ongoing
5.4	Investigate options and implement recommendations for upgrading or replacing the Camp Blackman amenity block.	Medium

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