



NSW NATIONAL PARKS & WILDLIFE SERVICE

Gundabooka National Park and Gundabooka State Conservation Area

Plan of Management



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Foreword

Gundabooka National Park is located in north western New South Wales, between the towns of Bourke and Cobar. The national park was reserved in 1996 and currently has an area of 63,903 hectares. The adjoining property 'Yanda' has more recently been acquired and reserved as Gundabooka State Conservation Area.

The park contains impressive natural features, significant Aboriginal sites, historic features and habitat for threatened plants and animals. Each of these elements (natural, cultural and historical) overlap in the landscape creating a rich tapestry that reveals profound relationships between people and land through time.

The protection of the Gundabooka Range is of particular concern for the Aboriginal people of Western New South Wales and is the homeland of the Ngemba and Paakandji people. They have strong cultural links to the area and a desire to see its heritage conserved.

A draft plan of management for Gundabooka National Park was placed on public exhibition from 24 January until 12 May 2003. The exhibition of the plan of management attracted 6 submissions that raised 7 issues. All submissions received were carefully considered before adopting this plan of management.

The aim of this plan of management is to conserve the natural and cultural heritage of the park and provide opportunities for visitors to the park. Because of the fragile nature of the environment this will be a challenging task. This plan of management has therefore placed high priority on minimising further soil erosion, controlling the impacts of introduced species, and carefully planning for sustainable visitor use.

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

Bob Debus

Minister for the Environment

October 2005

1. Introduction

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

Gundabooka National Park and Gundabooka State Conservation Area adjoin each other and are collectively referred to in this plan as 'the park'. At the time of writing this plan, Gundabooka State Conservation Area had only been recently gazetted.

This plan has, however, been written to cover both the national park and state conservation as far as possible. As further information and planning is undertaken for the state conservation area, further works may be identified and an amendment to this plan may be required.

A plan of management is a statutory document under the National Parks and Wildlife Act. No operations may be undertaken within Gundabooka National Park or Gundabooka State Conservation Area except in accordance with the plan. The plan also applies to any future additions to the national park and state conservation area. Where management strategies or works are proposed for these areas or any addition that are not consistent with this plan, an amendment to the plan will be required.

The process for amending a plan of management is the same as that for preparing a new plan. That is, the amendment must be placed on public exhibition for at least 90 days, and all submissions received must be referred to the Regional Advisory Committee and Advisory Council for review and comment before the amendment is adopted by the Minister.

Gundabooka National Park and State Conservation Area are jointly managed through a Memorandum of Understanding (MOU) between the Head of NSW National Parks and Wildlife Service and the Ngemba and Baakandji people. Established in 2015, the MOU formally acknowledges commitment to cooperatively manage the natural and Aboriginal cultural heritage of Gundabooka National Park, State Conservation Area and surrounding area (known as Gundabooka lands). The MOU outlines specific joint management objectives relating to participation in park decision making and management.

The Gundabooka Joint Management Advisory Committee acknowledge their capacity as advisers to National Parks and Wildlife Service (NPWS), and that Committee decisions and advice must comply with the Gundabooka National Park and State Conservation Area Plan of Management and relevant legislation.

2. Management context

2.1 Legislative and policy framework

The management of national parks in New South Wales is in the context of a legislative and policy framework, primarily the *National Parks and Wildlife Act 1974*, the *Threatened Species Conservation Act 1995*¹ and the policies of the National Parks and Wildlife Service. The policies arise from the legislative background and internationally accepted principles of park management. They relate to nature conservation, Aboriginal and historic heritage conservation, recreation, commercial use, research and communication

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

2.2 Gundabooka National Park and State Conservation Area

2.2.1 Location, Gazettal and regional setting

Gundabooka National Park and Gundabooka State Conservation Area (the park) are located in the semi-arid environment of north western NSW, approximately 50 kilometres south-west of Bourke and 110 kilometres north-west of Cobar (refer Figure 1). The climate is characterised by hot summers and mild winters. The annual average rainfall is 350 mm, although this is highly variable.

Gundabooka National Park contains Mount Gunderbooka, the Gunderbooka Range and surrounding slopes and plains to the north, east and west, and the Darling River to the north. Access is via: the Ben Lomond Road; the Kidman Way; the Louth Road, and the Gundabooka – Mulgaroon Road. The national park was originally gazetted in 1996 and covered an area of 43,592 hectares, comprised of 2 Western Lands pastoral leases ('Ben Lomond' and 'Belah'). A third lease of 20,311 hectares, 'Mulgowan', was gazetted as part of the national park in October 2002. Since then a fourth lease, 'Yanda' covering an area of 28,228 hectares, has been purchased and 25,200 hectares of this lease was gazetted as Gundabooka State Conservation Area (SCA) in July 2005. The addition of this land takes the park to the Darling River.

These leases were subdivisions of larger leases and date from the early 1900s. Grazing of sheep and cattle has been the main use of the area since European settlement in the mid-19th century.

The park is located at the northern end of the Cobar Peneplain biogeographic region. The area of land dedicated to the maintenance of biodiversity within this biogeographic region is small. The park is isolated from other protected areas and surrounded by pastoral lands. In this context it provides valuable habitat for native flora and fauna. Preliminary surveys on the park have found 10 species listed as threatened under the *Threatened Species Conservation Act 1995*.

Land use in western NSW is predominantly pastoralism and agriculture. Mining has been important at several places in the region, including the nearby township of Cobar. Tourism in

¹ Now repealed and replaced by the *Biodiversity Conservation Act 2016*

western NSW has also grown in recent decades. In the Bourke/Cobar district there has been a significant growth in visitor numbers over the past 5 years and tourism is now being actively promoted.

The park is one of several large protected areas in western New South Wales and covers Ngemba and Paakintji country. Other national parks include Mutawintji, Sturt, Kinchega, Willandra, Culgoa, Paroo-Darling and Mungo national parks. All these parks have significant natural and cultural heritage values and are promoted as important tourist attractions.

The park adds to the range of protected areas in western NSW and provides a new attraction for visitors in the Bourke/Cobar Region.

2.2.2 Importance of Gundabooka National Park and State Conservation Area

Geology

The park contains Mount Gunderbooka, which is the outstanding geological feature of the Bourke area. It is an impressive outcrop of Devonian sandstone rising to 495 metres above sea level. It is located at the junction of 2 large geological zones, the Girilambone Anticlinorial Zone and the Great Artesian Basin, and represents a dramatic example of an isolated syncline that has formed as a result of tectonic movements over many millions of years.

Land systems

According to Walker (1991), 5 different land systems are included in the park. The land systems represented include ranges (coinciding with the mountain itself), hills and footslopes (coinciding with Little Mountain), rolling downs and lowlands (coinciding with the western portion of the park at Belah and a part of northern Yanda), alluvial plains (coinciding with Yanda Creek and the Darling River) and colluvial plains (coinciding with the eastern and central portions of the park).

Although representing only a small proportion of the total number of land systems present in the region, the inclusion in the park of 5 different land systems is nevertheless significant in a regional context. Four of the 5 land systems in the park are not currently reserved elsewhere in New South Wales.

Landscapes

Mount Gunderbooka is one of the dominant landscape features in the Bourke district. It is noticeable from a wide area and presents a vivid contrast to the surrounding plains. Within the park there is a varied and complex natural landscape of spectacular sandstone cliffs, rocky gorges, shady inland creek beds, ephemeral water holes and extensive scrub and grass covered slopes and plains

The Darling River bordering the SCA adds significance to the park as one of only 3 reserves on the Darling River.

Native plants and animals

The park provides habitat for a wide variety of native animals. Fauna surveys in 1994, 1997 and 2000 recorded a total of 137 species of birds, 26 species of reptiles and amphibians and 18 species of native mammals. Twelve of these animals (4 mammals and 8 birds) are listed under the *Threatened Species Conservation Act 1995*.

The park also contains populations of 4 threatened plant species. These are *Phebalium glandulosum*, *Prostanthera stricta*, *Hedyotis galioides* and the curly bark wattle (*Acacia curranii*). There are several other plant species with restricted distributions located in the park.

The park is a relatively large area that represents an important asset for conserving plants and animals in the Cobar Peneplain.

Pre-contact cultural heritage

The Gunderbooka Range is a significant place for the Ngemba and Paakandji Aboriginal people from western NSW. It features prominently in the consciousness of Aboriginal people today and in particular, but not confined to, the people of Bourke and Brewarrina (Erskine 1998 p1).

In the past, the range was a vital resource for Aboriginal people living in the area in dry periods. Creeks in the range are one of the few locations on the Cobar Peneplain that provide water in times of drought. The mountain and nearby Yanda Creek were used as part of an extensive travel network that linked the mountain with other waterholes, creeks and the Darling River. Physical evidence of Aboriginal use of the area survives in the form of art sites, stone quarries, open camp sites and scarred trees. The archaeological importance of the area has been recognised with a complex of art sites on the park listed on the Register of the National Estate.

Post-contact cultural heritage

Visitation and use of the area by Aboriginal people continued after European settlement in the 19th century. Anecdotal evidence suggests that the difficult terrain in the area provided a shelter during massacres by European settlers. However, subdivision of the land around the turn of the century and the movement of Aboriginal people onto missions limited the opportunity for visitation. The establishment of Gundabooka National Park means Aboriginal people can now have access to an area that has been considered by them to be inaccessible for many years. There is also an expectation that Aboriginal-led tours of the area will raise awareness of Aboriginal culture.

When European settlers moved into the area, they brought with them a new culture that contrasted strongly with Aboriginal culture. Pastoral properties developed initially along the frontages of the Darling River in the 1860s, following a visit to the area by Charles Sturt in 1829. 'Ben Lomond', 'Belah' and 'Mulgowan' were predominantly sheep properties that date from the early 1900s.

The buildings and infrastructure that remain on the park mostly date from the mid-20th century. They show how small properties were set up, and testify to the struggle that many families had trying to maintain economic viability in a difficult environment. Although similar examples are still commonly found in the region, the buildings in the park are considered significant because they are largely intact.

There are also many people living in the local area who have personal connections with these properties.

Mineral exploration has been carried out in the area spasmodically since the late 19th century. The remains of 2 small mines are located in the park on Belah. One mine is believed to have yielded a small amount of gold in 1919-20.

Scientific research and education

The park provides opportunities for the scientific study of many aspects of semi-arid ecology. These include the impacts of different land management regimes on semi- arid vegetation

and wildlife, the management of pest species, fire management, the recovery of threatened populations and the rehabilitation of degraded natural systems.

The park can also provide a setting for environmental education and field based study, particularly in relation to Aboriginal culture, land-use history, wildlife, geology, geomorphology and archaeology. Because visibility on the ground surface is generally good, there is great potential for archaeological research.

Recreation and tourism

Most of the park has not been previously available for public recreation, although visitors had limited access to 'Mulgowan' and 'Ben Lomond' prior to acquisition by the Service by arrangement with the owners. Local tourism officers now report strong interest in the park from visitors to the region who want to visit Aboriginal sites and learn about Aboriginal culture. Other activities in demand include camping, bushwalking, sightseeing, picnicking and water-based activities such as fishing and boating.

Tourism to the Bourke/Cobar area has increased greatly over the past five years and is actively promoted. Recent tourism figures indicate that visitation to the region is on the rise, largely as a result of the recent sealing of the Kidman Way between Cobar and Bourke. In addition, promotion of the road along the Darling River (which passes through Yanda) as a tourist drive called the 'Darling River Run' is also contributing to the growth of tourism in the area. The park has potential to contribute to the development of natural/cultural tourism and recreation in the Bourke/Cobar area by providing added regional attractions and supplementing the existing range of activities that are available. It, therefore, has important recreational and tourism values at a regional level.

The park contributes significantly to economic growth and employment opportunities in the region, with many park visitors using visitor accommodation and service industries in Bourke and surrounding area. Increased visitation to the park and Bourke associated with improved facilities and publicity will present additional employment opportunities to local tourism and service industries.

2.2.3 Statement of significance

The significance of the park can be summarised as follows:

- features within the park are significant in the creation stories of Aboriginal people in the region
- it contains an abundance of Aboriginal sites, including art shelters, camp sites, stone quarries and scarred trees, some of which have been listed on the Register of the National Estate
- it has major contemporary significance to the local Aboriginal community
- its landscape and buildings demonstrate important aspects of the history of pastoralism in western NSW
- it contains Mount Gunderbooka, which is the most prominent geological feature in the Bourke/Cobar region, and adjoins the Darling River
- it contains a variety of land systems which are either not protected elsewhere or are under represented in other protected areas
- it contains a varied natural landscape, including one of the dominant landscape features in the Bourke district
- it contains a diverse biota including 10 species listed under the *Threatened Species Conservation Act 1995*

- it provides opportunities for environmental education and scientific study of important aspects of semi-arid ecology, geology, archaeology and cultural studies
- it provides opportunities for a range of recreational activities, including camping, cycling, photography, bushwalking and picnicking
- it is an additional attraction to tourists to the Bourke/Cobar region and therefore enhances the value of the region as a tourist destination
- has the potential to contribute to the economic wellbeing of Bourke and the surrounding region.

3. Objectives of management

3.1 Management purposes and principles for National Parks

National parks are reserved under the National Parks and Wildlife Act (Section 30E) to protect and conserve areas containing outstanding or representative ecosystems, natural or cultural features or landscapes or phenomena that provide opportunities for public appreciation and inspiration and sustainable visitor use.

Under the Act, national parks are managed to:

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

3.2 Management purposes and principles for state conservation areas

State conservation areas are reserved under the National Parks and Wildlife Act (Section 30G) to protect and conserve areas that contain significant or representative ecosystems, landforms or natural phenomena or places of cultural significance; that are capable of providing opportunities for sustainable visitor use and enjoyment, the sustainable use of buildings and structures or research; and that are capable of providing opportunities for uses permitted under other provisions of the Act.

Under the Act, state conservation areas are managed to:

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

The Act also requires review of the classification of state conservation areas every 5 years to determine whether they should receive either a national park or nature reserve classification. The classification review for state conservation areas is described in section 47M of the Act and is undertaken in consultation with the Minister administering the *Mining Act 1992*.

3.3 Specific objectives for Gundabooka National Park and State Conservation Area

In addition to the above, the following specific objectives will apply to the management of Gundabooka National Park and Gundabooka State Conservation Area:

- maintain and improve the park's landscape and ecological values through minimising erosion, control of feral animals and weeds, encouragement of revegetation and appropriate fire regimes
- protect, promote and interpret the Aboriginal and non-Aboriginal cultural heritage of the park in partnership with the traditional owners and the local community
- interpret the landscape, native plants and animals, and changes to natural systems within the park and semi-arid Australia
- manage the park as a place for ecologically sustainable nature/cultural tourism and recreation.

3.4 Overall strategy

The overall strategy consists of:

- consulting with the Gunda-Ah-Myro Aboriginal Corporation and other appropriate Aboriginal people on all matters relating to Aboriginal heritage and general park management issues
- managing the park in partnership with the local community
- controlling threats to the natural and cultural heritage of the park, particularly from feral animals and weeds, and liaising with the relevant authorities to ensure that water management of the Darling River maintains the natural systems
- working cooperatively with local government, other agencies and neighbouring landholders as far as possible
- rehabilitating degraded areas of the park to protect biodiversity
- providing for visitor use in ways which do not impact on the natural and cultural values of the park.

Protecting fragile cultural sites and rehabilitating a natural environment that has suffered significant ecological impacts while simultaneously promoting visitation is a challenging task. A priority, therefore, is to identify areas in the park where the potential impacts of visitation can be managed sustainably. Inputs into strategic planning will be sought from the local community, relevant stakeholders, other agencies and neighbours. This will occur mainly through consultation with the Gunda-Ah-Myro Aboriginal Corporation and the National Parks and Wildlife Service Upper Darling Region Advisory Committee. These committees are made up of representatives from the local Aboriginal community, landholders, environment groups and the tourism industry.

4. Policies and framework for management

This section contains the policies and framework for the management of the park together with relevant background information. Policies are summarised under the following headings:

- natural heritage
- cultural heritage
- use of the area.

Where not specifically provided for in this plan, management will be in accordance with the National Parks and Wildlife Act and with general Service policies.

4.1 Natural heritage

4.1.1 Geology, landforms and soils

The main feature of the park is Mount Gunderbooka and the Gunderbooka Range, which has significant scenic value. The range rises spectacularly to a height of 500 metres and covers an area of approximately 70 square km. Most of the range is located within the park although a small section of low hills is on the neighbouring property of 'Burrawa'. Within the range there is a complex mosaic of steep rocky cliffs, rounded ridges and narrow gorges. Surrounding the base of the northern escarpment is an apron of gentle footslopes. Beyond this there are small hilly outcrops around Little Mountain, undulating lowlands and extensive plains. These plains cover the majority of the park. The Darling River forms the north western boundary of the park.

Mount Gunderbooka is an outcrop of quartzitic sandstone (Mulga Downs Group) that was deposited around 385 million years ago in the Devonian period. Older underlying rocks (Girilambone Group), dating from the Ordovician period (436 million years ago), outcrop to the north at Little Mountain. Pressures in the earth's crust caused uplift and folding of the area in the Devonian and Cretaceous Periods, and a syncline was formed giving rise to the Gunderbooka Range. The range today is the remains of this syncline. Sediments, deposited mainly in the Quaternary Period (last 1.8 million years), have subsequently blanketed the slopes and plains around the mountain range. These sediments consist generally of orange-red clay sands on green-grey clays over gypseous clays as well as arkosic gravels.

A study of regolith/terrain units within the park by Fanning and Poole (1997) identified 7 land units. They are summarised as follows:

The 'rocky ridges' which coincide with the mountain range itself. This unit is described as 'linear and curved bedrock ridges; bare rock surfaces with little regolith'.

A 'piedmont apron' which occurs at the base of the Gunderbooka Range. This is a 'colluvial apron' with a stony upper storey, a sandy lower storey and dissected by linear drainage lines.

'Footslopes' which occur in a small apron at the base of Little Mountain. These are moderate colluvial slopes. Regolith is shallow and is comprised of slope sediments and aeolian deposits.

The 'undulating lowlands' which occur over a wide area, mainly between the ranges and the main access road through the park. These are of low relief with a gentle grade from the

ranges towards the more northerly plains. The regolith consists of saprolite and aeolian deposits drainage lines are shallow and undissected.

The 'plains' on the northern boundary of the park. These are very flat with 'widely spaced sandy hummocks' separated by plain surfaces. Drainage is disorganised.

'Drainage depressions' which are small, round drainage sinks that occur in the northern plains.

'Drainage tracts' which are alluvial flats nearby to the larger ephemeral creeks in the park. There are four main ephemeral creeks (Yanda Creek, Gundabooka Creek, Ben Lomond Gorge Creek and Mulareenya Creek) that flow for a short period of time following major storm events. Mulareenya Creek is the only creek in the park where permanent water exists. The Darling River, bordering the SCA to the north, is a major inland river. Yanda Creek is the major creek in the north of the Cobar Penplain. It cuts through the park from the south and discharges into the Darling River to the north.

Soil erosion is an important issue in all land units in the park. It has significant detrimental effects on both natural and cultural values. Grazing by domestic stock and feral animals (in particular goats, rabbits and pigs) has contributed to the loss of vegetation and subsequent land degradation. In most areas of the park, the topsoil horizon has been lost.

There is extensive gully erosion and channel enlargement, mainly along drainage tracts but also where tracks have been cleared. Sheet washing and rilling are also widespread. Fanning and Poole (1997) assessed most areas of the park as having 'moderate to high erosion potential'. Due to the widespread erosion that has occurred in the park, soil recovery is likely to be generally slow. Soil conservation will therefore be an important long term conservation imperative for park management.

This has important implications for maintaining existing tracks and developing visitor facilities such as roads, walking tracks and camping areas. For example, the undulating lowlands which occur between the main access road and the mountain range have a high erosion potential. This means that there is a natural constraint in providing further access to the mountain range. Access will therefore have to be carefully developed and monitored to avoid further land degradation as well as expensive maintenance problems.

The planning process has also involved identifying tracks no longer required for park management purposes and/or those that present a significant long-term erosion hazard within the park. These tracks will be progressively closed and rehabilitated.

Policies and actions

- The natural scenic values of Mount Gunderbooka and the Gunderbooka Range will be preserved. Infrastructure at Mount Gunderbooka will be confined to communications facilities that are essential for the state's public safety radio network. Communications infrastructure at this site may be managed under a lease.
- All activities in the park will be planned and undertaken in a way that minimises soil erosion and sedimentation.
- Severely degraded/eroded areas in the park will be gradually rehabilitated. Priority will be given to those areas where threats to natural and cultural heritage values are greatest (e.g. Gundabooka Creek, Ben Lomond Gorge, Mulareenya Creek).
- Tracks may be closed and rehabilitated as required.
- Rehabilitation programs undertaken in the park will be monitored, and the results used to improve rehabilitation practices in the park.

4.1.2 Native plants and animals

The vegetation in the park consists almost entirely of intergrading open woodland communities. Twenty-one different plant communities have been recorded. These are dominated by mulga (*Acacia aneura*), bimble box (*Eucalyptus populnea*), red box (*Eucalyptus intertexta*), ironwood (*Acacia excelsa*), white cypress pine (*Callitris glaucophylla*), belah (*Casuarina cristata*), leopardwood (*Flindersia maculosa*), western bloodwood (*Corymbia terminalis*) and grey mallee (*Eucalyptus morrisii*) in various associations.

Mulga, white cypress pine and mallee communities can be found on the range and the ridges of Little Mountain. Western bloodwoods occur around the base of the escarpment. Bimble box, red box and mulga communities dominate the undulating lowlands and plains. Ironwood and belah communities occur mainly on the northern plains. The creeks are generally lined with dense stands of bimble box or river red gums (*Eucalyptus camaldulensis*).

Four threatened plant species have been recorded in the park to date. Two of these plants, *Phebalium glandulosum* and *Prostanthera stricta*, are small/medium shrubs that are restricted to small areas of the range. Both have been heavily grazed by introduced herbivores. *Hedyotis galioides* is a rare annual herb that has only been recorded in the Gunderbooka Range. The curly bark wattle (*Acacia curranii*) is a small tree with a very limited and disjunct distribution. A population of approximately 150 trees has been recorded on Mount Gunderbooka. The occurrence of this species in the park is significant as it has only been recorded in three small, separate areas (Lake Cargelligo, Gunderbooka Range and Gurulmundi in Queensland).

Surveys for this species within the park indicate that it only occurs on two small areas on Mount Gunderbooka and there is no recruitment of juveniles. This may be related to the impact of grazing and/or altered fire regimes. Further research into the full extent of populations of threatened plant species in the park and the exact nature of threatening processes is required.

All vegetation communities in the park have been substantially altered by grazing. Overall, palatable groundcover species have been removed or reduced. The diversity of groundcovers, particularly grasses, forbs and small shrubs, has been greatly diminished. The loss of groundcover on terrain that is highly erodible has led to widespread erosion.

Conversely, a limited range of less palatable woody shrubs have been favoured by grazing. Included in this group are turpentine (*Eremophila sturtii*), budda (*Eremophila mitchellii*), emu bush (*Eremophila longifolia*), punty bush (*Senna eremophila*), narrow leaf hop-bush (*Dodonaea attenuata*), and broad leaf hop-bush (*Dodonaea viscosa*). A dense regrowth of woody shrubs covers an extensive area of the park.

Fauna surveys of the park have identified a relative abundance of native animal species. To date 137 species of birds, 19 species of reptiles and amphibians and 14 species of native mammals have been recorded. There have been eight threatened bird species recorded in the park; the pink cockatoo (*Cacatua leadbeateri*), pied honeyeater (*Certhionyx variegatus*), painted honeyeater (*Grantiella picta*), square-tailed kite (*Lophoictinia isura*), brown treecreeper (eastern subsp.) (*Climacteris picumnus victoriae*), diamond firetail (*Stagonopleura guttata*), hooded robin (*Melanodryas cucullata cucullata*) and grey-crowned babbler (eastern subsp.) (*Pomatostomus temporalis temporalis*).

Pink cockatoos are found sporadically in woodland and tree-lined watercourses over a wide area of western NSW and beyond. They depend on fresh surface water and tree hollows. The main threats to their populations are clearing, grazing (which inhibits regeneration of future nesting trees) and illegal trapping.

Pied honeyeaters, although widespread across arid and semi-arid woodlands are rarely seen. They follow rain and flowering shrubs, predominantly various species of *Eremophila*. They are threatened by a reduction of food supplies through the clearing of shrubland/woodland. Painted honeyeaters are distributed across western NSW, mainly throughout forested drainage lines and are dependent on the fruiting patterns of mistletoe (*Amyema sp.*) infestations. The threats to this species are largely unknown; however, competition with other species, clearing and selective thinning of infected trees may all be factors.

Three threatened mammal species have also been recorded in the park: the little pied bat (*Chalinolobus picatus*), the yellow-bellied sheath-tail-bat (*Saccolaimus flaviventris*) and the kultarr (*Antechinomys laniger*). The little pied bat is distributed across western NSW. It roosts in caves, rock outcrops and tree hollows. The yellow-bellied sheath-tail-bat has been recently recorded at several sites in western NSW. It roosts in large tree hollows and forages for airborne insects above the canopy of wooded habitats. The main threats to populations of both these species are thought to be clearing and predation of roost sites by feral cats. The kultarr has always been rare in western NSW. It is found in ground and log hollows in a wide variety of vegetation types. The main threats to this species are fire, land degradation, flooding, predation and cultivation.

The threatened hairy-nosed freetail bat (*Mormopterus* 'species 6') has also been recently recorded in Gundabooka National Park. About 20 individuals have been found in only 3 locations in New South Wales, and 15 locations in Australia.

There have been anecdotal reports of the existence of a colony of yellow-footed rock wallabies (*Petrogale xanthopus*) in the park. A ground survey of the area in 1997 by Taylor (pers comm) found evidence that rock wallabies once inhabited the area, however, whether these were yellow-footed rock wallabies or another species could not be determined. Further NPWS surveys for the wallaby in 1999 and 2001 found no evidence of the wallaby although there is abundant suitable habitat available.

The park also contains populations of large macropods including red kangaroos (*Macropus rufus*), eastern grey kangaroos (*Macropus giganteus*), western grey kangaroos (*Macropus fuliginosus*) and euros (*Macropus robustus erubescens*). The creation of tanks for watering stock has benefited these species, enhancing their persistence especially during dry periods.

There are 69 surface water points on the Gundabooka National Park and State Conservation Area. Three of these include the Darling River, Yanda Creek and Mulareenya Creek. The remaining 66 water points are artificial dams (ground tanks) of varying condition, constructed when the park was used for pastoralism.

The Service has assessed the current and future uses of some of the ground tanks within the park and prepared a schedule for the retention or decommissioning of ground tanks for the purpose of controlling feral pests and to reduce maintenance work. By decommissioning, control of the inflow of water occurs by blocking drainage lines, although the tanks will still collect rainwater. Strategically located ground tanks will be retained for domestic water supply, pest control, firefighting and road/track grading and maintenance works. The remaining artificial water points will be decommissioned.

The Service has assessed the current and future uses of ground tanks within the park and prepared a schedule for the retention or decommissioning of ground tanks. Eight strategically located ground tanks will be retained for domestic water supply, firefighting and road/track grading and maintenance works. The remaining 29 artificial water points will be decommissioned.

Policies and actions

- Management of native animals will focus on conserving threatened species and populations. Critical habitats in the park will be identified and managed to enhance the recovery of threatened species and populations.
- Research into the native plants and animals of the park will be encouraged. Any research will seek to involve Aboriginal people traditionally associated with the area, neighbouring landholders and the local community.
- Records of native plants and animals, their biology, local abundance and distribution on-park will be prepared and maintained.
- Those water points not required for park management operations, domestic water supply, pest control or firefighting (refer to section 4.1.4 for list of tanks to be retained) will be decommissioned.
- Research into the potential for fire to be used as a tool to increase the overall diversity and spatial extent of different vegetation communities within the park will be encouraged.
- Grazing exclosures will be erected to determine the impact of grazing pressure on groundcover diversity and quantity.

4.1.3 Introduced plants and animals

An introduced species is defined in this plan as any plant or animal species not native to the national park. Introduced species are of concern because they have detrimental impacts on the natural and cultural heritage of the park.

There are a variety of introduced species recorded in the park. Animal pests include the feral goat (*Capra hircus*), the European wild rabbit (*Oryctolagus cuniculus*), the feral pig (*Sus scrofa*), the European red fox (*Vulpes vulpes*), the feral cat (*Felis catus*) and the house mouse (*Mus musculus*).

The following weeds which are listed as noxious in Bourke Shire, have been recorded in the park: African boxthorn (*Lycium ferocissimum*), Noogoora burr (*Xanthium occidentale*) and Bathurst burr (*Xanthium spinosum*). Saffron thistle (*Carthamus lanatus*) and Mexican poppy (*Argemone ochroleuca*) also exist in the park. Waterborne weeds such as lipia (*Phyla nodiflora*) are now also a threat to the park with the inclusion of the Darling River bordering the park. The Service as a public authority has an obligation under the *Noxious Weeds Act 1993*² to control noxious weeds on the park to the extent necessary to prevent their spread to adjoining lands. Weed control in the park is managed in cooperation with neighbours and council. The Upper Darling Region Pest Management Strategy details weed control activities.

The Service has prepared a strategic pest species strategy for the Upper Darling Region. This includes the park and notes the following species as of concern:

- **Goats** occur in all parts of the park. Goats impact on biodiversity by changing vegetation structures and removing ground cover. They will often eat grasses and small tree roots to ground level and in the case of some trees, pull them out of the ground. Trampling by goats causes widespread erosion and during times of drought they compete with native animals for food and habitat. Goats have also caused damage to Aboriginal art sites and other Aboriginal sites.

Large numbers of goats have been removed but immigration from surrounding areas remains a significant problem. Ongoing mustering, trapping, aerial musters and

² Now repealed and replaced by the (NSW) *Biosecurity Act 2015*

shooting, closure of artificial water points, boundary fencing and mapping/monitoring will be required to control the population further.

- **Pigs** also occur in all areas of the park, particularly along the river, floodplains and creeks. The population and distribution of pigs on the park varies according to the season. During dry periods there is a concentration around tanks and small water holes along Yanda Creek. During wetter periods, the population spreads over a wider area of the park. Pigs cause silting and erosion of creeks and water courses, damage to roads and fences and prey on smaller native species.

The park has an identified pig control program. Future control will depend on monitoring and evaluation of the program.

- **Foxes** occur in all parts of the park, and a number of programs have been successfully implemented. Foxes may eliminate many small to medium size native mammals including kultarrs, wallabies and reptiles.

Programs using 1080 baits are the common method used for controlling foxes. There is an identified control program and monitoring regime, which is undertaken in cooperation with neighbours.

- **Feral cats** occur in all parts of the park and prey on most bird species. They have also been identified as a likely threat to the yellow-bellied sheath-tail-bat and the little pied bat as well as other small mammals and birds. They are controlled on the park through shooting and trapping during most seasons. The Service will remain up-to-date with best practice management available for cat control.
- **Rabbits** occur in small, isolated areas of the park and numbers are currently low. Like goats, their grazing affects native plant species. They also cause soil erosion. Many warrens have already been ripped and destroyed. Ongoing control will depend on the cooperation of neighbours, further ripping of warrens and fumigating. Rabbits have historically contributed to serious degradation in western NSW and their numbers are known to increase rapidly in favourable conditions. It is therefore important that low numbers are maintained. The use of other control methods (e.g.: release of myxomatosis, release of rabbit calicivirus or poisoning) may be required if numbers begin to increase. Mapping and ongoing monitoring will continue.

In addition to these species, sheep and cattle occasionally stray onto the park from neighbouring properties because of the poor condition of some boundary fences. Upgrading and maintaining boundary fences has commenced and domestic stock will be progressively excluded from the park. The Upper Darling Region Pest Management Strategy contains more details.

Policies and actions

- Management will aim to minimise the impact of introduced plant and animal species on the natural systems in the park, and to control potential environmental weeds.
- The Upper Darling Region Pest Species Strategy will continue to be implemented. This includes the reduction of watering points (see 4.1.2).
- Priority for control of introduced animals will be given to those species having the greatest impact on natural and cultural values. Particular focus will be given to controlling goats, foxes, cats and pigs.
- The Service will continue to investigate and evaluate best practice pest control methods for use in the park.
- The distribution and abundance of weeds on the park will be mapped. Priority for control of introduced plants will be given to preventing noxious weeds from spreading across the boundaries of the park.

- The cooperation of neighbouring landholders and relevant government authorities will be sought to control introduced species.
- The results of the pest species strategy will be monitored to ensure the strategy is effective.
- Domestic animals and stock will not be permitted in the park, except for trained assistance animals and animals used for feral animal management purposes.
- The cooperation of neighbours will be sought to upgrade and maintain boundary fences to create effective barriers for stock and feral animals.
- Fencing will be erected to trap/exclude introduced species from artificial watering points, and to exclude introduced species from critical habitats and sensitive Aboriginal sites.

4.1.4 Fire management

Fire is a natural feature of the Australian landscape that has shaped the evolution, survival and reproductive responses of many plants and animals. Aboriginal people used fire to shape their landscape to improve mobility, maintain hunting and seed collecting areas, to signal and to reduce the threat of large bushfires. In the Gundabooka area historical records indicate this burning regime maintained open grassy woodland areas.

Fires in the region surrounding the park now occur infrequently. Although extreme fire weather conditions are experienced commonly during the fire season, the lack of available fuel to date has limited the threat of wildfire. The change of management regime for the park and above average and extended rainfall in recent years has caused prolific grass growth in some areas. As the grass dries off quickly, abundant combustible fuel becomes available and the danger of wildfire increases significantly.

It is understood from anecdotal accounts that a fire burnt through Gundabooka Mountain in the 1940s. Another fire was reported through parts of 'Ben Lomond' and 'Belah' during 1984-85. Observations of burnt trees corroborate these reports.

In general, however, there are scant details of the fire history of the park. Further investigation of fire history and fire ecology is therefore important. Current research indicates that careful use of fire may be an effective tool for regenerating native groundcovers, but only if grazing pressure can be reduced. Fire may also be used to maintain a variety of vegetation types within the park.

The Service undertook management burns on 'Mulgowan' during April 2001 and April 2002 and plans to continue to carry out a program of hazard reduction and ecological burns in the park as seasons allow.

Policies and actions

- A map-based fire management strategy (type 2 fire management strategy) will be prepared for the park by 2006.
- All wildfires in the park will be controlled, or aligned with the regimes set out in the fire management strategy.
- Fire will be managed to ensure the protection of human life and property and the conservation of natural/cultural heritage values.
- Park fires bans may be instituted at certain times when the park is susceptible to fires even though total fire bans are not in place.
- A system of trails will be maintained throughout the park and along park boundaries (refer map) to provide fuel-reduced areas and access for fire management in accordance with the fire management strategy.

- Research into the ecological effects of fire in the park will be undertaken. The focus will be on developing fire management regimes that enhance the natural biodiversity of the park.
- Fire may be used as a management tool for fuel/hazard reduction purposes and to protect life and property within and adjoining the park.
- Fire may be used to promote vegetation/habitat diversity through prescribed burning regimes which promote a mosaic of different age class vegetation and vegetation types.
- The following Ground Tanks will be retained for firefighting/track maintenance purposes:
 - Buckleys Tank
 - Ring Tank
 - Claypan Tank
 - Coolibah Tank.
- Domestic water points may also be used during fire emergencies. The following tanks will be retained for domestic water supply/fire:
 - Ruwes Tank
 - Mulgowan Tank
 - Belah Tank
 - Toolooly Tank.

4.2 Cultural heritage

4.2.5 Aboriginal heritage

Mount Gunderbooka is of great significance to Aboriginal people, particularly people in the nearby communities of Bourke and Brewarrina. The area was continually occupied by Aboriginal people up until the early part of the 19th century. It provided important food and medicinal resources and was a watered haven in times of drought. Parts of the mountain were used as traditional women's and men's places and consequently today there are areas where Aboriginal people feel that visitor access should be controlled.

The Gundabooka area was traditionally a meeting place for neighbouring groups from the Cobar Peneplain and the Darling River. The 'Ngemba' or 'stone country' people inhabited the general area of the Cobar Peneplain while the 'Paakandji' or 'river people' lived along the Darling River. People from both 'Ngemba' and 'Paakandji' groups claim a special interest in the Gundabooka area.

There are 37 Aboriginal sites recorded in the park. These include places of spiritual and ceremonial importance, burial sites, open camp sites, scarred trees, stone quarries and art shelters. A complex of art sites on Mulgowan has been listed on the Register of the National Estate. The artistic style at these sites belongs to the pattern found on the northern part of the Cobar Peneplain and mainly consists of hand stencils and painted figures of humans and animals. Mesh barriers have been erected around the art sites to prevent goats from damaging them. Quarry sites containing bedrock anvils and incidental debitage (shattered stone) usually occur on the park wherever silcrete outcrops are located.

Gullies formed by increased runoff resulting from grazing and ruts formed by vehicles have incised many of the creek deposits around Gunderbooka Mountain. Most of these deposits date back more than 5000 or 6000 years and may extend to 30,000 or 40,000 years or more.

The Gunderbooka Range is known to have a strong association with 'Biaime'. 'Biaime' is an ancestral being which is sometimes called a 'sky hero', capable of ascending into the sky,

sometimes leaving a footprint in stone behind. In the far west of New South Wales the sky hero is referred to as Kulawirru (sometimes Kulaburru). Dreamtime creation ancestors are attributed to forming much of the landscape as they moved along their epic journeys (or Dreaming tracks). The Gunderbooka Range has connections with a journey, which includes the Brewarrina fishtraps, Coronga Peak and other landscape features on the northern Cobar plateau including Mount Drysdale (Erskine 1998).

Much traditional knowledge in Aboriginal communities in Western New South Wales remains unrecorded. Although it is now mostly fragmentary, and much detail is lost, a surprising amount of knowledge is sometimes retained about major landscape features. An anthropological study into the Aboriginal cultural significance of the Gundabooka area has been completed by the Service (Erskine 1998).

From the 1920s Aboriginal people lost physical connection with the Gundabooka area. It became a place that many people either could not visit or felt uncomfortable visiting. It has therefore become very important for Aboriginal people to once again have access to the area and re-establish their traditional ties. Ngemba people, in particular, have expressed a strong interest in the future management of the park.

The Gunda-Ah-Myro Aboriginal Corporation was formed by local Ngemba people to provide advice and liaison with the Service in relation to the management of Gundabooka National Park. The Service will continue to work with the Corporation to develop a formal agreement in relation to management activities.

A preliminary archaeological survey has been undertaken of the park (Witter and English 1999). While many previously unknown sites were located, including three additional art shelters, it is likely that more sites exist. There is evidence at some sites of deterioration, and many are in a fragile state. Protection of sites from goats and erosion are high priorities.

The survey identified characteristics of different areas within the park according to the presence of artefacts and cultural sites and their potential susceptibility to damage by management activities and visitation. The archaeology survey classified areas as Vulnerable or Sensitive according to their susceptibility to damage by visitation and/or park management activities. Vulnerable areas were identified as being most susceptible to impact from park management activities and/or visitation. Sensitive areas were identified as being less likely to exhibit artefacts than Vulnerable areas or be less susceptible to damage by management activities or visitation. The report found that certain visitor and management activities would need to be excluded or restricted within these areas to ensure their long-term preservation.

The Mulgowan art sites (Mulareenya Creek) and Ben Lomond Gorge were identified by the study to be 'Vulnerable' to visitor activity. Little Mountain, Yanda Creek, and Gunderbooka Mountain and Shield were identified as 'Sensitive'.

The study proposed the introduction of guided tours of the art sites. These would improve the experience and educational value gained by visitors to the sites. The introduction of guided tours would also improve visitor safety and ensure that the area is visited without compromising its cultural heritage values, as well as providing employment opportunities for local people. The Service has initiated an Aboriginal tour-guiding program.

A site management, protection and interpretation plan has been developed for the Mulgowan Aboriginal Heritage Site (Mulgowan art sites). The plan identifies management strategies to ensure long-term protection of the art site precinct. As part of this process, the temporary walking track to the art galleries will be realigned and formalised and include interpretive signage. A viewing platform and protective barrier will be installed at the main gallery to protect the art.

Policies and actions

- The Aboriginal heritage of the park will be conserved and interpreted in partnership with Aboriginal people who have a traditional association with the area.
- Aboriginal site surveys and an environmental assessment will precede all development activities on the park.
- The Gunda-Ah-Myro Aboriginal Corporation and other appropriate Aboriginal people will be consulted on all matters relating to Aboriginal heritage and on general park management issues.
- Access to some Aboriginal sites/areas, such as Ben Lomond Gorge, will be restricted to ensure their protection or in accordance with traditional values.
- Visitors to the Mulgowan Aboriginal Heritage Site will be required to obtain a key from the Service or to be accompanied by a Service-accredited guide.
- A site management, protection and interpretation plan has been developed for the Mulgowan Aboriginal Heritage Site. The plan identifies management strategies to ensure long-term protection of the art site precinct.
- All works in 'Vulnerable' or 'Sensitive' areas will be undertaken in the presence of a Service Aboriginal sites officer and a representative of the traditional owners and will avoid areas of archaeological concentrations.
- Further physical, documentary and oral research into the Aboriginal heritage of the area will be encouraged and used as the basis for conservation planning and management.
- Work opportunities for local Aboriginal people in the management of the park will be facilitated.
- Toolooly homestead may be used for Aboriginal cultural purposes and accommodation necessary to support park management. Decisions about use of the homestead will be made in consultation with the Joint Management Advisory Committee.
- The Service will continue to work with the Gunda-Ah-Myro Aboriginal Corporation to develop a formal agreement in relation to management activities.

4.2.6 Historic heritage

European exploration of the Darling River commenced in the early years of the 19th century. The Gundabooka Range was noted by Charles Sturt during his explorations in 1829. From the mid-19th century, European settlement moved gradually north up the Darling River. Although 'Gundabooka' station was established adjacent to the river in 1857, the mountain range, being situated in the 'back blocks' away from the river, was only used sporadically by pastoralists. However, by the late 19th century, settlement had spread further into the interior and the mountain range was included in the neighbouring stations of Yanda and Gundabooka. However, by the late 19th century settlement had spread further into the interior and, following World War I, the large properties in the area were subdivided as part of the soldier settlement scheme.

Four of these smaller stations, 'Ben Lomond', 'Belah', 'Mulgowan' and 'Yanda', now comprise the park. They are representative of the type of pastoral properties that existed in north western NSW in the mid twentieth century. All contain elements of historic interest, including homesteads, quarters, shearing sheds and yards. The old homestead rubbish tips are of archaeological interest. The buildings are located in a landscape that itself tells of the history of pastoralism. Important items in the landscape include the old fences, areas where trees have been cut to provide fences and drought fodder, old tanks and telegraph lines.

An initial conservation assessment was undertaken for structures within the park, including 'Ben Lomond' and 'Belah' homesteads (Stacy 1997). Most of the more recent buildings were found to be in reasonable repair. An exception was the shearing shed at 'Ben Lomond'

which has collapsed following termite attack and strong winds. Since the acquisition of the park, considerable work has been undertaken to upgrade the homesteads and services (water, sewerage, and electricity) for management operations. During 2001 an assessment was made of the remaining structures within Gundabooka National Park and decisions were made for retention or removal according to their heritage value or risk to visitor safety (NPWS 2001).

Old mining shafts exist on 'Belah', in the south west of the park. A small vertical shaft is also located on 'Mulgowan'. These shafts were dug to mine silver and gold. Mining leases for this area originate from the 1920s, although documentary accounts indicate that minor exploration took place around the time copper was discovered in Cobar in 1870. Otherwise little is known about the history of this site.

The recent inclusion of the Yanda property to the Service estate adds additional structures to the park, including another 3 residences and a shearing shed, and various other buildings and items. A heritage assessment is the main priority for the property to identify heritage items, and conservation management plans will follow for buildings and sites of importance.

The Gundabooka area also has an association with the history of bushranging. In 1868 a bushranger called Captain Starlight was captured in a cave on the range. This event has considerable historic interest and is the subject of a book soon to be released by a local historian (M McInerney pers comm). The location of Gundabooka as the capturing place of Starlight has significant potential to improve its attraction to visitors.

Policies and actions

- The historic heritage of the park will be conserved in accordance with the principles of the Burra Charter (Australia ICOMOS, 1988).
- Places identified as having historic heritage significance will be maintained, and where appropriate interpreted to visitors. Structures that present a potential safety hazard to visitors will be made safe or removed.
- The Service's register of historic places will be maintained and upgraded to include more comprehensive data on the historic places in the park.
- All moveable heritage items of significance will be recorded and retained in situ as far as practical. Where necessary heritage items may be relocated to safe storage to prevent their deterioration.
- Ben Lomond homestead will continue to be used for management purposes with only minimal and reversible changes being made to the fabric of the structure. The collapsed shearing shed and other unsafe outbuildings will be recorded and removed.
- Mulgowan shearing shed, quarters and associated buildings will be recorded and removed.
- Belah homestead, the governess' cottage and shearers quarters will be maintained and may be used for staff and public accommodation and interpretation (refer sections 4.3.1 and 4.3.2).
- The shearing shed and yards at Belah will be stabilised.
- Further investigation into the history of European activity in the park will be encouraged, including the whereabouts of the cave in which Captain Starlight was captured.
- The old mine sites will be fenced for the safety of visitors and wildlife.
- Redbank homestead will be managed as visitor accommodation.
- Hamilton Park homestead will be primarily managed for NPWS staff accommodation. When not required for staff residential accommodation, the homestead will be available for visitor accommodation.

- Structures at Old Yanda will be managed in accordance with heritage conservation plans.

4.3 Use of the area

The park will be managed to ensure that its use, whether by the general public, special interest groups, Service officers or other authorities, is appropriate and conforms to the management objectives of this plan of management.

The major categories of use that may be appropriate within Service areas are:

- promotion and interpretation of the park's natural and cultural heritage
- environmental education
- low-impact recreation in a natural setting
- scientific research
- management operations by the Service and other authorities with statutory responsibilities in the area.

The extent to which these categories of use are appropriate to Gundabooka National Park and State Conservation Area is indicated in the following sections of the plan.

There are many very fragile environmental elements in the park that are likely to be impacted on by visitation. A central concern, therefore, is to ensure that any use of the area is sustainable and consistent with the core conservation responsibilities of management.

4.3.7 Promotion and interpretation

Promoting public awareness of the Service's conservation responsibilities, the heritage value of the area and the recreational opportunities available is a major aspect of managing the park. Interpretation of the natural and cultural heritage of the park helps to increase the understanding, enjoyment and satisfaction of visitors. This, in turn, affects how the area is used and managed.

Gundabooka National Park and State Conservation Area are located in the Bourke/Cobar region, an area with few other national parks at present. It, therefore, provides an important opportunity to promote national parks and conservation within the region. In addition, the park provides a very important opportunity for the increased understanding and interpretation of the Aboriginal heritage of the area.

The fact that the local Aboriginal community has a keen interest in the way their heritage is interpreted and promoted to visitors, and their interest in being involved in this interpretation is an added benefit.

There has also been considerable interest in promoting the park as an attraction for visitors and locals in the Bourke/Cobar area. The area has experienced a growth in tourism and it is anticipated that the park will contribute to this important aspect of the local economy.

Policies and actions

- Promote and interpret the park in order to:
 - raise awareness about the natural/cultural landscape values of the park and the need for their protection
 - encourage sustainable visitor use
 - facilitate understanding and enjoyment for visitors.
- The park will be promoted and interpreted through a variety of media, including:

- guided tours of selected sites
- interpretive signs located in sites with educational or special heritage value
- brochures and other publications
- special events.
- Interpretation of the park will emphasise:
 - the Aboriginal cultural significance of the area
 - the interaction of people with the environment
 - the flora and fauna of the area
 - the history of land use
 - the outstanding scenery protected by the park.
- The involvement of the local community, local tourism bodies and local councils in promoting and interpreting Gundabooka National Park and State Conservation Area will be encouraged and supported.
- Interpretive information for the park will be developed in consultation with the Gunda-Ah-Myro Aboriginal Corporation.
- Appropriate interpretive signage will be provided at the Mulgowan Aboriginal Heritage Site.
- The shearing precinct at 'Belah' will be used for interpretive displays of the pastoral industry and station life.
- Small interpretive and information boards will be placed at the eastern and western entrances to the park. Interpretation will also be provided on Little Mountain Walking Track, at the Dry Tank Visitor Area and at the Bennetts Gorge Day Use Area and Walking Track.

4.3.8 Recreation opportunities

Many people from the towns of Cobar and Bourke enjoy Gundabooka. The Service continues to promote the park and its value to local people through print and written media and cultural events. Increased interest in Discovery activities by people from surrounding towns has also led to the development of new activities and the interest of a number of persons in conducting commercial tours in the park.

The location of the park just off the Kidman Way also places it on a major inland travel route between Victoria and Queensland. The addition of the Yanda property also places the estate on the Darling River Run, an increasingly popular tourist route. Information from tourism officers in Cobar and Bourke indicates that most visitation occurs in the cooler months although this trend is changing. At present independent travellers, mostly retirees and families, dominate the market. Most are visiting the area as a stopover rather than making the Bourke/Cobar area their primary destination. A strong demand for natural 'outback' attractions is being reported. It is expected therefore that many people will want to visit the park on a day visit or a short stopover. It is also likely that visitors who would not otherwise travel to the Bourke/Cobar area, will want to visit the park. In this way the park will add value to tourism in the area.

Recognising that there is a growing demand for visits to the park, preliminary assessments have been made of sites suitable for visitor use. The guiding principles in these assessments have been ecological sustainability, the 'precautionary principle', reversibility and the need to provide a range of experiences for visitors.

The developments also avoid those areas recognised by archaeological surveys as 'Vulnerable'.

The park is large and has potential for a range of outdoor recreational uses. These include bushwalking, camping, cycling, picnicking and sightseeing. To facilitate this use, the park will be progressively developed to provide day visitor sites, walking tracks and more basic camping areas. Areas within the designated management track network will also be assessed for their suitability for cycling and/or walking.

In addition to the Little Mountain, Belah and Mulareenya Creek areas, a day use area will be developed in the vicinity of the spectacular Bennetts Gorge. This will allow visitors to view a spectacular large dry gorge on the northwest flank of Mount Gunderbooka and climb to the trig station on the mountain's summit.

Highly developed camping areas are not considered appropriate because the provision of all-weather roads, electricity, potable water, showers and rubbish collection is costly and will increase environmental impacts. There is already a variety of established visitor accommodation facilities in Bourke and Cobar.

Management will therefore encourage use of these facilities and promote day use of the park.

Basic camping areas with gas fires will be provided in the park for those visitors who want the experience of camping in a natural setting. Small camping and picnic areas have been developed at Dry Tank immediately west of Little Mountain, and a walking track has been constructed to the top of Little Mountain. The Dry Tank precinct will be redeveloped to provide additional camp sites on a ring road west of the existing camping area, constrained to an area of five hectares. A walking track will link the camping and picnic area at Little Mountain Track Head. A bypass road will be established to redirect vehicle traffic east off the camping area access road to the picnic area. Permits will be required for overnight bush walking.

The Belah shearers' quarters complex is a 6 room, 12 bed facility suitable for small organised groups. The complex has electricity, hot water, showers, evaporative air conditioning, kitchen and toilets. It is currently available for booking for short-term tourist accommodation. The newly renovated Belah Governess' Cottage includes a double bed and has electricity, hot water, reverse-cycle air conditioning, kitchen, shower and toilet. It is also available for short-term tourist accommodation.

Large groups can place pressure on park facilities, cause unacceptable environmental impacts and conflict with other users of a park. They will be encouraged to use camping areas in nearby towns or another camping area which is proposed to be developed near the river in the State Conservation Area following community consultation. It is proposed that this camping area will provide for general camping and larger groups.

Commercial operators/groups using the park will require a licence. Commercial operators wishing to visit the Mulgowan Aboriginal Heritage Site will be accompanied by a Service-accredited guide.

The vegetation communities within the park have very low fuel wood productivity. Firewood collection will not be permitted within the park. Visitors staying within the park will be required to use gas cooking appliances once the Service has constructed them or their own non solid fuel stoves. In the interim period, non solid fuel stoves will be encouraged and small volumes of wood from existing windrows will be supplied to the Dry Tank Camping Area and Belah Quarters.

All roads and tracks in the park are gravel or dirt and become impassable following rain. The park will be closed during wet periods for the safety of visitors and to prevent damage to roads. Roads may be closed at any time at the discretion of the Service to ensure visitor safety.

Policies and actions

- Management will aim to achieve ecologically sustainable visitor use of the park.
- A recreation plan will be developed for the park to ensure a range of opportunities are offered and managed appropriately. A range of recreational facilities will be provided for visitors, including picnic areas, basic camping areas, walking tracks and group accommodation. Any new facilities not covered by this plan of management will require an amendment to the plan.
- Camping will only be permitted in designated camping areas, or in accordance with a bushwalking permit.
- Firewood collection within the park will not be permitted. Visitors will be required to use their own cooking units, or use the supplied wood or bring their own wood in the constructed fireplaces pending the instalment of gas cooking appliances. Once gas appliances have been supplied, no wood fires will be permitted.
- Visitors will be required to remove their own garbage from the park.
- Public vehicular access will be permitted on the park roads shown on the map (centre pages).
- Cycling will be permitted on public roads within the park (see map). Cycling will not be permitted on walking tracks or management tracks.
- Horses and other animals may continue to travel through the park along the Ben Lomond Road, which is a public road, but are not permitted off this road.
- All organised groups using the park will require permission, and commercial groups and operators will require a licence, from the Service.
- Remote area bushwalkers will require a permit.
- Another camping area is proposed to be developed near the river in the State Conservation Area following community consultation. It is proposed that this camping area will provide for general camping and larger groups.
- A visitor day use area, viewing area and walking track will be developed in the vicinity of Bennetts Gorge on the north-west flank of Mount Gunderbooka. A navigable route will be signposted from the viewing area to the Trig Station at the summit of Mount Gunderbooka. A camping area may be established at Bennetts Gorge.
- The shearers quarters at Belah homestead complex may continue to be used by organised groups. The governess' cottage may also be used for visitor accommodation now that restorations are complete.
- Regular surveys and monitoring of recreational use of the park will be undertaken to determine visitor activities and perceptions and any impacts caused by recreational use of the park.
- Educational/research groups may be given special permission to access areas of the park that are not normally accessible to visitors.
- Access to certain areas of the park may be restricted to protect natural and cultural heritage values. At certain times, areas of the park may be closed, for example, during periods of extreme fire danger, wet weather, or to allow for essential management operations. If visitor use is causing unacceptable damage to particular areas then use of those areas will be restricted.

4.3.9 Research

Research into the natural and cultural heritage of the park and visitor use is essential for developing appropriate management practices. The Service's staff and financial resources must be directed towards the research areas of greatest need. Research by other organisations and students may provide valuable information for understanding and

managing the park's resources as well as assist management by trialing new management techniques.

Gundabooka National Park is a place that has been reserved because of its important natural and cultural heritage values. There has to date been a limited amount of research into topics of scientific interest. In terms of ecology, for example, there is much that is unknown. Likewise, there are gaps in knowledge about both the Aboriginal and European history of the place. What is certain is that the area has experienced profound environmental and cultural change in the past 2 centuries.

Creating the park, therefore, brings an opportunity to undertake physical and social research into the nature of this change. Ethnobotanical research has also been identified as being a priority for the area. It is important that knowledge generated from further research will feedback positively into management prescriptions. Indeed, there are many instances where research is a priority for management.

Policies and actions

- Research that has direct benefits for the management of the park, and the conservation of natural and cultural heritage will be encouraged.
- Aboriginal people will be consulted to ensure that research is culturally appropriate.
- Opportunities to involve the local community in research projects will be sought.
- Gaps in research knowledge will be identified, and a list of priority research topics identified to guide research.
- The Service will investigate links with tertiary institutions to promote student/postgraduate research in the park and improve knowledge of the parks flora, fauna and cultural landscape.

4.3.10 Management operations

There are several developments in the park that are associated with management operations. Both the 'Ben Lomond' and 'Belah' homesteads are used for staff accommodation. The shearer's quarters at 'Belah' are also used for temporary staff accommodation. A new homestead has been built at Mulgowan for staff accommodation. On the former Yanda property, the 'Hamilton Park' homestead will primarily be utilised for staff accommodation but may be available for visitor accommodation when not required for this purpose. Workshops are located at 'Ben Lomond', 'Belah', and one on 'Yanda'. Dirt airstrips are located at 'Ben Lomond', 'Belah' and 'Yanda'. The airstrips in the park are for emergency and management purposes only.

Electricity is supplied to the homesteads via overhead powerlines. Water is supplied to the homesteads by ground tanks that are fed by surface water and rainwater.

A total of 66 ground tanks, previously used for watering stock, exist throughout the park. Since gazetted, these have not been maintained and several are silted (see sections 4.1.1 and 4.1.2).

Road access to the parks is via: the Ben Lomond Road; the Kidman Way; the Louth Road, and the Gundabooka – Mulgaroon Road. These are all unsealed public roads managed by the Bourke Shire Council. There are many tracks and trails on the park, none of which are public roads. Many of these have eroded and require either remedial works or closure (see section 4.1.1). The trails to be retained for management purposes are shown on the map.

There are three quarries located in the park. The first is a shallow roadside gravel pit located off the main access road through the park on a ridge approximately one kilometre east of the entrance into Belah homestead. It is used for road maintenance in the park. The second quarry exists in Yanda Creek. It comprises a disused small gravel and sand excavation area

covering approximately 0.4 ha, a number of gravel stockpiles, two on-site access tracks and an earth loading dump.

This quarry has been rehabilitated. The third quarry is a pit adjacent to the Kidman Way. The Belah and Kidman Way quarries may be used to supply material for road maintenance within the park and/or supply some materials for future road upgrades.

The upgrade of tracks in the park has been identified as an imperative. It is likely therefore that large amounts of gravel will be required for track surfacing. This will have to be sourced locally because of the high cost of transporting gravel to such an isolated location. Potential additional gravel sources in the park will be investigated.

The park is divided up into many paddocks by existing internal fences. Most fences have not been maintained for many years and are in poor condition. The condition of the boundary fencing also varies. The western boundary, the northern boundary of Belah and the eastern boundary on Toolooly have recently been upgraded. The Service will conduct an audit of the condition of existing boundary fences before developing further fencing agreements with neighbours.

A number of gates remain in the boundary fence of the park. The presence of boundary gates has the potential to increase the occurrence of illegal trespass, shooting and poaching within the national park.

Utilities and management facilities in the park require regular maintenance and it is proposed to incorporate these into an assets management system so that their value and maintenance requirements can be assessed and appropriate levels of funding sought and acquired for ongoing management.

A Travelling Stock Route (TSR no 1054) passes through the park along the eastern side of the Kidman Way. This is excluded from the park and is under the management of the Bourke Rural Lands Protection Board and the Department of Infrastructure, Planning and Natural Resources³.

Approximately 800 hectares of 'Yanda' will initially be excluded from reservation. The Department of Infrastructure, Planning and Natural Resources have requested this whilst they investigate the feasibility of a salt interception scheme and have begun preparing a feasibility study for the proposed scheme. If the project is approved it is expected to involve the construction of approximately 5-8 interception bores approximately 1km apart for 10-15km along the eastern bank of the Darling River.

Each borehole will be located approximately 300-400 metres from the river, and groundwater will be transferred from the bore field to a dispersal basin via an underground pipeline linking each bore. If this scheme proceeds and the land is to subsequently be added to the national park or state conservation area, an amendment to this plan of management covering the operation of the salt interception scheme will be required.

Policies and actions

- All park assets will be incorporated into a total asset management system which will provide a basis for effective maintenance.
- Potential gravel sources in the park will be investigated. Material from the two existing quarries at Belah and Kidman Way/Mulgowan may be used to maintain park roads/tracks. Guidelines for managing them will be prepared.
- Areas of the quarries that are no longer required will be rehabilitated in consultation with Mineral Resources.

³ Now part of Western Local Land Services

- The rehabilitated quarry site at Yanda Creek will remain closed.
- Track and hardening materials will be sensitive to and compatible with the natural landscape.
- More effective methods of domestic rubbish disposal will be investigated to avoid disposal on-park.
- Methods of recycling waste and pollutants will be investigated, and recycled products will be used in park operations as far as possible.
- The 'Ben Lomond', 'Belah', 'Mulgowan' and 'Hamilton Park' homesteads may be used for permanent residential accommodation for staff working on the park. The shearers quarters at 'Belah' may be used as temporary staff accommodation. Homesteads will be managed consistent with assessed heritage significance.
- House tanks and associated drains will be fenced and be maintained.
- The airstrips at Belah and Ben Lomond will be maintained for use during emergencies and park management operations.
- All internal fencing will be reviewed. Wire may be removed from fences that are no longer required and re-used for boundary fencing or feral animal management purposes.
- Gates no longer required in the boundary fence of the park will be removed. No new boundary gates will be installed.
- Any additions to the park will be managed in accordance with this plan of management.

5. Plan implementation

This plan of management is part of a system of management developed by the National Parks and Wildlife Service. The system includes the *National Parks and Wildlife Act 1974*, management policies, established conservation and recreation philosophies and strategic planning at corporate, regional and district levels.

This plan will be implemented within the annual programs of the Bourke office of Upper Darling Region. Priorities determined in the context of regional and directorate strategic planning will depend upon necessary staff and funds being available and any requirements of the Director-General or Minister.

Regional Service programs are subject to ongoing review, within which works and other activities carried out at Gundabooka are evaluated in relation to the objectives laid out in this plan.

The environmental impact of all development proposals will continue to be assessed at all stages of the development and any necessary investigations undertaken in accordance with established environmental assessment procedures.

5.1 Priorities and activities

Section 81 of the Act requires that this plan shall be carried out and given effect to, and that no operations shall be undertaken in relation to the part unless they are in accordance with this plan. However, if after adequate investigation, operations not included in the plan are found to be justified, the plan may be amended in accordance with section 73B of the Act.

As a guide to the implementation of this plan, relative priorities for actions identified in this plan are summarised in the implementation table on the following pages.

5.1.1 Types of activities

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.

Policies and actions

- Undertaken an annual review of progress in implementing this plan of management.
- Undertake an assessment after 5 years of the effectiveness of managing Gundabooka National Park and State Conservation Area in accordance with this plan and of the degree of success in achieving the plan's objectives and desired outcomes. Base the evaluation on the monitoring programs set out in this plan and any others that may be developed.

Table 1 Implementation table

Activity	Plan Ref
High Priority	
Prepare/implement rehabilitation/erosion control programs for severely degraded areas	4.1.1
Close and rehabilitate tracks no longer required for visitor/management operations	4.1.1
Decommission tanks	4.1.2
Maintain control programs for introduced species	4.1.3
Upgrade/maintain boundary fencing	4.1.3
Trap/exclude pests from watering points, critical habitats and Aboriginal sites	4.1.3
Prepare a map-based fire management strategy	4.1.4
Maintain trails required for fire management	4.1.4
Undertake urgent conservation works on Aboriginal sites	4.2.1
Upgrade walking track and viewing platform facilities at the Mulgowan Aboriginal Heritage Site	4.2.1
Investigate/facilitate work opportunities for local Aboriginal people	4.2.1
Work with the Corporation to develop a formal agreement	4.2.1
Fence the old mine sites	4.2.2
Develop interpretive information for the park	4.3.1
Promote the park in association with the local community	4.3.1
Provide signs at park entrances and other sites	4.3.1
Develop visitor information display at Mulgowan	4.3.1
Develop Bennetts Gorge day use area and walk to summit of Mount Gunderbooka	4.3.2
Redevelop Dry Tank Camping Area to provide for additional campsites suitable to the character of the area, a new walking track link, a bypass road and a picnic area at Little Mountain Track Head	4.3.2
Investigate gravel sources and prepare guidelines for management of existing quarries	4.3.4
Liaise with neighbour re 15 mile tank inholding	4.3.4
Medium Priority	
Establish monitoring programs for rehabilitation sites	4.1.1
Establish/maintain records of native plants and animals	4.1.2
Identify management requirements for critical habitats	4.1.2
Establish and monitor grazing exclosures	4.1.2
Map distribution and abundance of weeds	4.1.3
Seek cooperation of neighbours/relevant authorities in pest control programs	4.1.3
Monitor effectiveness of control programs	4.1.3
Encourage further research into Aboriginal heritage	4.2.1
Work with the Joint Management Advisory Committee to facilitate the continued use of Toolooly homestead for multiple purposes including accommodation for park operational management, cultural activities and meetings	4.2.1

Activity	Plan Ref
Record moveable heritage items	4.2.2
Record and remove sheds at Ben Lomond and Mulgowan	4.2.2
Develop Belah interpretive display	4.2.2
Construct additional campsites at Dry Tank	4.3.2
Construct Mulgowan camping area	4.3.2
Develop/maintain asset management program	4.3.4
Investigate recycling/rubbish disposal off-park	4.3.4
Low Priority	
Encourage research into native plants and animals	4.1.2
Encourage research fire ecology in the park	4.1.4
Encourage research into historic heritage	4.2.2
Conduct regular visitor surveys/monitoring	4.3.2
Establish research links with tertiary institutions	4.3.3
Compile a list of priority research topics	4.3.3
Review internal fencing	4.3.4

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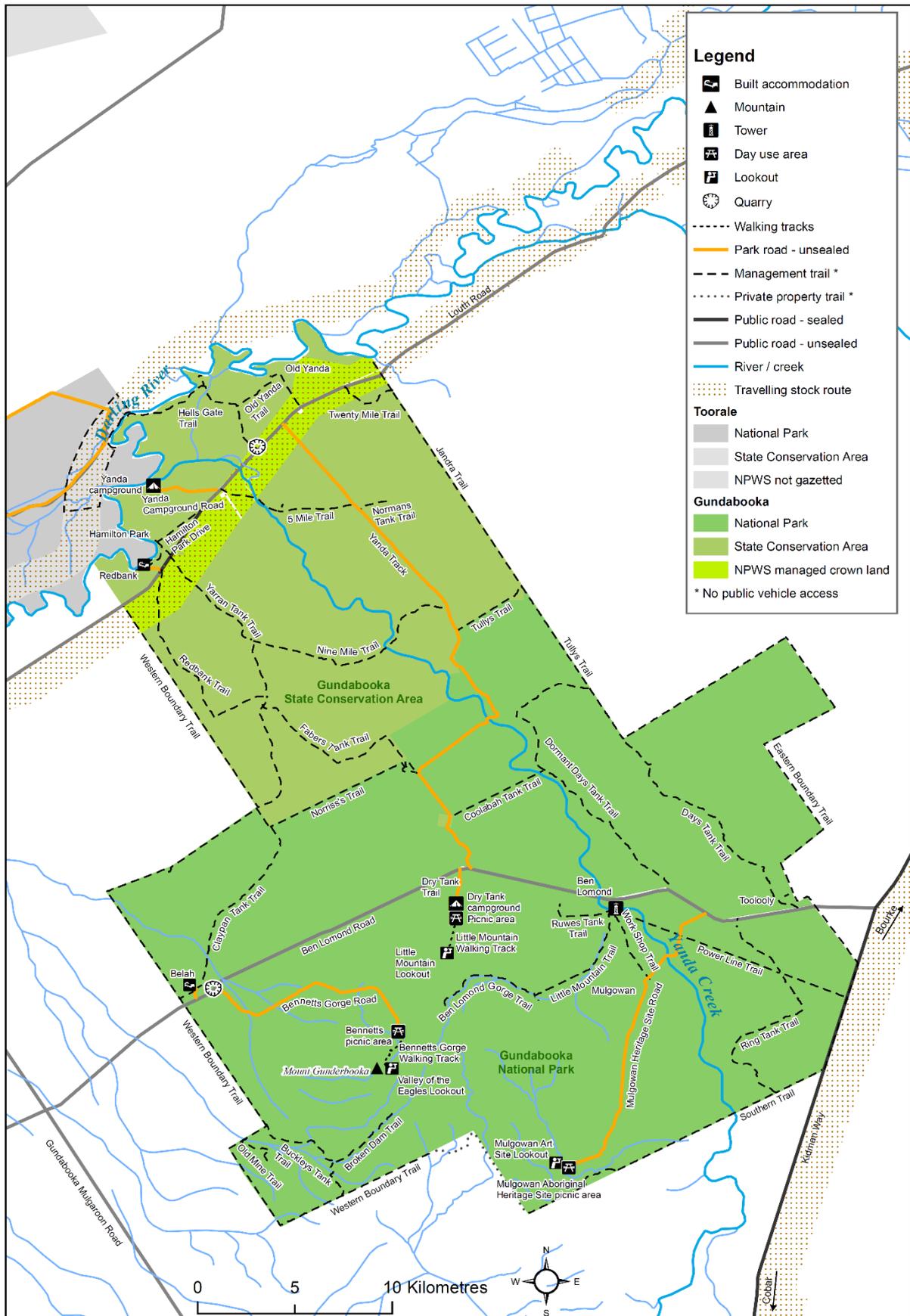


Figure 1 Map of Gundabooka National Park and Gundabooka State Conservation Area