

**GOULBURN RIVER NATIONAL PARK
AND MUNGHORN GAP NATURE RESERVE
PLAN OF MANAGEMENT**

NSW National Parks and Wildlife Service

February 2003

This plan of management was adopted the Minister for the Environment on 6th February 2003.

Acknowledgments: This plan was prepared by staff of the Mudgee Area of the NSW National Parks and Wildlife Service.

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FOREWORD

Goulburn River National Park, conserving approximately 70 161 hectares of dissected sandstone country, and the neighbouring Munghorn Gap Nature Reserve with its 5 935 hectares of sandstone pagoda formation country, both protect landscapes, biology and cultural sites of great value to New South Wales.

The national park and nature reserve are located in a transition zone of plants from the south-east, north-west and western parts of the State. The Great Dividing Range is at its lowest elevation in this region and this has resulted in the extension of many plants species characteristic of further west in NSW into the area. In addition a variety of plant species endemic to the Sydney Sandstone reach their northern and western limits in the park and reserve.

Goulburn River National Park and Munghorn Gap Nature Reserve, together with Wollemi, Yengo and Blue Mountains National Parks, act as a large integrated park system providing corridors between the major botanical divisions of the Central Western Slopes, the Central Tablelands, the North and Central Coasts. The national park and nature reserve are rich in wildlife and support high numbers of vulnerable, threatened and endangered animal species. The national park plays a major role in the conservation of the nationally-threatened brush-tailed rock wallaby.

The Goulburn River, which flows through much of Goulburn River National Park, has incised a wide gorge flanked by cliffs and caves. The wide, open floodplain of the river and rugged gorge walls provide an excellent environment for self-reliant recreational activities such as walking and photography. The national park and nature reserve also provide opportunities for camping, picnicking, walking on tracks, scenic drives and horse riding.

This plan of management establishes the scheme of operations for Goulburn River National Park and Munghorn Gap Nature Reserve. In accordance with Sections 75 and 76 of the *National Parks and Wildlife Act 1974*, this plan of management is hereby adopted.

BOB DEBUS

Minister for the Environment

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1. INTRODUCTION

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

This plan of management covers Goulburn River National Park and Munghorn Gap Nature Reserve, both of which are located in the headwaters of the Goulburn River in the western extremity of the Hunter Valley. Because of similarities between the geophysical, biological and cultural characteristics of the two areas and the complementary nature of most management programs relating to their protection, it was decided that both areas be addressed in the one plan.

The procedures for the adoption of a plan of management are specified in the Act and involve five stages:

- The Director-General gives notice that a plan of management has been prepared.
- The plan is placed on public exhibition for at least one month and any person may comment on it.
- The plan and copies of all representations are referred to the National Parks and Wildlife Advisory Council for consideration.
- The Director-General submits the plan together with the recommendations of the Advisory Council to the Minister.
- The Minister may adopt the plan, with or without amendment, after considering the recommendations of the Advisory Council or may refer the plan back to the Director-General and Council for further consideration.

A draft plan of management for Goulburn River National Park and Munghorn Gap Nature Reserve was placed on public exhibition for four months from 24th November 2000 until 19th March 2001. The exhibition of the plan attracted 19 submissions which raised 10 issues. All comments received were referred to the National Parks and Wildlife Advisory Council for its consideration and advice. The comments and suggestions of the Council were in turn considered by the Minister before adopting this plan of management.

Now this plan has been adopted by the Minister, no operations may be undertaken within the national park and nature reserve except in accordance with this plan.

For further information on Goulburn River National Park and Munghorn Gap Nature Reserve, contact the Service's Mudgee Area office at Shop 1, 160 Church Street, Mudgee NSW 2850 or by telephone on (02) 6372 7199.

2. MANAGEMENT CONTEXT

2.1 NATIONAL PARKS IN NEW SOUTH WALES

The NSW *National Parks and Wildlife Act 1974* defines national parks as “spacious areas containing unique or outstanding scenery or natural phenomena” (Section 8(2)(a)).

For the purpose of preparing plans of management, the Service has adopted the International Union for the Conservation of Nature and Natural Resources (IUCN) definition of a national park:

“a natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations; (b) exclude exploitation or occupation inimical to the purposes of designation of the area; and (c) provide a foundation for the spiritual, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible” (IUCN, 1994).

National parks are part of the regional pattern of land use. The management of a national park aims at minimising disturbance to natural and cultural heritage. Other land uses, for example agriculture, forestry and mining, are distinguished by an acceptance or encouragement of environmental modification. National parks therefore provide for only a limited part of the range of land uses in a region.

2.2 NATURE RESERVES IN NEW SOUTH WALES

Nature reserves in New South Wales arose out of faunal reserves. Faunal reserves were established under the *Fauna Protection Act 1948*. Under the *National Parks and Wildlife Act 1967* faunal reserves were reclassified as nature reserves. The 1967 Act was later replaced by the *National Parks and Wildlife Act 1974*.

Under the National Parks and Wildlife Act, nature reserves are “areas of special scientific interest containing wildlife or natural environments or natural phenomena” (Section 8(2)(c)).

The purposes of nature reserves is defined in the Act as:

- The care, propagation, preservation and conservation of wildlife;
- The care, preservation and conservation of natural environments and natural phenomena;
- The study of wildlife, natural environments and natural phenomena; and
- The promotion of the appreciation and enjoyment of wildlife, natural environments and natural phenomena.

Nature reserves are valuable refuge areas, where natural processes, phenomena and wildlife can be studied. They differ from national parks which include as a major objective the provision of appropriate recreation opportunities.

2.3 GOULBURN RIVER NATIONAL PARK AND MUNGHORN GAP NATURE RESERVE

2.3.1 Location, History of Dedication and Regional Context

Goulburn River National Park is located between Mudgee and Sandy Hollow, approximately 300 kilometres north-west of Sydney. It lies partly within the local government areas of Mudgee, Merriwa, Muswellbrook and Rylstone and covers approximately 70,161 hectares.

Goulburn River National Park extends along about 90 km of the Goulburn River, within an area roughly bounded by Sandy Hollow, Merriwa, Bylong, Wollar and Ulan. It is separated from the far north-western section of Wollemi National Park only by the Muswellbrook to Mudgee road.

Much of what is now Goulburn River National Park was proposed to be flooded in the early 1980s as part of the proposed Kerrabee Dam. This dam was to be constructed on the Goulburn River at the junction with the Merriwa River to supply water to the Hunter Valley. However, following extensive environmental assessment, it was determined that the area's significant natural and cultural values precluded construction of the dam. The area was reserved as Goulburn River National Park in 1983.

Munghorn Gap Nature Reserve lies approximately 34 kilometres north east of Mudgee adjacent to Goulburn River National Park on both the south and north sides of the Mudgee-Wollar road. The nature reserve was originally dedicated under the *Fauna Protection Act 1948* on the 12th April 1961 "for the purpose of protection and care of fauna, the propagation of fauna and the promotion of the study of fauna". In 1967 the reserve was extended and reclassified as Munghorn Gap Nature Reserve. The reserve lies within the Mudgee Local Government Area and covers 5,935 hectares.

The national park and nature reserve adjoin the Mid-Hunter, Upper-Hunter Valley and Central Tableland regions where large-scale agricultural and industrial development has taken place in the last twenty years. Changing population patterns in these areas, and in the Sydney area, may result in increased pressure on Goulburn River National Park and Munghorn Gap Nature Reserve in the future.

2.3.2 Importance of Goulburn River National Park and Munghorn Gap Nature Reserve.

Geographic and Geomorphic Setting

The establishment of Goulburn River National Park was a major step in the development of a system of protected areas that conserves the remarkable sandstone central tablelands of NSW and extends north from the Wollondilly River to the Goulburn River and Munghorn Gap. This system of protected areas includes the large Kanangra-Boyd, Blue Mountains, Yengo and Wollemi National Parks and the Nattai system of reserves, as well as Munghorn Gap Nature Reserve. These reserves provide corridors between the major botanical divisions of the Central Western Slopes, the Central Tablelands, the North Coast and the Central Coast.

Goulburn River National Park and Munghorn Gap Nature Reserve lie within the Central Goulburn River group of land systems, one of eight such groups identified by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in a report to the Hunter Valley Research Foundation in 1963. The Central Goulburn Valley group of land systems, of which Goulburn River National Park occupies a large proportion, is totally dominated by the major geographical feature of the Upper Hunter Valley: the Goulburn River and its headwaters.

Munghorn Gap Nature Reserve lies in the headwaters of Cumbo, Wilpinjong and Moolarben Creeks, which are three tributaries of the Upper Goulburn River. Its southern margins are drained by Cooyal Creek which flows into the Talbragar River, part of the Murray-Darling Basin of inland Eastern Australia. Thus Munghorn Gap straddles the watershed between the coastal eastward-flowing streams and the inland westward-flowing streams.

Geology

The Hunter Valley, of which the Goulburn Valley is the main secondary valley, is a product of four major geological events in Eastern Australia. The first stage was the formation of the New England Geosyncline (or mountain system) during the Carboniferous and Permian Periods (360-245 million years ago) when eastern Australia underwent a prolonged process of land building. The New England Geosyncline lies within the north-eastern quarter of the Hunter Valley and its structure is not directly exposed in the Goulburn River area. Its evolution did, however, have direct implications for the rest of the Hunter Valley because as the mountains of the New England rose a huge basin structure formed to the west and south. This developed into the Sydney-Bowen Basin of Carboniferous, Permian and Triassic age (360-208 million years ago) which is exposed in the Goulburn River and Munghorn Gap area as Narrabeen Sandstones of early Triassic age (about 230-220 million years ago). These sandstones are the most common geological formation of the national park and nature reserve and are

underlain by the Late Permian Illawarra Coal Measures (about 240 million years ago) which outcrop only at the bottoms of valleys and cliff lines.

Munghorn Gap Nature Reserve lies on the extreme western edge of the Sydney-Bowen Basin. The sedimentary rocks of the nature reserve are quite thin and have been laid down unconformably over much older Ordovician sedimentaries (505 to 438 million years ago). The landscape of the reserve is predominantly a low lying residual plateau of Narrabeen Sandstone surrounded by valleys which have been cleared for agricultural purposes.

Following an extensive period of erosion, a major period of deposition took place creating the Great Australian (or Great Artesian) Basin which outcrops over much of northern NSW and central Queensland. The only outcrops of this basin in the Hunter Valley are mid Jurassic rocks laid down 180-120 million years ago which lie immediately to the north of Goulburn River National Park.

Following deposition of the Jurassic sediments, drainage of the Goulburn River Valley differed from the present system. The land was undulating to flat and drained away to the north-west into the Oxley Basin. This landscape was subsequently buried during the early Tertiary Period (65 to 54 million years ago) by massive outpourings of volcanic lava. It is unclear how many separate volcanic events occurred or the number of different sources of basalt flows but the evidence of these events is obvious around Merriwa and the Liverpool Ranges to the north of the Goulburn River, and in the isolated basalt caps in the section of Goulburn River National Park east and west of the Wollar-Merriwa Road and east of Bylong. These remnants have been intensively developed for farming and are excluded from the park. The basalt flowed into and over all valleys and ridges which existed prior to the volcanic event. In many areas the original landforms have been preserved under the basalt and are evident along the edges of the lava flows.

These great outpourings of basalt changed the drainage pattern of the Goulburn River area. Instead of draining to the north, the main river flowed east. This has important consequences for any understanding of the present alignment of the river since, as the basalt was stripped from the underlying Triassic and Permian rocks, the Goulburn River maintained its course and is now quite discordant to the exhumed surface rock structures. The Goulburn River flows across the dominant series of valleys and ridges which trend north-south, not west-east. These north-south valleys are clearly evident in all the main tributaries of the Goulburn River such as Worondi Rivulet, the Bow and Krui Rivers and Munmurra River on the north side of the Goulburn River and Widden Brook, Bylong River, Wollar Creek and Cumbo Creek.

Towards the end of the Tertiary Period (15-2 million years ago), a further episode of volcanic lava flows occurred in the Goulburn River area. These basalt flows have not survived as large sheets and are evident only as isolated patches along the Goulburn River. An interesting geological record lies west of the Wollar-Merriwa Road where a basalt flow has filled what was once a valley.

Subsequent erosion has inverted the landform; what was once a valley is now a basalt ridge which the Goulburn River has not managed to cut through and has been diverted north, creating the dramatic hairpin bend in the course of the river north of Wollar.

Flora

Munghorn Gap Nature Reserve is of considerable geomorphological and biogeographical interest because the western end of the Hunter Valley is the lowest point in the Great Escarpment that stretches along the entire length of eastern Australia. Goulburn River National Park lies immediately to the north and east of Munghorn Gap and the western margins of the Goulburn Valley and its vegetation is likewise significant due to its diversity, range extensions of a number of species and the geological and geomorphological diversity captured in an east-west direction. The national park and nature reserve are botanically significant as they form part of a transitional zone containing a mixture of plants from the south-east, north-west and western parts of the State. Consequently a variety of plant species endemic to the Sydney Sandstone reach their northern and western limits here. The dry climate and low elevation of the Great Dividing Range facilitate the extension of many characteristically western plants into the area.

There are pockets of nutrient-rich basaltic soils derived from basalt outcrops within the national park. The largest and most significant of these is Mount Dangar which supports plant communities which differ greatly from the surrounding sandstone areas and provides diversity in available habitat for plants and animals. Other basalt outcrops include "Murrumbo", "Stony Pinch" and "Poggy", but the vegetation of these has been cleared for farming purposes.

A number of rare and endangered plant species, including *Acacia dangarensis* which is endemic to Mount Dangar, are found on this basalt peak. Other species include *Cynanchum elegans*, *Kennedia retrorsa* and *Lasiopetalum longistamineum*. Accordingly, Mount Dangar is a site of considerable conservation interest.

A previously unidentified species of eucalypt (*Eucalyptus aenea*) has recently been identified in the north-eastern section of the park. Its identification demonstrates the value of the park in conserving vegetation communities in a region in which vegetation clearing and industrial developments such as coal-mining continue to deplete areas of remnant vegetation.

Fauna

The area is known to support specialised and threatened species of wildlife. A number of vulnerable, threatened and endangered mammals and birds such as the Brush-tailed Rock Wallaby, New Holland Mouse, Square-tailed Kite, Powerful Owl, Large Pied Bat, Common Bent-winged Bat, Swift Parrot,

Turquoise Parrot, Painted Honeyeater, Glossy-black Cockatoo, Red-tailed Black Cockatoo, Malleefowl, Regent Honeyeater and the Broad-headed

Snake are thought to occur in the park. The Emu population in the park is also noteworthy as the only wild population in the Sydney Basin.

Cultural Heritage

Goulburn River National Park and Munghorn Gap Nature Reserve lie within lands traditionally occupied by Aboriginal people of the Wiradjuri, Gamileroi and Wonnarua language groups and are in an area of contemporary significance to Aboriginal people. After the preliminary study undertaken for an assessment of the proposed dam in 1981 a total of 343 sites were recorded (Haglund, 1981). These sites include a wide variety of evidence about Aboriginal peoples living in this landscape. This richness in sites is thought to be related to the use of the river valley as a major trading route between the coast and the western plains. The sites conserved in the park represent a significant cultural resource for the Aboriginal communities of the area, archaeological research and education. The recorded sites represent a small proportion of the total amount of information present within the park, as only a sample of the area was included in the surveys. The nature of the cultural evidence in Munghorn Gap is relatively unknown.

Non-Aboriginal history commenced in this landscape during the 1830s when small pastoral holdings were established along the flats of the major rivers. The marginal nature of farming ensured that much of the landscape remained relatively undisturbed. Several descendant families of the original landholders still reside in the Merriwa and Wollar areas.

Recreation and Education

Goulburn River National Park is one of a number of conservation and recreation reserves which are part of the Central West belt. Parks in the Sydney region are set mostly in a coastal or riverine environment. Their proximity to metropolitan areas subjects these parks to considerable recreation pressure and therefore limits the scope and nature of recreational activities able to be provided.

In contrast, Goulburn River National Park lies mostly on the Goulburn River and contains substantial areas of remote terrain. The river has cut a wide gorge flanked by cliffs and caves. The wide, open floodplain of the river with its rugged gorge walls provide an excellent environment for walking and photography. Recreation use is largely self-reliant, although several sites on the edge of the park provide for vehicle-based camping.

The array of geological and geomorphological sites of interest within the park provide opportunities for scientific research and education as well as being the basic resource of many adventure and other eco-tourism activities.

3. OBJECTIVES OF MANAGEMENT

3.1 GENERAL OBJECTIVES FOR NATIONAL PARKS AND NATURE RESERVES

The following general objectives relate to the management of national parks and nature reserves in New South Wales:

- * protection and preservation of scenic and natural features;
- * conservation of wildlife;
- * maintenance of natural processes;
- * preservation of Aboriginal sites in consultation with the Aboriginal community;
- * conservation of all cultural historic features;
- * encouragement of scientific and educational inquiry into environmental features and processes and Aboriginal and non-Aboriginal cultural evidence.

In addition to the objectives of management above, which are common to both national parks and nature reserves, the management of national parks has the following general objective:

- * the provision of appropriate recreation opportunities.

3.2 SPECIFIC OBJECTIVES FOR GOULBURN RIVER NATIONAL PARK AND MUNGHORN GAP NATURE RESERVE

In addition to the general objectives outlined above, Goulburn River National Park and Munghorn Gap Nature Reserve will be subject to the following specific objectives:

- * the management of both areas as part of the large system of protected areas that conserve the rich biodiversity of the sandstone central tablelands of NSW;
- * the protection of the scenic values of the national park, particularly the valley of the Goulburn River;
- * maintenance of the biodiversity of both the national park and the nature reserve;
- * protection of threatened and/or isolated plant and animal species and communities and/or species and communities which are at the limit of their geographical range;
- * protection of the catchment values of those parts of the Goulburn River and its tributaries which flow through the park and nature reserve;

- * protection of Aboriginal sites and places of cultural significance in partnership with the local Aboriginal community;
- * promotion of public awareness, understanding and appreciation through environmental education with emphasis on:
 - geomorphological features and landscapes which demonstrate the evolution of the Goulburn River;
 - the biogeography of the two areas which demonstrates the overlap of plant and animal communities found in the central west of NSW, the Central Tablelands and the Hunter Valley;
 - the significance of the park in protecting threatened plant and animal communities;
 - the scenic and recreational amenity of the Goulburn River; and
 - appropriate use of the national park and nature reserve, particularly the recreational use of the river within the national park.

3.3 OVERALL STRATEGY

To achieve these objectives, priority will be given to:

- * Protection of the biodiversity of the two areas by giving priority to the control and where possible the elimination or eradication of arson and other forms of unscheduled fire, feral animals and weeds. These programs will be, wherever possible, developed and undertaken with the co-operation of neighbours
- * Promotion within the local community, particularly amongst neighbours of the two areas, the importance and purpose of management programs relating to the protection of natural and cultural features and the control of fire, weeds and feral animals;
- * Protection of water quality in that part of the Goulburn River and its tributaries that flow through the two areas by promoting appropriate landuse planning and catchment management in surrounding lands;
- * Consideration of Aboriginal cultural values in the development of specific management strategies; and
- * Provision of low key recreation facilities at selected destinations near public roads which pass through Goulburn River National Park.

4. POLICIES AND FRAMEWORK FOR MANAGEMENT

This section contains the policies and framework for management of Goulburn River National Park and Munghorn Gap Nature Reserve together with relevant background information. Policies are summarised under the following headings:

- 4.1 NATURAL HERITAGE;
- 4.2 CULTURAL HERITAGE; and
- 4.3 USE OF THE PARK AND NATURE RESERVE

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

4.1 NATURAL HERITAGE

Natural heritage comprise all aspects of the natural environment including physical features such as geology and soils, plants and animals and the relationships between these. For convenience, management of landscape values and of fire are also considered in this section as these relate primarily to natural heritage.

4.1.1 Geomorphology, Soils and Hydrology

Goulburn River National Park and Munghorn Gap Nature Reserve encompass large areas of rugged sandstone plateau. The national park and nature reserve are located within the structural geology of the Gunnedah Basin which is a major subdivision of the Sydney Bowen Basin. The sandstone plateau has been dissected by a complex pattern of creeks which form much of the Goulburn River catchment. The creeks flow within a spectacular valley with, in many sections, sheer cliffs flanking a flat sandy riverbed.

The geological sequence exposed in the national park and reserve is one of Permian Coal Measures overlain by Triassic Narrabeen Sandstones, conglomeratic sandstones, red-brown and green mudstones, and in places capped by Late Tertiary basalt.

The largest and most significant of the basalt outcrops occurs at Mount Dangar at the eastern end of the Park. Other basalt outcrops which lie partly within the national park include "Murrumbo", "Stony Pinch" and "Poggy".

The geomorphology of the area is largely determined by erosion resistant basalt deposits and the differential rates of erosion on the underlying sedimentary strata. The history of erosion and deposition cycles has resulted in an interesting variety of valley and landform characteristics.

Soils formed from the Narrabeen sandstones are generally very shallow with little development, and are characterised by relatively low nutrient levels, especially phosphorous. The basalt derived soils are considerably deeper and richer and, as a result, tend in the past to have been cleared for agricultural purposes. Substantial areas of alluvium deposits occur along the wide open floodplain of the Goulburn River.

The high susceptibility to erosion of the sandstone-based soils in the national park and nature reserve has special implications for management, as areas of soil disturbance inevitably require substantial stabilisation and rehabilitation. Areas of particular concern include the park's vehicle track network. The river banks are also susceptible to erosion, and this can be accelerated by changes in water flow regimes, vehicle traffic and stock movements.

The national park and nature reserve mainly fall within the Goulburn River catchment, however a small area of Munghorn Gap Nature Reserve drains to the west into the Cudgegong River then the Macquarie system.

The national park incorporates and protects a number of relatively undisturbed sub-catchments. It thus makes a significant contribution to maintaining the water quality in the Goulburn and Hunter River systems and to maintaining important plant and animal habitat. However, a significant proportion of the catchment is outside the park and includes grazing and cropping country, crown land, state forest and an open cut coal mine. Contamination of some catchments by introduced plants resulting from agricultural activities has also occurred. Other risks to water quality include potential road-borne chemical pollution and adjoining agricultural use. Disturbance and pollution in the catchment can have serious impacts downstream on river hydrology, habitat potential and recreational enjoyment.

The Catchment Management Act came into effect in 1989. This provides a framework to manage catchments such as the Goulburn River catchment to ensure cleaner water and minimise environmental degradation, by balancing conservation needs and development pressures.

Policies

- * Features and sites of geological, geomorphic and/or pedological significance will be protected.
- * The Service will seek to mitigate, through liaison with local councils and other authorities, the impacts of any developments and activities on lands outside

the park and reserve which may compromise the scenic and natural features of the national park or nature reserve.

- * Disturbed areas will be progressively rehabilitated.
- * Works involving restoration or rehabilitation on the park or reserve will be undertaken with materials that are geologically compatible and free of pollutants and foreign materials.
- * Management activities will, where relevant, incorporate soil erosion management principles and practices developed by the Department of Land and Water Conservation.
- * Catchment values will be protected and all practical steps taken to limit disturbance and the entry of pollutants into streams within the national park and nature reserve.
- * The Service will liaise with local government and other authorities to maintain and improve the water quality of the Goulburn River and its tributaries.
- * Fire and other management activities will take into account the need to minimise erosion.

Actions

- * The Service will work with local government and other consent and determining authorities to develop best practice guidelines for developments within the catchment of the national park and nature reserve.
- * Disturbed sections of the disused main road alignment between Castle Rocks and the north-eastern boundary of Munghorn Gap Nature Reserve, and of disused sections of the road alignment along Ringwood Road in the Lees Pinch area, will be rehabilitated.
- * The Service will regularly liaise with the EPA and Ulan Coal Mines to ensure water quality is maintained within the Goulburn River catchment.

4.1.2 Native Plants

Goulburn River National Park and Munghorn Gap Nature Reserve protect a large number of diverse plant communities. This is partly because of the large area of the national park and the diversity of the topography and geology of the Goulburn River area, but also because of their biogeographically central location to several botanical provinces in NSW.

The park is botanically significant as it forms part of a transitional zone containing a mixture of plants from the south-east, north-west and western parts

of the state. The plant communities represent flora characteristic of the Central and North Western Slopes, Central and North Coast and the Northern Tablelands. This diversity is associated with a number of physiographic factors including the low height of the Great Divide, low local relief of the plateau (dissected by valleys that have broad river flats), cliff lines that are generally not as abrupt as they are elsewhere in the Sydney Basin, and surface outcrop contacts between the basalt flow deposits and underlying sedimentary rocks that form more indistinct boundaries than elsewhere.

The flora of the Goulburn River district was first studied in the 1820s by Allan Cunningham who collected plant specimens along the banks of the Goulburn River. In the 1890s R.T. Baker collected in the south west Goulburn River and further studies were made in the 1950s, 1960s and 1980s. McCrae and Cooper (1983) provided broad scale floristic information covering the Merriwa 1:100 000 map sheet. A number of localised flora surveys and species specific reports have been undertaken by others, including Bell (1993, 1996).

Generally, the vegetation of the area is woodland dominated by eucalyptus species. Ridges and slopes are mainly covered with a woodland formation which may develop into open forest where fertility and moisture regimes are more favourable. Dominant species include: *Eucalyptus fibrosa*, *E. oblonga*, *E. sideroxylon*, *E. dwyeri*, *E. punctata*, *E. agglomerata* and *E. caleyi*. Where skeletal soils occur or drainage is poor, a shrubland formation dominates. The influence of basalt leads to the presence of *Callitris* species and the river valley contains *Casuarina cunninghamiana* in association with more moisture-dependent species such as *E. crebra*, *E. dawsonii*, *E. blakelyi* and *Angophora floribunda*.

A number of rare and threatened plant species have been found in the area, and include: *Homoranthus darwinoides* near Lees Pinch, *Acacia dangarensis* near Mount Dangar, *Goodenia stephensonii*, *Grevillea johnsonii*, *Helichrysum tessellatum*, *Cynanchum elegans*, *Kennedia retrorsa* and *Lasiopetalum longistamineum*, and a restricted community of *Eucalyptus dawsonii* woodland which is found mainly in the valley and tributary gullies. On some of the ridge tops and slopes unusual communities of low woodland dominated by *Acacia doratoxylon* occur.

At least four of the species of eucalypt present in the national park and nature reserve do not occur elsewhere in the Sydney Basin, and a number of eucalypts reach their limits of distribution within the area. A previously unidentified "mallee-form" of eucalypt (*Eucalyptus aenea*) has recently been identified in the north-eastern section of the national park.

This diversity of plant communities and high incidence of rare and threatened species demonstrates the value of the national park and nature reserve for conserving vegetation communities in a region in which vegetation clearing and industrial developments such as coal mining continue to deplete areas of remnant vegetation.

Policies

- * Native vegetation will be managed to:
 - maintain floristic and structural diversity;
 - ensure protection of species and communities that are threatened or of special conservation significance;
 - encourage regeneration of areas previously cleared or grazed; and
 - maximise habitat values for native animal species.

- * Regeneration of previously disturbed areas will be undertaken with species locally endemic to the area.

Actions

- * A biodiversity survey program will be designed and implemented in conjunction with local community groups and tertiary institutions to systematically collate information on the vegetation of the national park and nature reserve, with priority given to a survey for threatened species (see also Section 4.1.3 Native Animals).
- * Recovery plans will be developed and implemented for species listed under the *Threatened Species Conservation Act 1995*.

4.1.3 Native Animals

The variations in topography, geomorphology and vegetation patterns in a relatively intact habitat provide a diversity of environments for native animals. Little fauna surveying has been conducted in either the park or reserve, and those surveys that have been conducted were restricted to specific areas and associated with specific development proposals and management activities. Other records are from opportunistic sightings.

The habitats with the greatest diversity of native animals are the ecotones or areas where plant communities overlap. They add considerably to the overall biodiversity of the park. Other significant habitats occur in pocket-like environments such as the basalt caps, alluvial gullies and heaths. The most widespread and abundant habitat types are the eucalypt dominated woodland complex on Triassic sandstone.

A number of reptiles, including the Broad-headed Snake (*Hoplocephalus bungaroides*) which is listed as endangered under the *Threatened Species Conservation Act 1995*, are thought to occur in the park.

Over 150 bird species have been recorded in the area. A number of these species are listed under the *Threatened Species Conservation Act 1995*. They include the endangered Regent Honeyeater (*Xanthomyza phrygia*), which occurs as a nomadic opportunist and has very specific nesting requirements in mature Ironbark and red-yellow box communities. Species which are listed as vulnerable under the Threatened Species Conservation Act include the Powerful Owl (*Ninox strenua*), Masked Owl (*Tyto novaehollandiae*), Barking Owl (*Ninox connivens*) Square-tailed Kite (*Lophoictinia isura*), Swift Parrot (*Lathamus discolor*), Turquoise Parrot (*Neophema pulchella*), Painted Honeyeater (*Grantiella picta*) and Glossy Black Cockatoo (*Calyptorhynchus lathamii*).

Areas of potential habitat exist within the park for the endangered Malleefowl (*Leipoa ocellata*). A number of unconfirmed sightings of Malleefowl have been reported and require further investigation.

Waterways within the national park provide habitat for a number of native fish species. Whilst the protection of native fish is the management responsibility of the NSW Fisheries, the widespread occurrence of European Carp (an exotic pest species) is of particular concern.

Twenty-three species of mammal have been recorded in the national park and nature reserve, including the Brush-Tailed Rock Wallaby (*Petrogale penicillata*), which is listed as vulnerable under the Threatened Species Conservation Act and occurs in areas where suitable rock habitat on exposed aspects is found. Goulburn River National Park plays a major regional and national role in the conservation of this species. Other important mammal species in the area include the Common Bent-Wing Bat (*Miniopterus schreibersii*) and Large Pied Bat (*Chalinolobus dwyeri*).

Another important animal occurring within the national park is the Platypus (*Ornithorhynchus anatinus*). The New Holland Mouse (*Pseudomys novaehollandiae*) is also thought to be present in the area.

The Emu (*Dromaius novaehollandiae*) population of the national park and nature reserve is also significant as it is the only wild population within the Sydney Basin.

Policies

- * The management of animal species and habitats within the national park and nature reserve will give priority to threatened species, critical habitat and endangered populations (see also Sections 4.1.4, 4.1.5 and 4.3.3).
- * Research and survey will be encouraged into the distribution, habitat requirements and ecology of threatened and other important animal species which occur within the park and reserve (see also Section 4.3.3).

Actions

- * A biodiversity survey program will be designed and implemented, in conjunction with local community groups and tertiary institutions, to systematically collate information on the native animals and their habitats with priority given to a survey for threatened species (see also Section 4.1.2 Native Plants).
- * Species recovery plans and threat abatement plans will be prepared and implemented for those threatened species which are known or suspected to occur within or near the park or reserve.
- * The distribution of other significant animal species found in the park and reserve will be mapped and potential threats to their conservation identified and mitigated.
- * The Service will liaise with the NSW Fisheries regarding the protection of aquatic habitats within the park.

4.1.4 Introduced Plants and Animals

Introduced plants within the national park and nature reserve, and on adjoining land, are of concern as they have the potential to out-compete native species, to alter habitat and to impact on recreational experiences.

Introduced plants are a major concern in Goulburn River National Park where infestations are generally associated with former logging areas and other disturbed sites. Infestation of the park by weeds carried downstream from cleared lands in the upper catchments of the Goulburn River and its tributaries is an ongoing problem. The properties along major watercourses within the park area also present problems of weed infestation of the park.

A number of weed infestations occur in Munghorn Gap Nature Reserve although, due to less fertile soils and a lack of previous disturbance, the problems are less severe than in Goulburn River National Park. The main species of concern are St Johns wort, tree of heaven and blackberry.

Blue Mountains Region has a Pest Species Management Plan, which identifies introduced species of concern, provides details on control methods and details criteria for control priorities.

Under the Noxious Weeds Act 1993, the Service has a statutory responsibility to prevent the spread of noxious weeds to adjoining lands. At least ten weeds classified as noxious occur within the national park and nature reserve. Six of these are of special concern:

Noogoora burr (*Xanthium* spp) is generally confined to the Goulburn River valley and several tributaries draining into the river.

- the weed has a high capacity for seed dispersal, and presents particular problems for wool growers
- current control is primarily by herbicide application, however difficulties with access and the proximity to watercourses limit effectiveness.

Blackberry (*Rubus fruticosus*) occurs in numerous locations throughout Goulburn River National Park and Munghorn Gap Nature Reserve. It is particularly prevalent along the Goulburn River corridor.

- Current control is primarily by herbicide application. This treatment has been quite effective although follow up treatment over an extended period is required. Access to the infestations remains the biggest problem. The Blackberry rust fungus has been introduced at several sites with limited success
- Control will continue to focus on follow up work on previously treated infestations, and new isolated outbreaks.

Tree of heaven (*Ailanthus altissima*) tends to be concentrated at previously disturbed sites in both the park and the nature reserve.

- Current control is by cut stump herbicide application which has proved to be very successful. The technique is, however highly labour intensive
- Control will continue to focus on follow up work on previously treated infestations, and new isolated outbreaks.

St John's wort (*Hypericum perforatum*) is concentrated in areas that have been previously cleared and grazed, particularly in the Moolarben area of the nature reserve.

- The plant is extremely invasive and has a very high capacity for seed dispersal and longevity.
- Current control has been by herbicide application with reasonable success, provided annual follow up work is undertaken. The biological control mite *Aculus hyperici* has also been introduced with limited success.
- Direct seeding trials of endemic trees are planned in areas of infestation with no tree cover.

Prickly pear (*Opuntia stricta*) is found in numerous areas of Goulburn River National Park and tends to be concentrated in areas previously subject to timber cutting operations and grazing, including; White Box Camp, Millers Fire Trail, Winter Bedding Grounds and Mount Dangar.

- The weed has the capacity to reproduce from both seed and vegetatively
- Herbicide application has been used successfully in a number of areas with concentrated infestations and good access. The Cactoblastis moth and Cochineal insect are also active, with the latter being actively released on infestations not suitable for herbicide application.

Blue heliotrope (*Heliotropium amplexicaule*) occurs in the Merriwa River and Death Adder areas of Goulburn River National Park and tends to be concentrated in areas previously grazed.

- The weed proliferates aggressively due to abundant seed output and its ability to regenerate from root buds. The plant is also toxic to stock.
- Current control is by herbicide application with limited success.
- Control trials using rope wick herbicide application are being considered.

Other species of concern include tiger pear (*Opuntia aurantiaca*) in the Merriwa River area of Goulburn River National Park, willow (*Salix* sp.) in numerous locations along the Goulburn River, and spiny burr grass (*Cenchrus longispinus*) which tends to be concentrated on sandy river banks along the Goulburn River. Most of these weeds have the potential to spread onto adjoining lands.

Weed control programs have been directed at the management of specific infestations of introduced plants. Vehicle access for weed control programs along the Goulburn River and its tributaries is particularly difficult due to the terrain. Weed control within and around watercourses requires special care to minimise impact on water quality, native vegetation and aquatic fauna and flora.

Continued monitoring and follow-up work on previously treated infestations is critical to ensure reinfestation does not occur. Monitoring also needs to continue throughout the reserves to identify new infestations and allow rapid treatment.

The National Parks and Wildlife Service is a member of the Upper Hunter Weeds Authority and is regularly involved with local Landcare Groups and Catchment Management Boards. The cooperation of these groups is essential in ensuring a whole of catchment approach is applied to introduced species control.

Introduced animals of concern within Goulburn River National Park and Munghorn Gap Nature Reserve are the wild dog (*Canis familiaris* spp. *familiaris*), feral pig (*Sus scrofa*), rabbit (*Oryctolagus cuniculus*) and feral goat (*Capra hircus*). The fox (*Vulpes vulpes*) and feral cat (*Felis catus*) are believed to have had the most impact on native fauna populations as they both predate upon native fauna and compete with native predators.

Feral goats: Occur in both the national park and nature reserve and appear to be increasing in population. Control is generally difficult as the preferred habitat of steep rocky slopes is usually inaccessible. Some success in goat control has been achieved through mustering, using hormonal lure goats and aerial shooting.

Feral pigs: Recorded in the western areas of Goulburn River National Park and within Munghorn Gap Nature Reserve. Feral pigs cause widespread disturbance as they overturn soil for tubers and fungi. Management programs including trapping, selected poisoning and opportunistic shooting.

Wild dogs: Reported periodically and can present problems to neighbouring landholders. The Service supports a policy of co-operative baiting of wild dogs using 1080 poison baits in perimeter areas where a program complements similar controls on adjoining properties. Ground baiting is the preferred practice as it reduces impacts on non-target species and enables accurate data to be accumulated on baiting success.

Foxes: Occur throughout both reserves and are a significant predator of native wildlife. The Service currently conducts a regular control program using 1080 poisoned baits, in conjunction with Rural Lands Protection Board and adjoining landholders. As with wild dog control, detailed records of bait takes are maintained and these provide a basis for determining future control programs.

Rabbits: Occur in several isolated locations throughout Goulburn River National Park. Warren ripping has been undertaken in the Merriwa River area and appears to have been particularly effective. Myxomatosis is also active and contributing to effective control. The rabbit calicivirus has also recently been released as part of a research program in the Spring Gully and Ulan areas of the Goulburn River National Park. Spot light counts have indicated that the program has been successful in reducing some rabbit populations significantly.

Cattle grazing occurs in parts of the Goulburn River National Park under permissive occupancies which were in force before the park was reserved. Due to the difficulty in fencing flood prone land, cattle frequently roam beyond the permissive occupancies and privately owned inholdings. Consequently cattle are relatively widespread in the park and occur along most of the major watercourses.

Cattle are a concern due to impacts such as trampling of vegetation, selective grazing of native plants, fouling of springs and waterways, spread of weeds and soil erosion. Wild cattle are equally a concern to neighbouring properties due to the potential for the spread of bovine diseases. It is an aim of the Service to control or remove cattle from the national park.

Scientific investigations have established that European honeybees compete with and displace native animals, particularly native bees, nectar feeding birds and small mammals. There are no licensed apiary sites in Goulburn River National Park or Munghorn Gap Nature Reserve and, in accordance with Service policy, no licences will be issued.

Policies

- * Introduced plant and animal populations will be controlled and eradicated from the park wherever possible.
- * Priority for control of introduced species will be given to those species which:
 - are declared noxious;

- are a risk to threatened species, critical habitat or significant plant communities;
 - are species for which current control programs are in place;
 - have a high capacity for dispersal;
 - are new isolated occurrences; and
 - are having a detrimental impact on recreational areas.
- * Priority will be given to the control of introduced animal species which:
 - are a risk to threatened species, critical habitat or significant plant or animal communities;
 - are having a detrimental impact on park neighbours;
 - are new isolated occurrences; and/or
 - are declared noxious.
 - * Control programs for introduced plants and animals will be in accordance with the Pest Species Management Plan for the park and reserve and programs will be regularly monitored to review their effectiveness.
 - * The Service will continue to co-operate with other agencies such as Rural Lands Protection Boards and neighbouring landholders in implementing introduced plant and animal species control programs.
 - * The Service will actively encourage weed control in upstream catchment areas.
 - * No European honeybee hives will be permitted within the park or reserve.

Actions

- * Introduced plant and animal species and their populations will continue to be systematically surveyed and recorded.
- * More effective weed control techniques, particularly biological treatments, will continue to be investigated and trialed.
- * Priority will be given to the control of:
 - Prickly pear at White Box Camp, Millers Fire Trail, Winter Bedding Grounds and Mt Dangar;
 - Nogoora burr at Spring Gully and Big River;
 - St John's wort at Munghorn Gap;
 - Blue heliotrope at Death Adder;
 - Tree of heaven along Goulburn River and at Munghorn Gap;
 - Blackberry at Death Adder and Munghorn Gap;
 - Prickly pear and tiger pear at Death Adder Rock, Valances Arm and Merriwa River areas; and

- Willows along the Goulburn River.
- * Introduced animal control programs will give priority to the control of:
 - Wild dogs on the perimeter of the park and reserve;
 - Feral pigs within Munghorn Gap Nature Reserve and in the western section of Goulburn River National Park;
 - Feral goats in Munghorn Gap and the western section of Goulburn River National Park;
 - Fox control throughout the park and reserve;
 - Rabbit control in the western section of Goulburn River; and
 - Cattle throughout the park following phasing out of Permissive Occupancies.
- * Installation and maintenance of effective boundary fencing will be encouraged in co-operation with adjoining land holders.
- * Permissive occupancies and all grazing within Goulburn River National Park will be phased out within two years of the adoption of this plan of management.

4.1.5 Fire Management

Fire is regarded by the National Parks and Wildlife Service as a natural process. It is one of the established physical factors of the Australian environment to which native plant and animal communities have become adapted. The correct management of fire is essential to avoid the extinction of native plant and animal species.

Fire has long been a recurring feature of the natural environment within both the national park and nature reserve, but little information is available on the fire history prior to the establishment of the park and reserve. It does however appear that both the national park and nature reserve were extensively affected by fire in 1957. The Service has kept a more comprehensive record of bushfires within each area since their establishment.

Since the reservation of the national park, human causes have accounted for approximately 10% of wildfires with the remainder being caused by lightning strikes. A significant cause of fire has been ignitions associated with the Sandy Hollow - Ulan railway. Since gazettal and prior to major fires in 1997, Service records indicate 7 fires in Goulburn River National Park with an average size of 55 ha. Since gazettal in 1967 only 2 small fires affecting 20 ha have been recorded in Munghorn Gap Nature Reserve.

Goulburn River National Park was affected by 2 major fires during the 1997/98 fire season. Following extended drought conditions and extreme fire weather in

November and December 1997, a fire ignited by lightning in the Bow River area moved rapidly east to the Merriwa River burning approximately 9000 ha of Park. The fire also moved out of the park to the north east and affected over 5000 ha of private property in the Tunbridge - Cullingral Road areas.

At the same time a fire ignited by farming machinery at Murrumbo moved onto the park and burned intensely along the southern park boundary to the Thunderbolts Gully area. Approximately 7500 ha was affected, most of this area being National Park.

The complex boundary of both areas, and the large number of private properties within the external boundaries of the national park, make fire management a complex task. An additional important factor in fire management is the high number of absentee landholder properties within and adjacent to the national park, particularly in the Cullingral Road, Mogo Road and Worondi Inlet areas.

The Service adopts a fire regime approach to fire management in which a combination of fire frequency, fire intensity, season of burning and the spatial distribution of fire within a landscape is prescribed in order to achieve management objectives. The fire regime is prescribed using a zoning approach which in turn is based on priority management objectives and performance indicators for certain areas.

Under the Rural Fires Act 1997, the Service is a fire authority and is responsible for controlling fires on parks and reserves, and for ensuring they do not cause damage to other land or property. The Service fulfils this responsibility within the park and reserve by undertaking fire mitigation, prevention and suppression strategies.

Co-operative fire management is seen as a key approach by the Service to manage and control fire in the park and reserve. Service participation on the Mudgee, Rylstone and Merriwa Bush Fire Management Committees is an important part of achieving the Service's fire management goals and objectives. The Service participates in the preparation of operations plans and risk management plans for these council areas which are required under section 52 of the Rural Fires Act.

Fire management in Goulburn River National Park and Munghorn Gap Nature Reserve has three main objectives:

- * To reduce the risk of bushfire damage to life and property both within and immediately adjacent to the park;
- * To effectively manage bushfires for the protection and conservation of the natural, cultural, scenic and recreational features of the park; and
- * To promote effective and efficient utilisation of local bushfire fighting resources through co-operative planning and operational arrangements.

In accordance with the Service-wide program on fire management planning, a draft fire management plan for Goulburn River National Park and Munghorn Gap Nature Reserve has been completed which identifies the bushfire threat, requirements for the conservation of native plants and animals and provide the basis for management strategies and prescriptions. The plan will establish community protection measures in areas where it is identified that fire is a threat to both property and biodiversity. The fire management plan will be placed on public exhibition in the near future.

Policies

- * Fire management in Munghorn Gap Nature Reserve and Goulburn River National Park will aim to:
 - prevent the occurrence of human-caused unplanned fires;
 - suppress unplanned fires;
 - minimise the potential for spread of wildfires on, from or into the park or reserve;
 - protect from bushfires persons and property on or immediately adjacent to the park and reserve; and
 - manage bushfires to avoid the extinction of all species which are known to occur naturally within the park and reserve.
- * The co-operation of local councils, Rural Fire Service brigades, adjoining land use authorities and neighbouring land holders will continue to be sought in achieving an ecologically and socially responsible fire management regime for Goulburn River National Park and Munghorn Gap Nature Reserve.
- * The role of and management of fire within the park and reserve will be promoted in the community, particularly amongst neighbours.
- * Fire will be used as means of reducing fire hazards in areas where there is an identified bushfire threat and for the purposes of conserving the biodiversity of the national park and nature reserve.
- * Research into fire ecology will be encouraged to refine fire management prescriptions, with priority given to threatened species and critical habitats.
- * Prescribed burning will be implemented in late summer-autumn as far as possible, and will be managed to minimise smoke impacts.
- * On days of high fire danger or above, or when bushfires are burning within the park, recreational use of the park may be prohibited or otherwise controlled to minimise further risk of wildfires and threats to visitor safety.
- * Temporary management trails may be constructed where necessary for emergency fire control operations. New trails constructed for emergency

operations will be closed and rehabilitated as soon as possible after each emergency.

- * The use of heavy machinery and fire retardants for fire suppression will be closely supervised by Service staff and the impacts carefully managed within 100 metres of any threatened species habitat and near Aboriginal sites and historic places.

Actions

- * A draft fire management plan has been prepared for Munghorn Gap Nature Reserve and Goulburn River National Park. The fire management plan will be placed on exhibition for public comment before its final adoption by the Service.
- * Fire history records will be maintained and analysed annually for planning purposes.
- * The Service will continue to participate in the preparation and revision of Section 52 District Bush Fire Committee co-operative operational and risk management plans where they affect the national park and nature reserve, applying the objectives and strategies developed in the Fire Management Plan for Goulburn River National Park and Munghorn Gap Nature Reserve.
- * Service staff will contribute to co-operative wildfire suppression and risk management planning and operations within the park and reserve, and as required on adjoining lands.
- * The Service will maintain a system of fire management trails at strategic locations throughout the park (refer Section 4.3.4 and map ,centre pages).
- * Co-operative arrangements with neighbours and other fire authorities for bushfire detection and monitoring will be implemented.

4.2 CULTURAL HERITAGE

Cultural heritage has aesthetic, historic, scientific and social significance for present and future generations. Cultural heritage includes evidence of both Aboriginal and non-Aboriginal origin.

4.2.1 Aboriginal Heritage

Cultural Values

The Wanaruah Local Aboriginal Land Council, Murong Gialinga Aboriginal and Torres Strait Islander Corporation, and Wonnarua Tribal Council represent the

contemporary Aboriginal community involvement in Goulburn River National Park and Munghorn Gap Nature Reserve. The on-going involvement of the Aboriginal community with the management of Aboriginal heritage in the park and reserve will be actively encouraged.

Physical Evidence

Three hundred and forty seven Aboriginal sites have been recorded in Goulburn River National Park. The surveys focussed on those parts of the landscape (alluvial flats and lower slopes associated with major water courses) which were to be inundated by the proposed Kerrabee Dam, thus there is a bias in which parts of the landscape have been surveyed. Only three sites have been recorded in Munghorn Gap Nature Reserve. No systematic surveys have been undertaken in the nature reserve.

The recorded sites in the Goulburn River National Park provide a wide range of evidence about different types of living places, locations where tools were made and used and sites of artistic expression. There are shelters with evidence of habitation, art, open campsites, grinding grooves, scarred trees, a quarry source for particular stone artefact production (axes), and ground areas used for food processing. Other types of sites, such as ceremonial grounds, could still be located. Haglund estimated that as many as 4,000 sites could be expected to occur within the area of the proposed dam, which was given as 7,500 ha in area. Large numbers of stone artefacts were recorded at open campsites and in shelters. Excavation at some shelters recovered a variety of organic materials such as bone (macropod, potoroo, rat, skink, birds, bandicoot, fish) shell, fur, hearths and burnt wood. The preliminary results indicate that many sites in the park will provide detailed information about how long people lived in the area, what types of food they ate, how it was processed, how technological innovations in stone manufacturing and tool production changed through time, how tools were used, and what kinds of resources were used and processed.

Current evidence shows that Aboriginal people occupied the areas now known as Goulburn River National Park and Munghorn Gap Nature Reserve for a least 4,000 years prior to European occupation. However, evidence from excavations in the wider region, on the Liverpool Plains, Glennies Creek and Mangrove Creek, have demonstrated that Aboriginal people were living in the region at least 20,000 years ago. This is presently an indication only and research is required to give a more complete picture.

Aboriginal sites and places represent a direct link to Aboriginal traditional and spiritual life. However not just the individual sites themselves are important. The landscape and its relationship to the sites is just as significant. This is expressed through "Dreaming Tracks" which provide a cultural link between sites and a spiritual interconnection between sites and land. These connections are sometimes preserved as part of the cultural identity of Aboriginal people in the relationship between a place and a story.

Aboriginal sites are important to both Aboriginal and non-Aboriginal people. They provide tangible evidence of a highly organised and spiritual culture. The many sites in the park when considered in a landscape context assume a renewed importance to their Aboriginal, scientific and educational value.

Management of Aboriginal Heritage

While the National Parks and Wildlife Service presently has statutory responsibility for the protection of Aboriginal sites, it acknowledges the right of Aboriginal people to make decisions about their own heritage. It is therefore a policy of the Service that Aboriginal communities be consulted about decisions regarding the management of Aboriginal sites and related issues and how the Aboriginal culture and history of the area will be promoted and presented.

Aboriginal sites are non-renewable and are subject to deterioration from both natural and human processes. For example, art sites can be damaged by erosion and vandalism, scarred trees can be destroyed by fire, animal and human interference. Some Aboriginal sites on the national park and nature reserve may therefore require active management to ensure their continued protection. The Service will seek to involve Aboriginal groups through both formal and informal mechanisms in joint planning for these sites.

Policies

- * The Service will liaise with the Wanaruah Local Aboriginal Land Council and the Murong Gialinga Aboriginal and Torres Strait Islander Corporation and other relevant Aboriginal communities on all aspects of Aboriginal site management.
- * Non-destructive research for the purpose of locating new sites or assisting site conservation will be encouraged in the park.
- * Visitation and impacts to Aboriginal sites will be monitored and visitor use regulated when necessary for the protection of that place. Site protection works may be undertaken where necessary.
- * The location of Aboriginal sites and areas of cultural importance will not be publicised except where:
 - agreement of the Aboriginal groups has been obtained;
 - a conservation plan has been prepared and any management works necessary to protect sites from damage have been implemented; and
 - the Aboriginal groups have agreed that the site/s will be interpreted to promote an appreciation of Aboriginal culture.

Actions

- * A program of surveying and recording of Aboriginal sites including; significance assessment and identification of conservation requirements and

threats will be developed in conjunction with local Aboriginal communities for both Goulburn River National Park and Munghorn Gap Nature Reserve.

- * A monitoring program will be developed, with priority given to places of identified significance to local Aboriginal communities and sites known to the public.
- * Regular consultation and liaison will be maintained with Aboriginal community groups to define priorities for and plan conservation works.

4.2.2 Non-Aboriginal Heritage

In contrast to the Aboriginal use of the area, European attitudes to the Goulburn River and Munghorn areas were framed by their perceptions of the landscape as being rugged, remote and unproductive. As a result the area remained largely unoccupied and undisturbed with the exception of some limited grazing, logging and mining exploration.

The Goulburn River was first explored in 1822 from Mudgee. Lieutenant William Lawson named the river after Henry Goulburn, then the Colonial Secretary. Surveyors followed in the mid 1820s, the first of whom was Henry Dangar, who was later to take up land in the vicinity of what is now known as Mt. Dangar at the eastern end of Goulburn River National Park.

Following further exploration from Lithgow, Bathurst and Mudgee to the west and the Hunter Valley to the east, settlement of the area commenced during the 1830s when small pastoral holdings were occupied along the flats of the major rivers. These settlement patterns were largely determined by transport routes and tended to avoid the inaccessible and agriculturally unproductive areas that now make up the majority of the reserves. The Goulburn River itself and associated topography appear to have been a delineating feature for exploration and settlement.

A number of more fertile basalt areas within the surrounding sandstone landscape were identified and developed for agricultural use. These areas include "Poggy" on the Ringwood Road, "Murrumbo" to the west of Kerrabee and "Stony Pinch" to the east of Bylong.

Selective logging occurred throughout Goulburn River National Park from the late 1800s through to the 1970s, with timber being primarily cut for railway sleepers, fencing, stockyards and mine props. Remains of logging activity include numerous scantling dumps and disused trails. These are particularly evident in the far western areas of Goulburn River National Park.

Intermittent stock grazing also occurred throughout both reserves and is evidenced by numerous remains of fencelines and several bush stockyards. Kellys Gap is an historic roadway within Goulburn River National Park

constructed in 1861 as a stock and coach route between Merriwa and Mudgee. Whilst there is little detail or documentation of the road construction it is believed to have been built by the then owners of the property named Coomealla to the north-east.

Exploration for shale oil is also believed to have occurred in the Pogy, Munghorn and Kellys Gap areas, however little evidence of these activities remains.

Munghorn Gap Nature Reserve was originally gazetted as the Munghorn Gap Faunal Reserve under the Fauna Protection Act (1948), in April 1961. The area had long been recognised as a significant bird habitat with Regent Honeyeaters being recorded in the early 1950s. The botanical significance of the reserve was also recognised due to its location straddling the Great Dividing Range and the “diversity of plant species, with both coastal and inland types represented”.

In 1967 the reserve was significantly extended and renamed Munghorn Gap Nature Reserve. The reasons for proclamation of the reserve were, “for the purposes of the protection and care of fauna, the propagation of fauna and the promotion of study of fauna”.

Prior to its gazettal as a fauna reserve, it was used for grazing but little evidence of this activity remains. A residence was located at the entrance to Honeyeater Flat, and was occupied by several resident rangers in the late 1960s, but it was demolished in the early 1970s.

The Service aims to conserve as wide a range of historic places as possible within Goulburn River National Park and Munghorn Gap Nature Reserve and to utilise those places and the relics within them for education and non-destructive research where appropriate.

Policies

- * Significant historic heritage in the park and nature reserve will be conserved in accordance with the provisions of the Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (the Burra Charter).
- * Research into the history of the national park and nature reserve and its physical evidence will be encouraged.
- * Visitation to cultural heritage places will be monitored and visitor use regulated if necessary for the protection of sites.

Actions

- * Vehicle access (other than for management purposes) along the Kellys Gap roadway will be prohibited and essential site protection works implemented.

Site interpretation will be developed and use of the historic roadway as a walking track encouraged.

- * A land use history of the national park and nature reserve will be prepared to provide a basis for interpretation and supply a context for the assessment of the significance of the remaining physical evidence.

4.3 USE OF THE AREA

Goulburn River National Park and Munghorn Gap Nature Reserve will be managed to ensure that their use, whether by the general public, special interest groups, Service staff or other authorities, is appropriate and conforms with the management objectives of this plan.

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

- * promotion of natural and cultural heritage conservation;
- * environmental education and interpretation;
- * recreation in natural settings;
- * scientific research; and
- * management operations by the Service and other authorities.

The extent to which these categories of use are appropriate to Goulburn River National Park and Munghorn Gap Nature Reserve is indicated below.

4.3.1 Environmental Awareness and Interpretation

Promoting public awareness of the Service's conservation responsibilities, the values of Goulburn River National Park and Munghorn Gap Nature Reserve and the nature of appropriate recreational opportunities provided in the national park is a major aspect of management of visitor use of the two areas. Environmental awareness programs assist in the protection of the natural and cultural heritage of both areas and increases the enjoyment and satisfaction of visitors.

The purpose and importance of Munghorn Gap Nature Reserve as a conservation area and its small size precludes promoting the nature reserve for any activities other than those directly associated with environmental education and study of the high nature conservation features of the reserve.

In accordance with the objectives of management the following features and values of the national park and nature reserve will be promoted as the main themes for environmental education and interpretation purposes:

- its geomorphological features and landscapes which demonstrate the evolution of the Goulburn River;

- the biogeography of the two areas which demonstrates the overlap of plant and animal communities found in the central west of NSW, the Central Tablelands and the Hunter Valley;
- the significance of the park in protecting threatened plant and animal communities;
- the scenic and recreational amenity of the Goulburn River; and
- appropriate use of the national park and nature reserve, particularly the recreational use of the river within the national park.

The importance of Aboriginal heritage and the importance of the national park and nature reserve to the Aboriginal community will also be promoted in accordance with the specific management proposals outlined in this plan of management.

Where relevant, emphasis in environmental awareness and interpretation programs will also be given to:

- the importance and purpose of management programs relating to the control of fire, weeds and feral animals; and
- protection of water quality in that part of the Goulburn River and its tributaries that flow through the two areas

by promoting appropriate landuse planning and catchment management in surrounding lands.

Promotion of the park is currently directed towards the local communities and visitors to the surrounding districts. This is limited to providing directional signs, park brochures, and promotion in local visitor guides and regular neighbour newsletters. On-park interpretation is also limited, however new interpretive displays are planned for the main entry points to the national park and nature reserve.

Policies

- * The Service will promote the following major themes within Goulburn River National Park:
 - The importance of the Goulburn River and its relationship with the park's landscape;
 - The significance of the park's biogeography and in particular the protection of threatened plant and animal species;
 - The park's importance to Aboriginal communities; and
 - Opportunities for nature based recreation.
- * Special emphasis will be given to promoting within the local community, particularly amongst neighbours, the importance and purpose of management programs relating to the protection of Goulburn River National

Park and Munghorn Gap Nature Reserve, their natural and cultural features and the control of fire, weeds and feral animals on both areas.

- * The Service will actively support community programs which contribute to the protection of Goulburn River National Park and Munghorn Gap Nature Reserve.
- * Interpretive and public awareness programs for Goulburn River National Park will be given greater emphasis and will target park neighbours, local communities and recreational users of the park.
- * The Service will support local and regional tourism organisations in promoting Goulburn River National Park.
- * Munghorn Gap Nature Reserve will be promoted for environmental education and environmental study purposes. The nature reserve will not be promoted for recreation.
- * Interpretation facilities will be progressively upgraded at strategic points of contact for visitors to the park and the nature reserve.

Actions

- * The Service will participate in and/or otherwise support community programs, such as Catchment Management and Landcare, which assist in the protection of Goulburn River National Park and Munghorn Gap Nature Reserve.
- * The Service will liaise with, and supply brochures to, local tourist information centres.
- * The code of minimal impact recreational use will be promoted throughout the national park.
- * Interpretative and information displays will be provided at the following roadside locations:
 - Spring Gully in Goulburn River National Park,
 - At a suitable location on the Bylong Road between Widden Valley and Bylong;
 - Lees Pinch in Goulburn River National Park; and
 - At Moolarben Picnic area in Munghorn Gap Nature Reserve.
- * Investigations will be undertaken to find a suitable location for an interpretive display on the Merriwa – Cassilis road. The display will include information on Goulburn River, Wollemi and Coolah Tops National Parks.

- * Site specific interpretive signs will be provided at Kellys Gap and Lees Pinch.
- * Directional signposting to visitor facilities in Goulburn River National Park will be upgraded.

4.3.2 Recreation Opportunities

Goulburn River National Park and Munghorn Gap Nature Reserve attract few visitors compared to other protected areas closer to the metropolitan centres of Sydney and Newcastle.

The national park, however, provides different opportunities to those provided by most other national parks in the Sydney Basin. The main recreational feature of the park is the Goulburn River, which offers recreational settings that are either not common or are comparatively inaccessible in other sandstone national parks.

Munghorn Gap Nature Reserve is accessible from the Mudgee to Wollar Road.

Access to Goulburn River National Park is from Mudgee, Ulan, Wollar, Merriwa, Bylong or Sandy Hollow. The following are the primary roads giving access to the park:

- from Denman: via the Wollar to Denman Road which parallels long stretches of the Goulburn River;
- from Mudgee: via the Mudgee to Wollar Road and then via the Wollar to Denman Road;
- from Merriwa: via Ringwood Road (the Merriwa to Wollar Road); and
- from Ulan : via the Ulan to Wollar Road.

Vehicle access within the park comprises three classes of road or track: public roads, park roads, and management trails:

- ◆ **Public Roads:** These roads are open to the public, but excluded from the park and maintained by other authorities.

The following roads are excluded from the external boundaries of Goulburn River National Park:

- Ringwood Road;
- Mogo Road; and
- Cullingral Road.

The following public roads are excluded from Munghorn Gap Nature Reserve:

- The Mudgee to Wollar Road; and
 - Moolarben Road.
- ◆ **Park Roads:** The following roads are reserved as part of the national park, maintained by the Service and are open to the public:
- Spring Gully Track from the Mogo Road to the Spring Gully camping area;
 - Big River Track from the Spring Gully Road to the Big River camping area; and
 - White Box Track from Ringwood Road to White Box camping area.
- ◆ **Management Trails:** These trails are required for management operations or to provide access to private property. They are not available for public use. Some are maintained by the Service (see section 4.3.4).

Public roads and park roads together comprise the public access system of the park. The public access system is shown on the map, centre pages.

The public access system within Goulburn River National Park is based on a system of roads which are mainly excluded from the park. This is, therefore, a major determinant of the recreation settings which are offered since the facility areas that have been provided are readily accessible from public roads. Two recreation settings are proposed for the management of public use in the park:

- **a natural setting** which is predominantly unmodified and of moderate to large size. This setting has no public or park roads but management trails and walking tracks may be present. Contact with other visitors will be uncommon. All of Goulburn River National Park exclusive of the camping and picnic areas will be managed as a natural setting.
- **a modified setting** containing a compact development area surrounded by natural lands. This setting describes the picnic and camping areas within the national park and nature reserve which are accessible by vehicle. Good walking tracks may be provided and some substantial modifications in the form of facilities may be noticeable. Contact with other visitors or groups will be common and sharing of facilities will occur.

The following recreation facilities have been provided in Goulburn River National Park:

Spring Gully: The main camping and picnic area in the park is located on the Mogo Road to the north of Wollar. The site has good access to the Goulburn River with a pit toilet. The area is set within a large clearing and has capacity for 25 vehicles. This facility is also currently being upgraded. Improvements include provision of park furniture, barbecues, tree planting and improved walking access to the river. Drinking water and firewood are not provided.

Big River: A low key camping and picnic area accessed from Spring Gully at the northern boundary of the park with a pit toilet. The area has capacity

for approximately 15 vehicles and provides access to the Goulburn River. This facility is currently being upgraded. Improvements will include landscaping, additional tree planting, provision of park furniture and fireplaces and improved walking access to the river. Drinking water and firewood are not provided.

White Box: A small camping and picnic area off the Ringwood Road to the south west of Merriwa with no facilities. The site has poor access and limited opportunities for improved facilities. There are a number of alternate sites to the south of White Box, west of Ringwood Road that will be investigated.

Lees Pinch: A small picnic area located on the eastern side of Ringwood Road with car parking, tables and seating. The picnic area is adjacent to Lees Pinch Lookout walking track which provides a well marked and constructed 500 metre loop walk to three lookouts with excellent views over the park to the east and south.

In addition to the camping and picnicking sites described above, it is proposed to investigate the feasibility of providing vehicle access to a location on the Goulburn River which can be developed as a camping and picnicking area in the eastern end of Goulburn River National Park. Any such proposal will be subject to an environmental impact assessment and public exhibition as an amendment to this plan of management.

Use of the Kellys Gap Track within Goulburn River National Park as a walking track will also be encouraged.

Recreational horse riding is undertaken occasionally in the national park, generally along vehicle trails and the major river systems. Intensive horse use on erodible soils has the potential to have unacceptable impacts, in terms of erosion, introduction of weeds and nutrient inputs. Impacts associated with horse riding will be monitored and horse use will be restricted should impacts become unacceptable.

Munghorn Gap Nature Reserve is well known as a bird watching site. Its proximity to Mudgee and easy access has resulted in a moderately high level of use. Three facilities providing distinct but complementary opportunities have been provided within the reserve. They are located immediately adjacent to the Mudgee - Wollar Road which bisects the reserve. All three facilities are low key and located within close proximity to each other.

The following three facilities have been provided in the nature reserve:

Moolarben Picnic Area: A small picnic area located on the Mudgee-Wollar road with car parking, a pit toilet, fireplaces and picnic tables.

Honeyeater Flat: A small camping area located in a large cleared area opposite Moolarben Picnic Area. This site is primarily used by organised bird watching groups and school groups on environmental education field trips. Bookings are requested and limited facilities are provided, including a

pit toilet and a fireplace. Revegetation works within the previously cleared areas are also planned.

Castle Rocks: A marked walking track mainly along fire trail leading 5 km from the Wollar Road to Castle Rocks Lookout. The trackhead is located about 1 km south of Moolarben Picnic Area.

Policies

- * The following vehicle access routes which cross the park will continue to be promoted by the Service for public recreational use:
 - Ringwood Road;
 - Mogo Road;
 - Mudgee - Wollar Road through Munghorn Gap Nature Reserve;
 - Spring Gully Track; and
 - Big River Track.
- * Park roads and associated facilities no longer required will be incorporated into the park management access route system where required or will be rehabilitated.
- * Park roads may be temporarily closed during high fire danger periods, adverse weather conditions or local emergencies. Public notice and liaison with user groups will occur wherever possible prior to such closure.
- * The Service will liaise with appropriate authorities for the purposes of providing adequate signposting, mapping and maintained of roads to comply with the standards set in the Department of Land and Water Conservation's *Guidelines for the Planning, Construction & Maintenance of Trails*.
- * Recreational vehicle users will be encouraged to follow minimal impact driving codes within the park. Vehicle operation on or near watercourses will not be permitted.
- * Recreational facilities which show unacceptable environmental damage may be temporarily or permanently closed for repairs or rehabilitation following consultation with user groups where possible.
- * Recreational use of the park will be regulated so as to protect visitor safety and welfare, minimise user conflict, protect the interests of neighbours, and protect the park's natural and cultural values.
- * Recreational activities which may encroach on, or interfere with any Aboriginal site or place will not be permitted unless consultation with the local Aboriginal community has occurred and agreement reached.

- * Special conditions may be imposed on recreational use of the park during periods of high to extreme fire danger periods or in the event of bushfires.
- * Written consent will be required for group activities, competitive activities, and school and educational group activities.
- * Commercial activities will require written approval and may be approved where they are environmentally acceptable, do not conflict with other user groups and neighbours, are compatible with park management objectives and policies for the activity, and are economically feasible.
- * Existing walking tracks will be maintained and upgraded to a higher standard where required in accordance with environmental and safety requirements, visitor demand and management priorities. Walking routes may also be established in other areas of the park subject to demonstrated visitor demand and environmental and financial assessment.
- * Bushwalkers within the national park and nature reserve will be encouraged to follow minimal impact bushwalking codes.
- * Picnicking and camping with basic facilities will continue to be provided at Spring Gully, Big River and Honeyeater Flat.
- * Picnicking facilities will continue to be provided at Lees Pinch and Moolarben.
- * Additional facilities for picnicking and camping with river access will be investigated in the eastern section of Goulburn River National Park
- * Visitors will be encouraged to remove their own rubbish from camping and picnicking sites.
- * Horse riding will be permitted on roads, management trails and on the river flats in the national park provided that prior written approval is obtained for group activities involving more than 8 participants and no unacceptable impacts occur.
- * Competitive horse riding events and overnight horse camping will not be permitted.

Actions

- * Service staff will liaise with neighbours and authorities responsible for the maintenance of public vehicular access routes through or to the park to ensure that these routes are maintained and signposted in an appropriate and complementary manner.

- * A program will be developed to monitor recreational use sites and activities for unacceptable environmental impacts.

- * Park brochures and information signs will be regularly reviewed to ensure information is accurate and up to date
- * The Service will liaise with local and regional tourism organisations regarding promotion of the park.
- * The establishment of picnicking and camping facilities with river access will be investigated in the eastern section of Goulburn River National Park.
- * The White Box camping area will be closed.
- * Alternative camping sites to White Box will be investigated, with a view to providing a small isolated site for vehicle-based camping.

4.3.3 Research

The function of research in the park is to assist in the understanding of its resources, use and effective management. At present there is limited published research material available to assist with management of the park. However, there is an outstanding range of research opportunities available.

A comprehensive survey of flora, fauna and Aboriginal sites is required for both Goulburn River National Park and Munghorn Gap Nature Reserve. These will be particularly useful in fire management planning and threatened species management. Information is also required on pest species distribution, impacts and control methods.

Research by organisations other than the Service and by students will be encouraged to provide valuable information for management. A prospectus will be prepared to encourage involvement of other organisations in priority research areas.

Policies

- * Research will aim to provide information on the natural and cultural heritage of the national park and nature reserve in order to facilitate management of the park.
- * Priority will be given to research and survey of the following:
 - threatened species distribution, habitat requirements, management and ecology;
 - pest species distribution, ecology and control; and
 - cultural heritage sites and assessments of significance.

Actions

- * A prospectus of research projects will be prepared and distributed to relevant Universities and research organisations.
- * A comprehensive vegetation survey of the park will be finalised as part of the fire management plan. The survey will focus on threatened species distribution and ecology, the adequacy of plant community conservation and distribution in a regional context and pest species distribution and control.

4.3.4 Management Operations

Goulburn River National Park and Munghorn Gap Nature Reserve are managed by staff located at the Service's office in Mudgee. Works depots servicing the two areas are located at Coolah and Rylstone.

The national park has a network of trails used by the Service for fire management, feral animal and weed control, maintenance of visitor facilities and scientific survey purposes. The network is an extensive system because of the elongated shape of the park, the number of inholdings and occupancies, and the convoluted boundary of the park. A number of these trails pass through private property.

A detailed review of the access track system has been undertaken based on the above requirements. Fire management in particular is a significant issue with the following criteria used as a basis for assessment:

- track orientation;
- known fire paths;
- history of fire ignition;
- proximity to assets at risk; and
- potential effectiveness of the track as a fire control line.

In relation to pest species management, consideration was also given to the location and severity of problem infestations and alternate control methods.

Based on the above criteria, the following management trails within the park will be maintained:

- Castle Rocks Trail;
- Bonnies Trail (Munghorn Gap Nature Reserve);
- Millers Trail;
- Sleepers Trail;
- Wilpinjong Trail;
- Munmurra Link Trail;

- Kellys Gap Trail;
- Hopewood Trail;
- Thompsons Flat Trail;
- Morrisons Flat Trail;
- Policemans Trail;
- Valances Arm Trail;
- Parsons Gully Trail;
- Death Adder Trail;
- Merriwa River Trail;
- Horse Gully Trail; and
- Bow River Trail.

These trails are also used by other authorities such as State Rail, Transgrid, Rural Lands Protection Boards and the Rural Fire Service for fire management, pest control and the maintenance of utilities including transmission lines and railways.

In addition to the above management trails required by the Service for the management of the national park and nature reserve, the following are maintained by other authorities for their exclusive requirements:

- Railway Tunnel Trail (State Rail);
- Pogy South and East Trails (TransGrid).

In addition to its use by the Service and other authorities, the management trail system is used for access to inholdings and/or neighbouring properties. Use of these trails will require formalised access agreements.

The management trail system is shown on the map, centre pages.

There are also many vehicle tracks in the park without legal status, that have no management purpose and which do not provide access to private property. Many of these were constructed for timber extraction, cattle grazing and bush rock removal. Most are disused and detract from the park's natural values. In addition, these tracks are used for illegal activities, such as rubbish dumping, timber extraction, illegal cropping and arson.

There are currently a number of organisations and individuals occupying or using lands reserved as Goulburn River National Park for power lines, railways or grazing. These occupancies were current at the time of the park's reservation and their continued use is provided for under the 'Existing Interest' provisions of Section 39 the National Parks and Wildlife Act. Non-park uses can impact upon its natural, cultural and recreation values and many of these uses are not

presently covered by a lease, licence or easement under the Act, or by any other form of agreement.

The Service will progressively review all occupancies in the national park with a view to reducing, and if possible eliminating, the number of non-park occupancies held under lease, license or other form of consent within the park.

The Service has an agreement with the Local Government Energy Association for the maintenance of powerlines within national parks, and will seek to apply the principles of the agreement. The Agreement provides detailed procedures for:

- activity approval;
- access to powerlines;
- tree management;
- environmental precautions;
- special conditions; and
- contact/liaison and conflict resolution.

There are a number of unformed road reserves and a Travelling Stock Reserve (TSR 21967) which traverse the Park. The Service will investigate the closure and addition to the Park of these unformed road reserves and the Travelling Stock Reserve.

Policies

- * Park management facilities other than management trails will be located off-park.
- * The system of management trails outlined on the map, centre pages, will be maintained by the Service or by other authorities for authorised management purposes.
- * Only authorised use of the management trail system will be permitted.
- * No additional management trails will be constructed except in the following situations:
 - re-alignment of an existing trail to a more environmentally acceptable location;
 - for the protection of specific natural and cultural heritage values, property or life where such protection is more important than the impact of the trail;
 - for emergency situations such as wildfire control where there is no practical or prudent alternative.

- * Management trails will be maintained to dry weather 4WD standard and will not be available for public vehicle use except in the following circumstances:
 - for access to an inholding in accordance with an access agreement;
 - for access to a facility or site subject to a lease, licence or other occupancy under the National Parks and Wildlife Act;
 - for authorised research or survey activities.
- * Permissive occupancies will be phased out of the park over a two year period commencing from the formal adoption of this plan.
- * Individuals or organisations regularly using management trails will be required to contribute to maintenance costs.
- * Park roads, management trails and associated facilities no longer required by the Service or other approved users will be allowed to overgrow, or will be rehabilitated using locally indigenous plants.
- * Aircraft will not be permitted to land within the park unless part of an authorised management operation.
- * Where no license, agreement or lease currently exists action will be taken to negotiate one as early as possible.
- * It is a long term aim of the Service to reduce, and if possible eliminate, the number of non-park occupancies held under lease, license or other form of consent within the park. Such occupancies will be kept under regular review and where appropriate the facility or occupancy will be relocated, closed or terminated and the site rehabilitated.
- * Non-park uses will be managed in accordance with the principles and objectives of this plan of management and in accordance with the conditions of a lease or licence granted under the National Parks and Wildlife Act.

Actions

- * Management trails will be closed to public vehicular access by signs, gates or other appropriate means.
- * An annual program of trail maintenance and rehabilitation works will be developed and implemented consistent with the above policies.
- * Formal access agreements with landowners requiring access along management trails may be negotiated where:
 - no reasonable alternative exists;

- approval from other relevant authorities and neighbours has been given;
 - the environmental impact of proposed use is acceptable;
 - the proposed use is consistent with approved past use patterns; and
 - the access route is also required for essential park management purposes.
- * The Service will seek the co-operation of the Rail Services Corporation in management of the Sandy Hollow - Ulan railway easement and associated access trails in order to minimise impacts on the park.
 - * The Service will negotiate with TransGrid regarding the development of maintenance agreements and the rationalisation and rehabilitation of access where possible of powerline easements and associated infrastructure within the park.
 - * The Service will investigate the closure of the unformed road reserves and the Travelling Stock Reserve and their addition to the Park.
 - * The Service will identify and assess priorities for acquisition of freehold inholdings adjacent to the Park. Purchases will be voluntary and dependant on availability of funds.
 - * The Service will review, in consultation with park neighbours and user groups, trail status and access arrangements along management trails in Goulburn River National Park if boundaries change or if inholdings are acquired.

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, management policies, established conservation and recreation philosophies, and strategic planning at corporate, directorate and regional levels.

The implementation of this plan will be undertaken within the annual programs of the Service. Priorities, determined in the context of corporate and regional strategic planning, will be subject to the availability of necessary staff and funds and to any special requirements of the Director-General or Minister.

All operations are subject to ongoing review, within which, works and other activities carried out in Goulburn River National Park and Munghorn Gap Nature Reserve 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.

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 national park and nature reserve unless they are in accordance with the plan. However, if after adequate investigation, operations not included in the plan are found to be justified, this plan may be amended in accordance with section 76(6) of the Act.

As a guide to the implementation of this plan, relative priorities for identified activities are summarised below:

High Priority: programs that need to be done in the immediate to near future on the basis that to not undertake these works will result in unacceptable degradation of the resource and/or greatly increased costs associated with rehabilitation at a later date. Also included as high priority are programs which are given a high priority for legal or public safety reasons.

Medium Priority: programs which are important but can be deferred without unacceptable loss of natural and/or cultural heritage values.

Low Priority: programs which will be undertaken only after high and moderate priority programs have been completed or which can be undertaken by other means such as volunteers, grant, concession operation, sponsorship or similar.

Actions	Plan Reference
High Priority	
Design and implement biodiversity survey program	4.1.2 & 4.1.3
Continue systematic survey and recording of introduced plant and animal species	4.1.4
Undertake priority weed control programs	4.1.4
Undertake priority introduced animal control programs	4.1.4
Phase out permissive occupancies and all grazing within Goulburn River National Park within two years.	4.1.4
Exhibit and finalise fire management plan for park and reserve	4.1.5
Maintain and analyse fire history records annually	4.1.5
Maintain a system of fire management trails at strategic locations throughout the park	4.1.5
Contribute to Section 52 co-operative risk management and operations plans and assist as required on adjoining lands	4.1.5
Implement co-operative fire arrangements with neighbours and other fire authorities.	4.1.5
Maintain consultation and liaison with Aboriginal community.	4.2.1
Upgrade directional signposting to visitor facilities.	4.3.1
Promote minimal impact recreational use.	4.3.1
Ensure access routes through or to the park are maintained satisfactorily and signposted in an appropriate manner.	4.3.2
Close White Box Camping area.	4.3.2
Complete vegetation survey of the park.	4.3.3
Develop and implement annual track maintenance program.	4.3.4

Actions	Plan Reference
Medium Priority	
Liaise re maintenance and improvement of water quality	4.1.1
Rehabilitate disused sections of road alignment between Castle Rocks and the north eastern boundary of Munghorn Gap Nature Reserve and along Ringwood Road in the Lees Pinch area	4.1.1
Prepare and implement threatened species recovery plans	4.1.2 & 4.1.3
Map distribution of significant animal species and identify/mitigate potential threats	4.1.3
Liaise with Fisheries re protection of aquatic habitat	4.1.3
Investigate and trial more effective weed control techniques.	4.1.4
Encourage installation and maintenance of effective boundary fencing in co-operation with adjoining land holders.	4.1.4
Develop program for surveying and recording of Aboriginal sites including significance assessment, identification of conservation requirements and threats	4.2.1
Develop a monitoring program for Aboriginal sites in both reserves	4.2.1
Close the historic Kellys Gap roadway to vehicle access and implement essential site protection works. Develop site interpretation and encourage use as walking track.	4.2.2
Participate in and support community programs	4.3.1
Provide interpretative and information displays at specified roadside locations	4.3.1
Investigate site for an interpretive display on the Merriwa – Cassilis Road	4.3.1
Provide interpretive signs at Kelly’s Gap and Lees Pinch	4.3.1
Liaise with local tourist information centres.	4.3.1
Develop program to monitor recreational use sites and activities for unacceptable environmental impacts	4.3.2

Actions	Plan Reference
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Medium Priority (continued)

Review park brochures and information signs to ensure information is accurate and up to date.	4.3.2
Liaise with local and regional tourism organisations regarding promotion of the park	4.3.2
Investigate opportunities for a small vehicle-based camping site.	4.3.2
Prepare and distribute a prospectus of research projects.	4.3.3
Close/signpost management trails	4.3.4
Negotiate formal access agreements with other authorities and landowners requiring access along management trails.	4.3.4
Seek co-operation of the Rail Services Corporation in management of Sandy Hollow - Ulan railway easement and access trails	4.3.4

Low Priority

Develop best practice guidelines for developments adjoining the park and within the parks catchments	4.1.1
Prepare a land use history of the park and nature reserve.	4.2.2
Investigate establishment of picnicking and camping area with river access in the eastern section of Goulburn River National Park	4.3.2
Negotiate maintenance agreements with TransGrid.	4.3.4
Investigate the closure of the unformed road reserves and the Travelling Stock Reserve and their addition to the Park.	4.3.4
Identify priorities for acquisition	4.3.4
Review public access arrangements	4.3.4

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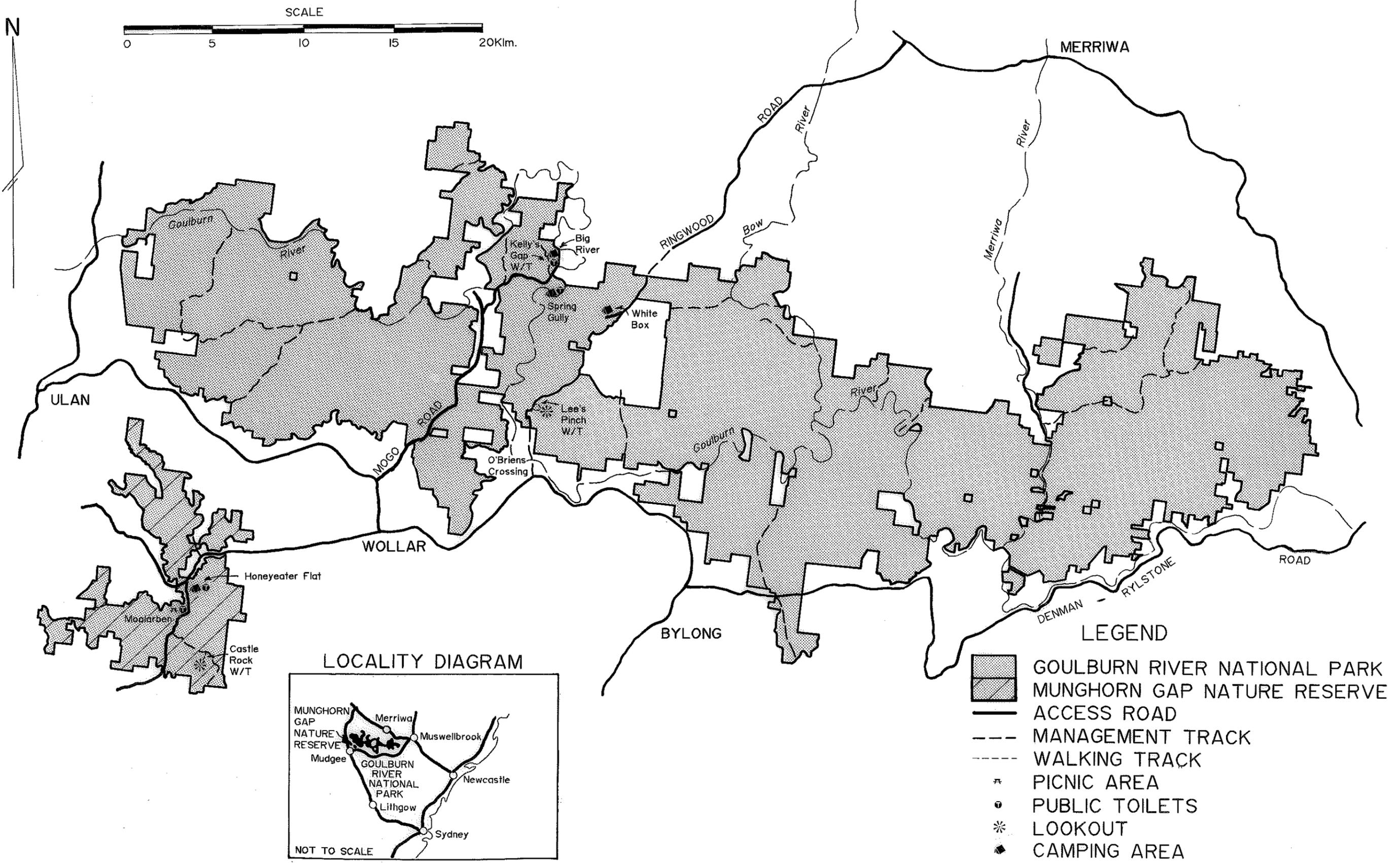
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GOULBURN RIVER NATIONAL PARK MUNGHORN GAP NATURE RESERVE



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