

**YENGO NATIONAL PARK
AND
PARR STATE RECREATION AREA

DRAFT PLAN OF MANAGEMENT**

NSW National Parks and Wildlife Service

June 2001

Acknowledgments

This plan of management has been prepared by staff of the Blue Mountains and Central Coast Regions of the National Parks and Wildlife Service with assistance from the Central Directorate staff and staff from other directorates of the NPWS.

The involvement and co-operation of the Central Coast District Advisory Committee and the Interim Community Committee for Yengo National Park and Parr State Recreation Area are gratefully acknowledged for their input into the preparation of this plan.

NSW National Parks and Wildlife Service

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ISBN 0 7305 7361 3

SYNOPSIS

This draft plan of management for these parks has been prepared by the Service in accordance with sections 72 (1) (c), 72 (1A) and 72A (1) of *the National Parks and Wildlife Act 1974*.

Yengo National Park and Parr State Recreation Area occupy an area of approximately 200,000 hectares to the north of the Hawkesbury and Colo Rivers and south of the Hunter Valley. The two parks form part of a larger conservation area, which is dominated by sandstone landscapes. Yengo National Park and Parr State Recreation Area are a critical component of the natural east-west link between the coastal and sub-coastal conservation areas in the Hawkesbury Valley/Broken Bay region and those of the Central Tablelands. Other important values of the two parks include the many threatened or restricted native plant and animal communities. A large number of recorded Aboriginal sites occur within the two parks, one of these sites Mt Yengo is of particular significance to Aboriginal people and is recognised for its regional and national significance. Also of historic significance are the early convict transport routes running through the area.

In November 2000, the Greater Blue Mountains World Heritage Area was established. Yengo National Park is an important part of this Area. This plan has been prepared in accordance with the Convention for the Protection of the World Cultural and Natural Heritage. In accordance with that Convention, this park will be managed to identify, protect, conserve, present and transmit to future generations, the World Heritage Values of the property.

A substantial area of Yengo National Park has wilderness quality as recognised in the Helman Report (1976). The NPWS, as part of the Comprehensive Regional Assessment (CRA) process, has identified an area of approximately 100,000 hectares as a 'Provisionally Identified Wilderness Area (PIWA)' using the criteria identified in Section 6 of the *Wilderness Act 1987*. This area is located in the vicinity of the Middle Macdonald River and of Mt Isobel and will be referred to in this plan as the PIWA (Provisionally Identified Wilderness Area). If all or any of this PIWA is dedicated as Wilderness Area, then it will be managed consistent with the provisions of the *Wilderness Act 1987*.

Four wheel drive vehicle touring is the main recreational use of the two parks followed by bushwalking and mountain bike riding. Horse riding is also popular in the southern section of Yengo National Park and Parr State Recreation Area. This plan provides for the continuation of these activities on specified trails while at the same time protecting sensitive areas.

Both general and specific management objectives are given for the two parks. Policies and actions are identified within the plan which address these objectives and which recognise the two parks regional setting and concerns of neighbours. These include policies and actions for the control of introduced species, rehabilitation of disturbed areas, management of fire, protection and management of cultural heritage,

management of recreational and alien use within the two parks consistent with the principle objective of heritage conservation.

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1.0 INTRODUCTION

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

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 during this period any person may make representation about the plan.
- 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 further amendment after considering the comments of the Advisory Council or may refer the plan back to the Director-General and Council for further consideration and advice.

Once the Minister has adopted a plan of management, no operations may be undertaken within the two parks except in accordance with the plan.

This document is a plan of management for Yengo National Park and Parr State Recreation Area. The two parks are considered as a single management unit and share identical or related objectives of management and management policies. This plan also applies to extinguished permissive occupancies and also lands which may be added to the two parks in the future.

The planning process leading to the development of this plan has involved the collection and use of information, which for reasons of document size has not been included in the plan. For additional information or enquires on any aspect of the plan contact the following National Parks and Wildlife Service offices.

For Yengo National Park contact:

Central Coast – Hunter Range Region
Suites 36-38, 207 Albany Street North
PO Box 1477
GOSFORD NSW 2250

Phone: (02) 43 244911

For information and enquires on Parr State Recreation Area contact:

Blue Mountains – Wollemi Region
Hawkesbury Area
Bowman's Cottage
370 Windsor Road
PO Box 198
RICHMOND NSW 2785

Phone: (02) 4588 5247

Members of the public, whether as individuals or as members of community interest groups, are invited to comment on this plan of management. Submissions should be in writing and as detailed and specific as possible; however any comments, no matter how brief, are welcome.

The closing date for comments on the plan is:

Monday 15th October 2001

Comments should be forwarded to:

The Planner Yengo NP & Parr SRA
National Parks and Wildlife Service
PO Box 1477
GOSFORD NSW 2250

Following adoption of the plan by the Minister, copies of all representations received will be available for public inspection in the library of the NPWS Head Office at 43 Bridge Street, **HURSTVILLE NSW 2220** (Phone: 02 9585 6444).

2.0 MANAGEMENT CONTEXT

2.1 NATIONAL PARKS & STATE RECREATION AREAS IN NSW

2.1.1 National Parks

The national park concept was introduced into Australia through the establishment of Royal National Park in 1879, only seven years after the world's first national park was created at Yellowstone in the United States of America.

For the purpose of preparing plans of management the NSW National Parks & Wildlife Service has adopted the International Union for the Conservation of Nature and Natural Resources (IUCN, 1994) definition of a national park:

“A natural area of land / or sea, designated to (a) protect ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical (adverse) 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”.

Many land uses throughout the region, for example forestry, mining and agriculture, require substantial modification of the natural environment. The management of national parks on the other hand aims at minimising disturbance to the natural environment.

2.1.2 State Recreation Areas

Parr State Recreation Area is reserved under the *National Parks and Wildlife Act 1974*. State recreation areas are areas which have important natural or cultural values and which may accommodate environmentally sensitive recreational use.

2.2 WORLD HERITAGE

The International Convention for the Protection of the World Cultural and Natural Heritage was adopted by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in 1972, and ratified by Australia in 1974. The Convention provides a framework for international cooperation and the collective protection of cultural and natural heritage of outstanding universal value.

The Greater Blue Mountains Area was formally nominated by the Australian Government for inscription on the World Heritage List in June 1998, on the grounds of both natural and cultural criteria (NPWS and Environment Australia, 1998). In November 2000 the nominated area of over one million hectares, which includes the whole of Kanangra-Boyd, Blue Mountains, Gardens of Stone, Wollemi, Nattai, Yengo and Thirlmere Lakes National Parks and the Jenolan Caves Karst Conservation Reserve, was inscribed on the World Heritage List.

The Greater Blue Mountains World Heritage Area was inscribed on the World Heritage

List because it satisfies the following criteria for natural values of outstanding universal significance. It contains:

- outstanding examples of significant ongoing ecological and biological processes in the evolution and development of ecosystems and communities of plants and animals (*Criterion II*), particularly eucalypt-dominated ecosystems; and
- important and significant natural habitats for in-situ conservation of biological diversity (*Criterion IV*), including the eucalypts and eucalypt-dominated communities, primitive species with Gondwanan affinities such as the Wollemi Pine, and a diversity of rare or threatened plants and animals of conservation significance.

This plan has been prepared in accordance with the Convention for the Protection of the World Cultural and Natural Heritage. In accordance with the Convention, this park will be managed to identify, protect, conserve, present and transmit to future generations, the World Heritage Values of the property.

2.3 YENGO NATIONAL PARK AND PARR STATE RECREATION AREA

2.3.1 Location, History of Dedication and Regional Context.

This plan applies to the lands reserved as Yengo National Park and Parr State Recreation Area, dedicated in March 1988. Yengo National Park is named after the Aboriginal word for mountain “Yango”, though misinterpretation of the name by Europeans spelt it as “Yengo”. Mt Yengo is the prominent table-top mountain in the area and is a sacred site to the Aboriginal community as it is where the creator being Biaime left the earth. Parr State Recreation Area on the other hand received its name after Mr William Parr the original explorer of the area, who explored the route of one of the first roads north from Sydney the Putty Road.

The two parks currently comprise an area of about 200,000 hectares and lie to the north of the Hawkesbury and Colo Rivers and south of the Hunter Valley. Nearby towns include Wisemans Ferry, St Albans, Colo Heights, Putty, Howes Valley, Broke, Wollombi, Laguna, Bucketty and Kulnura.

The two parks form part of a group of sandstone national parks within the Sydney Basin bio-region, which include Wollemi and Blue Mountains to the west and Dharug, Royal, Marramarra to the south and Ku-ring-gai Chase, Popran, and Brisbane Water National Parks to the east. This system of protected areas and major towns are outlined on Map 1.

A number of other protected natural areas lie adjacent to and complement the national park reserve system within this sandstone region. These protected areas include State Forests and the Sydney and Central Coast Water Catchment Areas.

The majority of streams within the two parks flow south-east into the Hawkesbury River near Wisemans Ferry via the Macdonald River, Webbs Creek and in the south-west corner of Parr State Recreation Area - the Colo River. Streams in the north-eastern section of Yengo National Park flow north-easterly into the Hunter River via Wollombi Brook.

Management of these catchment areas is undertaken in liaison with the Hawkesbury Nepean Catchment Management Trust and the Hunter Catchment Management Trust.

The south-eastern boundaries of the two parks adjoin the outer fringes of the Sydney metropolitan area, where the present mix of urban and rural land uses is undergoing rapid change as the region's population increases. The increasing populations in these areas are of major significance to park management as they can result in pressure to provide additional and more sophisticated visitor facilities.

Management of recreation within NPWS managed lands is undertaken in accordance with the concept of a recreational opportunity spectrum (Clarke and Stankey 1979). This concept recognises that a variety of destinations and settings are required within a region to satisfy the variety of recreational needs. It also recognises that consideration should be given to the range and extent of opportunities provided in surrounding national parks, state recreational areas and other Crown lands to ensure that the facilities and opportunities within the two parks complement these other areas.

Yengo National Park lies in the local government areas of Gosford, Cessnock, Hawkesbury and Singleton. Parr State Recreation Area lies in the Hawkesbury Council area.

2.3.2 Significance of Yengo National Park & Parr State Recreation Area

Geological Heritage

The two parks form part of the Hornsby Plateau, a dissected sandstone plateau within the Sydney Basin, which extends from the Blue Mountains to the Hunter Valley (Bembrick *et al.* 1980). The western edge of this plateau, is of considerable scientific and educational value as it features some interesting alluvial features in the vicinity of Mellong Creek and the Garland Valley which partially lie within the two parks (Map 2).

Exposed within the two parks are Tertiary Volcanics, which are restricted in distribution with several small outcrop areas of both basaltic extrusions and diatremes (Bell *et al.*, 1993).

Studies of the Macdonald River and Webbs Creek in the 1960's demonstrated that the river systems have experienced substantial change since European settlement. The Macdonald River is one of the best-documented examples of river response to alternating climatic cycles in Australia (Erskine, 1991).

Natural Heritage

The two parks partly provide a naturally vegetated east-west link between the coastal and sub-coastal conservation areas in the Hawkesbury Valley / Broken Bay region and those of the Central Tablelands.

The two parks are located in a 'rainshadow' and as a result receive lower rainfall than the higher tableland areas to the west and the coastal ranges to the east. Lower rainfall, together with milder local climates and a few areas of good quality soils, has resulted in an area of high biodiversity including plant species and communities with affinities to the Coast, Tablelands and Western Slopes.

Of significance are the warm temperate rainforests found in sheltered valleys and a dry rainforest found on the basalt tops of Mt Yengo and Mt Wareng. The drier north-eastern part of the two parks support plant communities with species typical of the Western Slopes of New South Wales, such as ironbarks and cypress pines. The occurrence of seven (7) different ironbark species in the park is of special interest and in part contributes to the identified World Heritage values of the Greater Blue Mountains Area.

There are 701 plant species recorded for the two parks (Bell *et al*, 1993) and at least twenty (20) plant species are at their limit of their known distribution. Thirty-two (32) threatened plants have been identified within the two parks (NPWS Wildlife Atlas, Nov. 2000).

There are 223 animal species recorded on the NPWS Wildlife Atlas within the two parks, of which twenty two (22) species are listed as vulnerable and two (2) species as endangered. Endangered species are the Regent Honeyeater *Xanthomyza phrygia* and the Broad-headed Snake *Hoplocephalus bungaroides*. Vulnerable species include the Koala *Phascolarctos cinereus*, Turquoise Parrot *Neophema pulchella*, Glossy Black Cockatoo *Calyptorhynchus lathami* and Powerful Owl *Ninox strenua*.

As of the date of this plan forty-one (41) mammal species, one hundred and twenty eight (128) birds, seventeen (17) amphibians and thirty-seven (37) reptiles have been recorded in the two parks (NPWS, Wildlife Atlas: Nov 00). An unpublished report on the area quotes nineteen (19) amphibian species and fifty (50) reptile species, representing an unusually high diversity (Phillips, 1987).

The two parks protect threatened species such as the Brush-tailed Rock Wallaby *Petrogale penicillata*, which occurs only in very small disjunct populations in New South Wales and Queensland. A major population of the Regent Honeyeater *Xanthomyza phrygia* an endangered species under the *Threatened Species Conservation Act 1995* is centred on the Capertee Valley / Wollemi and Yengo National Parks and Parr State Recreation Area.

The Helman Report (1976) identified the two parks as having wilderness qualities. In addition, further more recent survey work undertaken as part of the Comprehensive Regional Assessment (CRA) process in 2000, also identified approximately 100,000 hectares within the two parks as having wilderness qualities or capable of being restored to wilderness.

Cultural Heritage

The landscape of the two parks is rich in Aboriginal heritage and the area contains some outstanding rock engraving sites. Of particular significance to Aboriginal people is Mt Yengo, a sacred site with a well-documented ethnographic and cultural significance to the Aboriginal community. Mt Yengo is where the mythological being Biaime, left the earth after creating the world. It is believed other Aboriginal sites in the two parks and the surrounding regions are connected in some way to Mt Yengo.

The Local Aboriginal community have a strong and active interest in the management of these sites and landscape. There has also been an active interest in the revival of the Aboriginal culture in the area.

Historic Heritage

Early European transport routes between Sydney and the Hunter Valley are evident within the two parks with remnants of the Old Great North Road and the Putty Road / Old Bulga Road. The Old Great North Road lies adjacent to the eastern boundary of Yengo National Park. An earlier unofficial route between Sydney and the Hunter Valley generally lies to the west of the two parks near or on the present route of the Putty Road. Some of the original sections of this unofficial route, such as the Old Bulga Road, occur within the northern section of Yengo National Park just north of Howes Valley.

Also of importance is the "Old Settlers Road", previously known as the "Old Convict Road", which was built by Howes Valley settlers. It linked Howes Valley with the Wollombi District and is almost wholly within Yengo National Park. Stone embankments and pavements along the route of this road are still obvious.

Tourism and recreation

Visitation to the two parks is not high compared to the coastal parks nearer to Gosford and Newcastle. The main form of recreation being four wheel drive / vehicle based touring, motorcycle trail bike riding is also popular. Horse riding is popular particularly in Parr State Recreation Area and the southern section of the Yengo National Park, where rural land use on the outskirts of Sydney's metropolitan area adjoin the two parks. Horse riding within this area is mainly by local residents. Mountain-bike riding is becoming more popular particularly in the area near Wiseman's Ferry and St Albans along the Old Great North Road and fire trails. Other popular forms of recreation include bushwalking, bird watching and photography.

3.0 MANAGEMENT OBJECTIVES

3.1 National Parks & State Recreation Areas

The following general objectives relate to the management of national parks and state recreation areas in New South Wales:

- protection and preservation of scenic and natural features;
- conservation of wildlife and natural biodiversity;
- maintenance of natural processes as far as is possible;
- preservation of Aboriginal sites and historic features;
- provision of a range of recreation opportunities consistent with the protection of the natural and cultural environment; and
- encouragement of appropriate scientific and educational inquiry into environmental features and processes, prehistoric and historic features and park use patterns.

3.2 Yengo National Park and Parr State Recreation Area

In addition to these general objectives, the following specific objectives apply to the management of Yengo National Park and Parr State Recreation Area:

- promotion of wildlife corridors that link the two parks to other protected lands and enhance their conservation value;
- protection of the warm temperate and dry rainforest communities;
- protection, and where necessary restoration, of wilderness values;
- provision of opportunities for the Aboriginal community to continue their traditional practices and maintain sites;
- maintenance of dispersed, low-impact recreation opportunities so that visitors may experience the scenic, natural and wilderness values of the two parks;
- promotion of public awareness and appreciation of the two parks with emphasis on:
 - their importance as part of the system of conservation areas in the Sydney Basin;
 - wilderness values; and
 - adoption of minimal impact recreation practices by park visitors;
- promotion within the local community, of the importance and purpose of management programs necessary for the protection of natural features and the control of fire, weeds and feral animals.

4.0 MANAGEMENT FRAMEWORK AND POLICIES

This section contains the policies and framework for the management of Yengo National Park and Parr State Recreation Area together with relevant background information. Policies are summarised under the following headings:

- 4.1 Natural Landscape;
- 4.2 Cultural Landscape; and
- 4.3 Use of the Area.

4.1 NATURAL LANDSCAPE

4.1.1 Geology, Geomorphology and Soils

The two parks form part of the Hornsby Plateau, a highly dissected sandstone plateau within the Sydney Basin. The Hornsby Plateau consists of a large number of narrow sandstone ridges and steep-sided valleys, extending from the eastern edge of the Blue Mountains from a height of about 270 metres and gradually increases in altitude to 370 metres in the north on the southern rim of the Hunter Valley (Bell *et al*;1993). This is in contrast to the Blue Mountains Plateau west of the Putty Road, where the ridges are much higher, being generally between 500-800 metres in altitude.

The lowest rock strata belong to the Narrabeen Group, which is a mixture of sandstone, mudstone and shale. Above this are the rocks of the Hawkesbury Sandstone, which are composed almost entirely of sandstone but also include some shale lenses. In the southwest of the area, around Colo Heights, are small remnants of the shales of the Wiannamatta Group, which once overlaid the Hawkesbury Sandstone, but has now mostly weathered away.

There is a gentle tilting of the rock strata layers upward towards the north so that the rocks of a particular sequence are often located in different topographical positions across the two parks (Sanders *et al*. 1988). Thus, in the south, the rocks of the Narrabeen Group generally only outcrop as a thin layer at the base of the slopes, while the Hawkesbury Sandstone forms the majority of the slopes and ridges. In the north, however, the Narrabeen strata occurs from the bottom of the slopes to the tops of the ridges, with the Hawkesbury Sandstone only forming a remnant cap on the highest ridges.

Formations of Tertiary basalt occur as the spectacular mountains of Yengo and Wareng and as plugs at the bottom of crater-like valleys such as at Mogo Creek quarry. Also found in the valley bottoms are diatremes such as that found at Terraborra and Pierces Valley in Parr State Recreation Area. Presently unauthorised vehicle access to Pierces Valley is causing degradation to parts of this area, although natural revegetation around the edges of the valley is occurring.

The sedimentary rocks found in some of these volcanic vents are no longer found elsewhere in the region. It is hypothesised that they are younger rocks of the Great Artesian Basin Series, which were eroded away millions of years ago, and fell into

these vents during active volcanic periods. These diatremes are usually saucer shaped valleys with fertile soils and were often selected by the earliest settlers for grazing purposes.

Alluvial deposits are mainly in the form of deep soils in the bottom of the broader valleys but also occur as the rather unusual deep sands of the plateau area near Mellong Creek, along the Putty Road. These unusually deep sands occur on the western edge of this plateau, called the Kurrajong Hinge, and is of considerable scientific and educational value, particularly in the vicinity of Mellong Creek and the Garland Valley which lie partly in Yengo National Park as they feature some interesting alluvial features located on a present-day plateau.

The Macdonald River and Webbs Creek are also of scientific interest. Studies undertaken in the 1960's demonstrated that these river systems have experienced substantial change since European settlement. The changes have reflect cycles of both flood and drought regimes. The Macdonald River is one of the best-documented examples of river response to alternating climatic cycles and land use in Australia. Research into the fluvial processes of the Macdonald River and Webbs Creek has also provided a detailed understanding of many important sedimentary landforms. Some of these features are comparatively rare and are important indicators of watercourse evolution (Erskine, 1991).

Unauthorised use of management trails in both parks occurs from time to time and results in accelerated soil erosion, rubbish dumping and bushrock depletion.

Policies

- The NPWS will minimise the impacts of visitor use, management activities and adjacent land uses on geological, geomorphological and hydrological processes within the park by imposing conditions of use on activities and through liaison with determining authorities, neighbours and peak user groups.
- Management activities, where relevant, will incorporate soil erosion management principles and practices and will be undertaken on advice from the Department Land and Water Conservation Service (DLWC).
- Soil erosion and sedimentation control measures will be implemented in areas subject to accelerated erosion and instability.
- The extraction of sand, clay, rock, gravel or any like substance will not be permitted in the park except for essential management purposes (Refer Section 4.3.9).
- Works involving restoration or rehabilitation will be undertaken with materials which are geologically compatible and free of pollutants and foreign plant material.

- Emphasis will be given to promoting an understanding and appreciation of the parks' geological and geomorphological features.
- The NPWS will assist local councils and other relevant management agencies to minimise the impacts of adjacent urban and rural developments on the scenic values of the park by providing input into Regional Environmental Plans (REPs) and Local Environmental Plans (LEPs).

Actions

- Existing vehicle trails will be assessed for their suitability for public access into the two parks and for management purposes. Trails not suited to these requirements will be systematically closed to vehicles in liaison with user groups in order to prevent illegal activities such as car and rubbish dumping, bushrock collection and to reduce soil erosion.
- Revegetation of Pierces Valley will be undertaken with species endemic to the area.
- Educational display boards will be maintained around the two parks and an additional display will be erected at Finchley Camping Area. Displays will present information on geological and geomorphological features of the area and on appropriate use of the parks.

4.1.2 Catchment Management

Important sub-catchments of the Hawkesbury and Hunter River systems which are wholly or partly included in the two parks are those of the Macdonald River, Webbs Creek and Wollombi Brook. The waters of Webbs Creek and the Macdonald River and all their tributaries have been classified Class P (Protected Waters) by the Environment Protection Authority.

The headwaters of Webbs Creek and the Macdonald River are outside the two parks, and while some boundaries of the parks adjoin grazing lands, this gives rise to difficulties in maintaining water quality. Weeds such as Blackberry and Weeping Willow have washed downstream from disturbed areas in the upper catchment areas establishing isolated infestations along stream banks within the parks. Increased sedimentation from land clearing and high fire frequencies are also a problem.

The *Catchment Management Act 1989* provides a framework to manage catchments to ensure cleaner water and minimise environmental degradation, by balancing conservation needs and development pressures and encourages a more aware and involved community. An important means of achieving these aims is the formation and support of Catchment Management committees at a local level such as the Hawkesbury/Nepean and Hunter Catchment Management Trusts.

Policies

- Catchment values will be protected and all practical steps taken to limit disturbance and entry of pollutants into catchments.
- The NPWS will continue to support the concept of “Total Catchment Management” and participate as required on the Nepean / Hawkesbury and Hunter Catchment Management trusts.
- The NPWS will work with stakeholders to improve / protect catchment values.
- Fire management regimes will be prescribed to ensure minimal risk of erosion of sensitive lands.

Actions

- The NPWS will continue to promote TCM through field days and neighbour newsletters.

4.1.3 Native Plants & Animals

Native Plants

The two parks protect a naturally vegetated east-west link between the coastal and sub-coastal conservation areas in the Hawkesbury Valley / Broken Bay region and those of the Central Tablelands. The parks are located within the Central Coast Botanical Sub-division at the convergence of three botanical provinces: the Central Western Slopes, Central Tablelands and Central Coast.

The vegetation types contained within the two parks have developed some diverse affinities. The parks are located in a ‘rainshadow’ and receive lower rainfall than that of the higher tablelands to the west and the coastal range to the east. Lower rainfall, together with milder local climates and a few areas of good quality soils, has resulted in plant species and communities with affinities to the Coast, Tablelands and Western Slopes. This combination of factors has resulted in an area of high diversity.

A high variability in microclimates and soil fertility has led to a high degree of biodiversity within these parks. This is reflected both in the number of plant species present at some sites and quite different plant communities occurring near each other. The vegetation shows some important differences when compared to other reserves managed by the NPWS in the area, such as Dharug National Park to the southeast and Wollemi National Park to the west.

Most of the ridge tops and northwest-facing slopes consist of low woodland with a sclerophyllous shrub understorey. This vegetation is generally similar to that found on Hawkesbury Sandstone closer to the coast, displaying significant differences due to the drier conditions.

The drier north-eastern part of the two parks support plant communities with species typical of the Western Slopes of New South Wales, such as ironbarks and cypress pines. The occurrence of seven (7) different ironbarks is of interest due to the high diversity, which is linked to the presence of soils with higher clay content occurring in a variety of different microhabitats under predominantly dry climatic conditions.

Table 1: Threatened and Protected Plants recorded in Yengo National Park & Parr State Recreation Area

Family Name	Scientific Name	Status
Proteaceae	<i>Persoonia hirsuta ssp X</i>	Endangered
Rutaceae	<i>Boronia ruppil</i>	Endangered
Asteraceae	<i>Olearia cordata</i>	Vulnerable
Fabaceae	<i>Kennedia retrorsa</i>	Vulnerable
Goodeniaceae	<i>Velleia perfoliata</i>	Vulnerable
Lamiaceae	<i>Prostanthera cineolifera</i>	Vulnerable
Myrtaceae	<i>Melaleuca deanei</i>	Vulnerable
Myrtaceae	<i>Melaleuca groveana</i>	Vulnerable
Proteaceae	<i>Persoonia marginata</i>	Vulnerable
Rutaceae	<i>Zieria involucreta</i>	Vulnerable
Sterculiaceae	<i>Lasiopetalum joyceae</i>	Vulnerable
Tremandraceae	<i>Tetraloche glandulosa</i>	Vulnerable
Adiantaceae	<i>Adiantum aethiopicum</i>	Protected
Adiantaceae	<i>Adiantum formosum</i>	Protected
Adiantaceae	<i>Adiantum hispidulum</i>	Protected
Apiaceae	<i>Actinotus helianthi</i>	Protected
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Protected
Cyperaceae	<i>Caustis flexuosa</i>	Protected
Doryanthaceae	<i>Doryanthes excelsa</i>	Protected
Epacridaceae	<i>Sprengelia incarnata</i>	Protected
Orchidaceae	<i>Cymbidium suave</i>	Protected
Orchidaceae	<i>Dendrobium aemulum</i>	Protected
Orchidaceae	<i>Dendrobium speciosum</i>	Protected
Orchidaceae	<i>Dipodium punctatum</i>	Protected
Orchidaceae	<i>Liparis reflexa</i>	Protected
Orchidaceae	<i>Sarcochilus falcatus</i>	Protected
Proteaceae	<i>Lomatia silaifolia</i>	Protected
Proteaceae	<i>Persoonia pinifolia</i>	Protected
Proteaceae	<i>Telopea speciosissima</i>	Protected
Proteaceae	<i>Xylomelum pyriforme</i>	Protected
Rutaceae	<i>Boronia anemonifolia var anemonifolia</i>	Protected
Rutaceae	<i>Boronia ledifolia</i>	Protected

The wetter areas closer to the coast in the south-east supports small stands of tall eucalypt forest and warm temperate rainforest in sheltered valleys. Of special interest is the occurrence of a dry rainforest on the basalt tops of Mt Yengo and Mt Wareng. The warm temperate rainforests and the dry rainforests reflect the climatic changes that occurred in eastern Australia during the late Tertiary and Quaternary periods. The dry rainforest on the basalt cap of Mt Yengo and Mt Wareng contain Red Cedar *Toona cilliata* and Stinging Trees *Dendrocnide excelsa*.

The vegetation of Yengo National Park and Parr State Recreation Area (Bell *et al.* 1993), which have been grouped into seven floristic units:

1. sheltered dry Hawkesbury forest;
2. exposed dry Hawkesbury woodland (including the sub-unit of dwarf apple low open woodland);
3. sheltered moist forest complex (including the sub-units Narrabeen sheltered forest, sheltered forest on rich soils, grey box open forest, rough-barked apple woodland, stinging tree dry rainforest, and rainforest on alluvium);
4. Narrabeen - Hawkesbury dry forest (including the sub-units exposed Narrabeen woodland and Hawkesbury ironbark forest);
5. northern escarpment woodland;
6. woodland on alluvium (including the sub-units woodland on perched sands and swamp woodland on perched sands); and
7. melaleuca swamp forest.

The more sheltered slopes and valley bottoms have a complex pattern of vegetation, reflecting local differences in geology, depth of soil and microclimate. These communities differ also from those found outside the area and contain many species at the limits of their distribution. Activities associated with settlement, particularly logging and clearing, were concentrated in these valleys and thus undisturbed remnants of forest vegetation found in the broader valleys are now rare and remnants have high conservation significance.

Upland swamps are usually typical of sandstone areas, however because of the dryness of these parks only one upland sedge swamp is known to occur, in the southeast corner of Yengo National Park.

Vegetation associations identified as being of regional conservation significance in the area include rough-barked apple woodland, woodland on perched sands, swamp woodland on perched sands, grey box open forest, stinging tree dry rainforest, and the melaleuca swamp forest (Bell *et al.*, 1993).

Overall seven hundred and one (701) species of plants have been identified in Yengo National Park and Parr State Recreation Area, of which thirty-two (32) are threatened and which for some, this area contains the major remaining populations. At least twenty (20) other plant species are at the limit of their known distribution, or occur as unusual, outlying populations. For example, the park protects three of the four known populations of *Olearia cordata* and most of the population of *Acacia fulva*, which is restricted to the basalt soils on Mt Yengo and Mt Wareng.

Native Animals

Two hundred and twenty three (223) animal species are currently listed as occurring within the two parks (NPWS Wildlife Atlas, Nov 2000). Included in this list are twenty-four (24) threatened fauna comprising of two (2) endangered species and twenty-two (22) vulnerable species listed under the *Threatened Species Conservation Act 1995*.

Forty-one (41) species of mammals occur in the parks. Steep rugged cliff faces found in the two parks also provide habitat for the threatened Brush-tailed Rock Wallaby. This species is particularly vulnerable to predation by foxes and now only occurs in very small disjunct populations in New South Wales and Queensland.

One hundred and twenty eight (128) bird species have been recorded in the two parks, with one of these being an endangered species: the Regent Honeyeater. The two parks present an important habitat for this species with a major population centred on the Capertee Valley / Wollemi and Yengo National Parks and Parr State Recreation Area.

NPWS Wildlife Atlas records indicate that seventeen (17) species of amphibians and thirty-seven (37) species of reptiles occur in the two parks. An unpublished report, however quotes nineteen (19) amphibians and fifty (57) reptiles as occurring in the two parks (Phillips, 1987). This relatively high number is probably related to the lack of disturbance and the extensive and topographically diverse areas of sandstone terrain. The richness of the herpetofauna has been comparable to the World Heritage Area rainforests in Northern NSW which have a well-documented diversity of amphibians and reptiles.

The illegal removal of rock cover (bush-rock) is a significant threat to the conservation of amphibians and reptiles in the two parks. Such cover provides sanctuary from predation, fire and drought, and is a necessary part of the habitat of many species. The removal of bushrock is a major factor in the decline of the Broad-headed Snake *Hoplocephalus bungaroides*.

A complete list of recorded threatened animals for the two parks is shown in Table 2. Other species not listed as endangered or vulnerable found in the two parks, but which are of conservation concern, are the Legless Lizard *Anomalopus swainsonii*, New Holland Mouse *Pseudomys novaehollandiae*, Yellow-tailed Black Cockatoo *Calyptrorhynchus funereus* and the Gang Gang Cockatoo *Callocephalon fimbriatum*.

Policies

- The NPWS will seek to maintain plant and animal diversity and distribution through the maintenance of natural processes, the mitigation of human impacts and through specific conservation programs where necessary.
- Conservation programs will be developed and applied to native animals and their populations where their conservation status and threatening processes

indicate that active management is required to ensure their long-term conservation.

- Research programs will be encouraged with priority given to threatened species, endangered populations and endangered ecological communities.

Actions

- The NPWS will liaise with local councils and other authorities to minimise the impact of potentially threatening processes on native species and communities. Where relevant, threatened species recovery plans and threat abatement plans will be implemented within the two parks in co-operation with other authorities.
- The NPWS will progressively undertake biodiversity surveys at specific habitats of concern, to assist in the development of ecologically based fire management, pest management and visitor management programs.
- The NPWS will liaise with neighbours and interest groups through neighbour newsletters / surveys and direct contact to further gain local knowledge on the location of threatened species and threats.

Table 2: Known Endangered & Vulnerable Animals In Yengo National Park & Parr State Recreation Area

Family	Scientific Name	Common Name	Status
Amphibians	<i>Heleioporus australiacus</i>	Giant Burrowing Frog	Vulnerable
	<i>Pseudophryne australis</i>	Red-crowned Toadlet	Vulnerable
Birds	<i>Xanthomyza phrygia</i>	Regent Honeyeater	Endangered
	<i>Puffinus assimilus</i>	Little Shearwater	Vulnerable
	<i>Ixobrychus flavicollis</i>	Black Bittern	Vulnerable
	<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	Vulnerable
	<i>Neophema pulchella</i>	Turquoise Parrot	Vulnerable
	<i>Ninox connivens</i>	Barking Owl	Vulnerable
	<i>Ninox strenua</i>	Powerful Owl	Vulnerable
	<i>Tyto novaehollandiae</i>	Masked Owl	Vulnerable
	<i>Tyto tenebricosa</i>	Sooty Owl	Vulnerable
Mammals	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	Vulnerable
	<i>Phascolarctos cinereus</i>	Koala	Vulnerable
	<i>Petaurus australis</i>	Yellow-bellied Glider	Vulnerable
	<i>Petaurus norfolcensis</i>	Squirrel Glider	Vulnerable
	<i>Macropus parma</i>	Parma Wallaby	Vulnerable
	<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Vulnerable

	<i>Mormopterus norfolkensis</i> <i>Chalinolobus dwyeri</i> <i>Falsistrellus tasmaniensis</i> <i>Miniopterus schreibersii</i> <i>Scoteanax rueppellii</i>	East Coast Freetail Bat Large-eared Pied Bat Eastern False Pipistrelle Common Bent-wing Bat Greater Broad-nosed Bat	Vulnerable Vulnerable Vulnerable Vulnerable Vulnerable
Reptiles	<i>Hoplocephalus bungaroides</i> <i>Varanus rosenbergi</i>	Broad-headed Snake Heath Monitor	Endangered Vulnerable

4.1.4 Introduced Plants and Animals

Introduced plants and animals are those which are not indigenous to the parks. They represent one of the most significant potential threats to the natural values of the two parks and are a major focus for management programs. Some of these species may damage natural values by being invasive, directly competing with or preying upon native species. They may also affect soil and water systems and the recreational, cultural, aesthetic and scientific values of the two parks. Some introduced species in the park may have economic impacts on neighbouring lands.

Introduced Plants

Under the *Noxious Weeds Act 1993*, the NPWS has a statutory responsibility to prevent the spread of noxious weeds to adjoining lands. Noxious weeds and local environmental weeds are listed within the relevant local government environmental planning policies for the two parks.

Most of the two parks are free of introduced plants with infestations limited to sites that have been subject to modification from past development or agricultural use. Animals, watercourses and vehicles are major agents for the spread of introduced plants.

Watercourses, particularly Webbs Creek and the Macdonald River, are a major concern for the spread of weeds, as the headwaters of these watercourses are outside of the two parks in rural settings to the west of the Putty Road. Straying stock is another source of weed infestation. Due to the remote location, rugged nature of some of the two park boundaries and associated lack of access, damaged fencing is not always quickly found and repaired.

Another major source of weed infestation is along the Putty and Wollombi Roads where seed dispersal occurs from vehicles and travelling stock. Rubbish dumping is also a concern particularly in the southern sections of Parr State Recreation Area.

Particularly invasive introduced species such as Blackberry *Rubus fruticosus* have colonised disturbed sites in and around the built up areas and adjoining rural properties and inholdings within the two parks. Pampass Grass *Cortaderia selloana* is invading the eastern area of Parr State Recreation Area. Water and wind borne weeds such as Noogoora Burr *Xanthium occidentale*, Dandelion *Taraxacum officinale* and Weeping

Willow *Salix babylonica* occur in some isolated localities downstream of disturbed lands that lie within the catchments of both parks.

Introduced Animals

Cats, foxes and wild dogs are thought to be distributed throughout the two parks. Wild dogs and cat numbers are more numerous in the southern sections of the area, nearer to urban development where animals have established into bushland areas. Cattle, rabbits, pigs and goats also occur, but are of more localised distribution.

Feral cattle and straying domestic cattle are a major cause of disturbance to native plant and animal communities. Cattle cause the spread of weeds, stream bank and waterhole erosion as well as repetitive and selective grazing of native vegetation. They also reduce the re-colonisation of native vegetation in previously cleared areas by grazing on young shoots.

Feral pigs occur in the Mellong Creek – Wallaby Swamp and Wallabadah areas and cause soil disturbance when rooting for food and wallowing. Isolated small herds of feral goat have occurred in the two parks these are targeted quickly for control when located. Goats cause significant damage as they aggressively compete with native animals for food and habitat. The control of goats in Brush-tailed Rock Wallaby habitat will be given priority, as this may be a vital factor in the survival of this threatened species.

Both Blue Mountains and Central Coast – Hunter Range Regions have detailed Pest Management Strategies, which identify introduced species of concern and provide detailed information on methodology and control priorities.

Policies

- Introduced plants and animals will be removed from the park wherever possible; where this is impractical control measures will be adopted.
- High priority will be given to the control of introduced plant and animal species which:
 - are a risk to threatened species, critical habitat or significant plant communities;
 - are species for which current neighbouring control programs are in place or for which threat abatement plans have been prepared;
 - have a high capacity for dispersal;
 - are new isolated occurrences; or
 - are declared noxious.
- Preference will be given to control techniques, which have minimal environmental impact.
- Control programs will be continually monitored to review their effectiveness.
- Permissive occupancies in the park will be progressively phased out.

- The NPWS will cooperate with other agencies, such as Rural Lands Protection Boards and local landholders in the development and implementation of introduced species control plans and programs.
- Introduced animals will not be permitted in the two parks with the exception of authorised horse riding and authorised companion animals, such as guide dogs.

Actions

- A program of priority control of introduced plants and animals will be implemented as set out in the Blue Mountains - Wollemi and Central Coast – Hunter Range Regions Pest Management Strategies.
- Liaison with neighbours will occur in relation to feral animal control activities, particularly in areas of known Brush-tailed Rock Wallaby habitat.
- The NPWS will survey and control weeds in cooperation with neighbours and other authorities in the upper catchment areas first and work down stream, within single catchment areas, to eliminate reinfestation of the catchment area.
- The NPWS will survey the Macdonald River and Webbs Creek catchment areas for weed infestations and control measures will be put in place as funding allows.

4.1.5 Fire Management

Under the *Rural Fires Act 1997*, the Service is recognised, along with the Rural Fire Service, State Forests of NSW and the NSW Fire Brigades, as a fire authority. The Service therefore has shared responsibilities for the co-ordination of bushfire suppression, mitigation and prevention activities in accordance with the principles of ecologically sustainable development within rural fire districts. The Service, as a land manager, also has a statutory obligation to prevent the occurrence of wildfire and to minimise the spread of wildfires within the parks. The Service works closely with the Rural Fire Service and district bush fire management committees in this regard.

Wildfire within the two parks is most severe during late spring and summer, when dry north-west and westerly winds may influence fire behaviour. Later in the fire season thunderstorms with associated lightning strikes tend to be the main fire ignition source. Multiple fires often occur in spring and summer, and may be beyond the resources of any one fire authority to control. The NPWS fire policy therefore emphasises a cooperative approach to fire management.

Since the two parks were established in 1988, fire management by the NPWS has involved the implementation of wildfire suppression, mitigation and prevention strategies on both parks.

A bushfire database has been established for both parks. Records for Yengo National Park and Parr State Recreation Area date back to 1975. A total of 492 unplanned fires

have been recorded in Yengo National Park and 101 unplanned fires in Parr State Recreation Area since 1975. A history of large events within the two parks gives an indication as to the high bushfire danger potential. Unplanned fires within the two parks have shown to burn very large areas including 43,502 hectares in the 1997/1998 fire season and 113,726 hectares in the 1993/1994 fire season. Combined these two fire events burnt 71.3% of Yengo National Park and 85.8% of Parr State Recreation Area. NPWS fire records indicate that escaped burns from surrounding properties, rather than lightning strikes, represents the main cause of wildfires within the parks.

The NPWS undertakes a range of cooperative and consultative fire planning processes as a key aspect of meeting its objectives. The preparation of operational and bush fire risk management plans are required under section 52(1) of the *Rural Fires Act 1997*, and the NPWS contributes to these processes through local bush fire management committees. The Yengo / Parr / Dharug Draft Reserve Fire Plan is in preparation and will be released for public comment when complete. This plan will provide specific guidelines for the management of fire in these parks.

The NPWS is also playing a major role in the preparation of community fire plans in conjunction with communities adjacent to the two parks, and other fire authorities. A Community Fire Plan for the St Albans area is also in preparation.

The NPWS fire operational plans are updated annually and contain information on NPWS policies and procedures for fire management within each Region. These policies and procedures are also integrated into the operational plans prepared for local government areas under Section 52(1) of the *Rural Fires Act 1997*.

Protection of Life and Property

The two parks contain a system of east-west trails which assist in the management of fire, these include the Old Settlers, Yango / Howes, Womerah and Wheelbarrow Ridge trails. These trails were constructed to provide access to properties and settlements. Natural control lines such as streams are largely ephemeral and in dry periods are often ineffective as natural fire boundaries, except along wide sandy creek beds or in dense rainforest gullies.

The NPWS regards cooperative fire management as essential for both the protection of property and natural and cultural heritage. An important part of the NPWS responsibility under the *Rural Fires Act 1997* is participation on district bush Fire Management Committees, and in the preparation of cooperative plans.

Bush fire suppression operations may require the construction of temporary trails, helipads and fire lines that will be closed and rehabilitated as part of post-fire operations.

The NPWS has access to several automated weather observation stations adjoining the two parks, primarily for fire management purposes.

Maintenance of Species Habitat and Biodiversity

Contemporary ecological research in fire prone ecosystems, such as those that are represented in the two parks, has established broad principles about the fire regimes needed to avoid extinction of species and conserve biodiversity:

- Groups of flora and fauna species which constitute an ecosystem respond similarly to fire according to the characteristics of their life-history. It is not necessary to specify fire regimes for the conservation of every species. Rather fire regimes for groups of species or an ecosystem are required to be developed; and
- A diversity of fire regimes is needed to maintain natural diversity. Accordingly the management of fire should aim to provide a pattern of high, moderate and low intensity, frequency and extent (including both the size of areas burnt and completeness within burnt area). Extinctions are most likely when fire regimes of relatively fixed intensity, frequency and extent prevail without variation.

Scientific understanding of fire requirements for plant communities is generally more advanced than for animal communities, although recent published research demonstrates that the conservation of many animal species also depends upon a mix of fire regimes including occasional high intensity fires. The use of regular and low intensity fires has an unacceptable impact on critical habitat requirements for some native animals.

With these general principles as a basis, fire management guidelines are being developed for the two parks, which define fire regime thresholds for several major groups of plant communities.

The fire management policies and procedures of the National Parks and Wildlife Service are contained in the NPWS Fire Management Manual.

Fire management within the two parks has three main objectives:

- To reduce the risk of bush fire damage to life and property both within and immediately adjacent to the two parks;
- To effectively manage bush fires for the protection and conservation of the natural, cultural, scenic and recreational features of the two parks;
- To promote effective and efficient utilisation of local bush fire fighting resources through cooperative planning and operational arrangements.

Prevention and suppression strategies will, where possible, be pre-planned and coordinated with neighbours and other agencies. The NPWS will undertake fire prevention programs, through public education, local supervision and enforcement of the Acts and Regulations applying to fires.

Policies

- Liaison will be maintained and cooperative strategies developed with the Rural Fire Service, State Forests, local government and neighbours to ensure co-ordination in fire management in the two parks and on adjoining lands.
- Preference will be given to fire suppression methods which have least adverse environmental impact.
- Priority in all fire management will be given to areas of the two parks adjoining assets where there is potentially a high fire risk.
- Research will be encouraged into fire behaviour in the local area and the effects of fire on plant and animal communities
- The NPWS will continue to play a major role in fire planning in accordance with the *Rural Fires Act 1997*, through membership on district bush fire management committees.
- The co-operation of all relevant authorities, neighbours and visitors will be sought in reducing the risk of unplanned fires.
- The NPWS will continue to upgrade its firefighting capability and upgrade its equipment and technologies.
- The NPWS will continue to maintain and update fire history data for the two parks for incorporation into fire management planning.
- During periods of fire danger, appropriate risk management strategies such as fire bans and park closures will be implemented.
- Risk management will be conducted in accordance with the approved bush fire risk management plans and the reserve fire management plan.

Actions

- A reserve fire management plan will be prepared for Yengo National Park and Parr State Recreation Area and will be made available for public comment.
- A regular review of all existing management trails within the two parks will be established as part of the bush fire risk management plan process and any unnecessary trails will be closed and rehabilitated.

4.1.6 Wilderness

The retention of wilderness areas, both on and off-park, is becoming increasingly important to conservation in NSW, as human interference over natural areas continues to diminish native plant and animal communities. An area may be identified as

wilderness under Section 59 of the *National Parks and Wildlife Act 1974* and / or Section 61 the *Wilderness Act 1987* if:

- the area is, together with its plants and animal communities, in a state that has not been substantially modified by humans and their works or is capable of being restored to such a state;
- the area is of sufficient size to make its maintenance in such a state feasible: and
- the area is capable of providing opportunities for solitude and appropriate self-reliant recreation.

Much of the two parks have had minimal disturbance except for limited areas of logging and grazing. The rugged landscape, low-nutrient soils and dry climate of most of the area precluded its use for settlement or primary industry.

In recent times, disturbance within the two parks has mainly been associated with roads and reserve boundaries. Disturbance is mainly in the form of illegal activities such as arson, bush rock theft, rubbish dumping and weed invasion. Permissive occupancies for cattle grazing has occurred in the two parks, though these are being phased out.

As part of the Comprehensive Regional Assessment (CRA) process, 100,000 hectares of the two parks has been assessed as having wilderness qualities. Two particular areas, the Middle Macdonald and Mt Isobel sections of the two parks, have been identified as “Provisionally Identified Wilderness (PIWA)” under this process.

The “PIWA” has been managed if it were wilderness and will continue to do so, to ensure the areas wilderness qualities are not compromised.

Policies

- Until such time as the assessment process is completed and a decision is made about the identification and declaration of any wilderness within the parks, the PIWA within the two parks will be managed so as to protect any wilderness values. No new roads or facilities will be established in the PIWA. No existing roads or facilities will be upgraded in the PIWA, except where works are essential for the protection of natural or cultural heritage or public safety and there is no feasible alternative.
- Roads currently open to the public within the Provisionally Identified Wilderness Area will be maintained at a basic standard and at current use levels until the assessment process is completed and a decision is made about future use.
- Areas of the two parks identified as having wilderness qualities will be managed in accordance with section 9 of the *Wilderness Act 1987* to:
 - restore (if applicable) and to protect the unmodified state of the area and its plant and animal communities;

- preserve the capacity of the area to evolve in the absence of significant human interference; and
 - permit opportunities for solitude and appropriate self-reliant recreation.
- Vehicular access routes within any declared wilderness will be rehabilitated except where required for essential management purposes subject to the policies below.
 - Vehicular access within any declared wilderness will only be provided under the following circumstances and will be subject to the prior consent of the NPWS Regional Manager:
 - Access to inholdings where a consent was granted prior to the area being declared wilderness;
 - Access to cultural sites (eg Aboriginal graves) may be permitted under special circumstances and particularly where the activity can be linked to essential management requirements;
 - Access may be permitted for emergency management purposes such as wildfire suppression and search and rescue operations; and
 - Access may be provided for the undertaking of essential park management programmes aimed at protecting the wilderness condition (eg wildlife management or pest species control programmes, infrastructure maintenance, prescribed burning programmes) or for protecting and conserving important cultural sites.
 - Temporary tracks and trails created for management purposes (eg wildfire suppression) within any declared wilderness will be actively rehabilitated using local plant and soil materials.
 - Pedestrian access to the whole or part of any declared wilderness, may be temporarily restricted if visitor use or certain activities are causing unacceptable impacts.
 - Group recreational use within any declared wilderness will be restricted to a maximum of 8 persons unless a smaller group size is otherwise specified in this Plan. Variations in maximum group size may be approved by the Regional Manager.
 - Walking tracks and routes within any declared wilderness will be allowed to overgrow unless required for essential park management and will not be signposted or described in detail in Service track notes or other Service publications.
 - The co-operation of authors of track notes and other publications referring to any declared wilderness area within the parks will be sought to ensure recreational impacts on the wilderness are minimised.
 - The use of seeing eye dogs and hearing dogs for disabled persons within declared wilderness will be permitted under special circumstances with approval of the NPWS Regional Manager.

- Recreational use of wilderness will be restricted to those activities which are essentially self-reliant and of minimal impact. Permitted activities will be defined by NPWS policy.
- Commercial recreational activities within any declared wilderness will only be approved where the activities are consistent with this plan.
- Structures will not be permitted within any declared wilderness (unless for essential wilderness management purposes) and will be removed subject to an assessment of their conservation significance and subject to the provisions of a conservation plan.
- Priority will be given to park protection and species conservation programmes within any declared wilderness.
- The Service will give notice of termination of all permissive occupancies within any declared wilderness within two years of the adoption of this plan.
- The Service will seek the co-operation of the owners of park inholdings and of park neighbours within or adjoining any declared wilderness, to ensure that the wilderness condition of the park is protected to the maximum extent possible.
- Freehold and leasehold Crown lands within any identified wilderness area will not be declared as wilderness without the consent of the landholder.

Actions

- Public awareness of the appropriate use of wilderness areas will be promoted.
- Declared wilderness boundaries will be signposted on tracks and trails and other areas where appropriate to highlight their location.
- The Service will seek the co-operation of the flight industry, the Civil Aviation Authority and the Department of Defence to minimise the impacts of aircraft use over any declared wilderness area and as a possible extension of the "Fly Neighbourly" programme.
- A brochure will be prepared which identifies the boundaries of any declared wilderness and which contains a minimal impact code of conduct for recreational activities within the wilderness. The information will seek to encourage visitors to use fuel stoves and to remove all waste.
- The Service will condition licences and consents issued for activities within any declared wilderness to minimise impact and user conflicts and to ensure consistency with the policies within this section of the plan.

- The Service will incorporate details on the location of any declared wilderness and management policies that apply to it into new or revised interpretation and public information displays and programmes.
- A program of track and trail closure and removal of unwanted management structures from any declared wilderness will be prepared and implemented subject to the policies within this plan.
- The Service will issue notices to all holders of permissive occupancies within any declared wilderness are giving 12 months notice of termination.
- The Service will identify acquisition priorities for freehold properties within any declared wilderness area and seek to negotiate purchase with landholders as funds become available.
- The Service will seek to negotiate voluntary conservation agreements or wilderness protection agreements as appropriate, with the owners of park inholdings and park neighbours within any identified wilderness area.

4.2 CULTURAL HERITAGE

Cultural heritage within the two parks includes the landscape, all Aboriginal heritage sites and all historic places, including buildings and other works together with original contents and surroundings. The two parks are important in conserving evidence of pre-European contact and historical land use in this area.

4.2.1 Aboriginal Heritage

Aboriginal people have a long history of settlement in the area. The Macdonald River area formed a part of the territory of the Darkinjung people, while the northern portion of Yengo National Park formed a part of the territory of the Wonaruah people.

The Hawkesbury Sandstone area is particularly rich in Aboriginal sites and the two parks conserve an important sample of these. There are currently 648 Aboriginal sites recorded within the boundaries of the two parks and on nearby lands. Because of the remote and rugged nature of the terrain and the fact that it has not been systematically surveyed, there are certain to be more sites than those presently recorded.

The large number and wide range of Aboriginal sites recorded in the two parks provide valuable insights into past lifestyles, traditions and inter-actions with the environment.

The landscape is a significant part of Aboriginal culture. A prominent feature of this landscape is Mt Yengo, which is sacred site to the local Aboriginal community. Mt Yengo is a mesa (flat topped mountain) located in the north-west section of Yengo National Park. The site has well-documented ethnographic and cultural significance to Aboriginal society.

The Aboriginal 'Deamtime' story recounts the departure of the ancestral being, Biaime, from the top of the mountain into the sky when he had finished his creative tasks in the

Dreamtime. For this reason Mt Yengo is believed to be the focus of many other Aboriginal sites in the region, such as rock engravings including sets of footprints aligning with Mt Yengo. Many of the Aboriginal sites in the area demonstrate cultural variations in the design of the rock engravings, which may in turn represent different Aboriginal groups and patterns of Aboriginal land use.

Burrigurra and Finchley are two significant Aboriginal engraving sites within Yengo National Park which are available for public access. Burrigurra (Devil's Rock) appears to be directly related to Mt Yengo and is thought to bestow information about Aboriginal family kinship. Finchley, another nearby site, is believed to indicate a tribal boundary. Both sites are easily accessible and as a result, vandalism has occurred to both sites in the form of vehicle damage and by the practice of tracing / drawing over the engravings to highlight them. Liaison with the Local Aboriginal Land Councils to protect these sites has led to the construction of vehicle barriers at Burrigurra and an elevated boardwalk at Finchley. Finchley will be the main focus of interpretation programs. The major educational significance of the sites relates, in part, to their relatively close proximity to major urban centres such as Sydney, Newcastle and the Central Coast.

A number of Aboriginal community groups including the Darkinjung, Koombahtoo, Mindaribba, Wanaruah and Awabakal Local Aboriginal Land Councils have a strong interest in the management of sites in the two parks. The NPWS is liaising with these communities on a range of site management issues. The Local Aboriginal community is also involved in the revival of traditional cultural practices.

Policies

- The NPWS will seek to involve the Aboriginal community in management of Aboriginal heritage, including site interpretation, significance assessment, conservation planning, protection and promotion.
- Visitor impacts on Aboriginal sites within the parks will be closely monitored and site protection works undertaken where necessary.
- Non-destructive research in locating new sites or assisting site conservation will be encouraged in the parks.
- Conservation plans for cultural heritage sites will be prepared as required.
- The NPWS will support the Local Aboriginal Land Councils and Aboriginal Community groups in the preservation, continuance and promotion of their cultural lore.
- Preference will be given to Local Aboriginal Land Councils and Aboriginal Community groups to undertake interpretation of Aboriginal sites and culture.

Actions

- A strategy and on-going program of surveying and recording Aboriginal sites, including assessments of significance, will be developed by Regional staff in conjunction with local Aboriginal communities.
- A regular program of monitoring impacts at Aboriginal sites, which are well known to the public, will be developed in conjunction with local Aboriginal communities.
- Frying Pan Rock Aboriginal site will have a vehicle barrier erected to prevent vehicle damage to the site.
- Burragurra Aboriginal site walking track will be repaired and erosion control measures implemented.
- The NPWS will prepare guidelines with various local Aboriginal Land Councils and Aboriginal Community concerning the use and management of traditional and newly created Aboriginal sites for cultural revival practices.
- Interpretive signs to be erected with the approval of the Aboriginal community at Finchley and Burragurra Aboriginal sites to educate park users of the significance of the sites and how to assist in site conservation.

4.2.2 Historic Features

The two parks contain one of the earliest European attempts to settle and explore eastern Australia. Early transport routes ran south to north between the settlements of Sydney and the Hunter Valley. The Old Great North Road (OGNR) runs along and adjacent to the eastern boundary of Yengo National Park and provides some of the best examples in Australia of convict built road engineering. The most significant engineering features of this road exist within Dharug National Park, which adjoins Yengo National Park along its south-east boundary. A Conservation Plan has been prepared by NPWS for the management of that part of this historic road which is within Yengo National Park.

One section of the Old Great North Road, referred to as the Bucketty Wall, occurs near a recently gazetted part of Yengo National Park. The wall is located at the corner of George Downes Drive and Mogo Creek Road and is another significant engineering feature. This wall has been well cared for by the efforts of the local community and volunteers of the 'Convict Trail Committee'. The local community utilises part of the park occasionally for concert nights to raise money for the community projects. The NPWS has developed draft a memorandum of understanding (MOU) with the Bucketty community for the use of the site.

Other features of particular historic interest along the Old Great North Road which exist within Yengo National Park or lie on the boundary are Circuit Flat Bridge, Hungry Flat, Frog Hollow and Shepherds Gully Road.

An earlier, but unofficial, route between Sydney and the Hunter Valley ran from Colo Heights. This early unofficial road lies largely to the west of the two parks near or on the present route of the Putty Road. The original descent of this western route from the Culoul Range to Mellong Creek lies within Parr State Recreation Area. Another section of this route the Old Bulga Trail is within Yengo National Park and runs north from Howes Valley towards Bulga in the Hunter Valley.

The "Old Settlers Road" which runs east to west in the northern section of the park links Howes Valley with the Wollombi District and Yengo National Park now almost totally surrounds it. Historic stone embankments and pavements along the route of this road are still obvious. This road is a Crown road built by the original European settlers of the area.

The rugged nature of the area and lack of standing water and rapid run-off of rainfall, meant that settlement and land use has been largely restricted to the valleys. The fertile valleys of the Macdonald River, Webbs Creek and Wollombi Brook were settled and cleared early in the 19th Century. From these areas, settlers ventured out and cleared most of the remaining valleys that showed any agricultural potential. However it is estimated that only about five percent of the Macdonald River catchment has ever been cleared (Prineas 1997). Much of the rugged country in between the valleys was subject to rough grazing for cattle, linked with frequent burning to induce green feed.

The area was gazetted as Yengo National Park and Parr State Recreation Area in 1988. Cattle grazing within the two parks on permissive occupancies has recently been phased out, though grazing still exists on some freehold in-holdings.

Policies

- The provisions of the Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (ie Burra Charter) will guide management decisions for historic places within the area.
- All known cultural heritage places will be recorded and an assessment made of each site's significance and threats to its long-term conservation.
- Non-destructive research for the purpose of locating new sites or assisting site conservation will be encouraged.
- Visitation to historic places will be monitored and use regulated when necessary.

Actions

- The development of a cooperative management agreement will be negotiated with Gosford City and Cessnock Council in order to acquire external grant funding for the management of the Old Great North Road.

- A Memorandum of Understanding (MOU) with the Bucketty community will be developed. This will include provision for heritage activities, including fund raising events such as the concert nights.
- Historic interpretation will be included in park display boards at key points around the park including Mogo Camping Area and Finchley Trig Lookout.
- The Service will liaise and assist the Convict Trail Committee in providing interpretation and implementing works programs along the Old Great North Road.

4.3 USE OF THE AREA

The major categories of use that may be appropriate are:

- community relations, promotion of natural and cultural heritage both conservation and environmental and cultural history education;
- recreation in a natural setting
- scientific research; and
- conservation and recreation management operations by the NPWS and other authorities with statutory responsibilities in the area.

The extent to which these categories of use are appropriate are indicated in the following sections of the plan.

4.3.1 Community Relations, Education & Interpretation

The NPWS is actively seeking to improve community relations with the local community and stakeholders. The Region presently liaises with the local community and major stakeholders through neighbour newsletters, giving talks and slide shows, media, participating in major field days and by being active in Landcare and by being members of catchment management and bush fire management committees.

The two parks are promoted in a NPWS statewide guide to national parks, as well as a variety of commercially produced travel and park guides. NPWS also produces a small park brochure for each park, which briefly explains the park's natural values, history and the recreational opportunities. This brochure is available through the regional office, other NPWS information outlets and various local tourist information outlets. A small amount of information on the two parks is also available on the NPWS Web site.

Educational tours are organised within the two parks as part of the NPWS Discovery program.

Interpretive display signs are provided and maintained at main entry and activity locations, such as Mogo Camping Area and Finchley Trig Lookout.

Wollemi, Dharug, Popran and Blue Mountains National Parks are also promoted in roadside displays, where appropriate, to emphasise a regional perspective of the conservation areas of the Sydney Basin.

Policies

- The NPWS will continue to seek opportunities to improve working relationships with neighbours and will encourage community input into park management.

- The major themes for the promotion of Yengo National Park and Parr State Recreation Area will be:
 - the two parks are an important part of the system of conservation areas in the Sydney Basin;
 - appreciation of wilderness and world heritage values;
 - the appropriate recreational use of the parks; and
 - the importance and purpose of management programs in natural and cultural heritage conservation.
- Emphasis will be given to promoting management programs with neighbours on common peripheral boundaries.

Actions

- Prepare a Regional Community Relations Strategy.
- Neighbour issues will be sought through postage-paid surveys.
- Attend major field days to promote the role of the NPWS.
- Interpretive displays will be provided and maintained at main entry points and destinations such as Mogo Camping Area, Finchley Trig Lookout, Finchley Aboriginal Site, Finchley Camping Area, Circuit Flat Bridge, Bucketty Depot, Bulga Office and on the Putty Road.
- Regional staff will assess and liaise with the Bucketty community in determining whether further interpretation is appropriate at the Bucketty Wall part of the OGNR.
- Liaise with the Aboriginal community about providing interpretive displays at Burrigurra and Finchley Aboriginal sites.
- Brochures will be provided in the form of a visitor guide promoting selected natural and cultural features in the two parks and covering a range of management issues, vehicle use, minimum impact bushwalking and fire management.
- Brochures will be distributed from tourist information outlets, user group organisations and NPWS offices and centrally located shops tourists often visit.
- Regional staff will actively seek the upgrading of the NPWS Web site to include maps on the specific parks.

4.3.2 Recreation Opportunities

Recreational use of the two parks has not changed significantly over the years, with vehicle touring being the main form of recreation. Horse riding is popular, particularly in the southern section of Yengo National Park and in Parr State Recreation Area.

Other forms of recreational use include bushwalking, picnicking, camping, bird watching, photography, nature study and mountain bike riding. Over recent years, mountain bike riding has become increasingly popular along the Old Great North Road and management trails in the southern parts of the two parks.

The boundaries of Yengo National Park and Parr State Recreation Area are readily accessible by two wheel drive vehicles. Day trips, particularly by recreational vehicles from Sydney, Central Coast or Newcastle, is the most common use of the northern section of Yengo National Park, with the Howes Trail and Old Settlers Road being most popular.

Trail bike riding is popular as the two parks offer easy access to remote trails from Sydney. Unauthorised use of closed trails by trail bikes and also the use of NPWS access trails by unregistered bikes is a growing concern.

Vehicle based camping facilities are provided at Mogo and Finchley camping areas. For hikers and mountain bike riders, camping areas are provided at Heartbreak Hill along the Womerah Range Track and adjacent to Yengo National Park along the Old Great North Road (OGNR) at Ten-Mile Hollow (Dharug National Park). Overnight camping is permissible along the OGNR for walkers travelling between Ten-Mile Hollow and Mogo camping area. Picnic facilities are provided at Finchley, Mogo camping area, Bucketty Wall and Little Mogo Creek.

Recent additions to the two parks such as Pierces Valley, Big Yango and the Simpsons Valley may also provide some additional recreational opportunities including remote camping.

Some commercial recreational and environmental education opportunities within both parks may be appropriate providing commercial operators make a financial contribution to park management, promote sensible behavioural practices and conservation and avoid sensitive areas.

Policies

- Low key camping and picnicking areas may be provided along the public vehicle access system subject to visitor demand and environmental and financial impact assessment.
- Recreational use of the area will be regulated so as to minimise user conflict, protect visitor safety and welfare, minimise nuisance to neighbours and protect the natural and cultural heritage values of the park.

- Sections of the parks, which show unacceptable environmental damage, may be temporarily closed for repairs or permanently closed and rehabilitated.
- The NPWS may require special conditions to be imposed on recreational use of the park during periods of extreme fire danger or in the event of bush fires.
- Consent from the Regional Manager will be required for the following activities:
 - military exercises;
 - competitive activities; and
 - organised group activities (>20 persons).
- All commercial operators will be licensed and their activities monitored.
- Precinct plans will be prepared where necessary to guide the management of popular visitor areas or potential visitor areas.

Actions

- The suitability of developing picnic and remote camping facilities at Pierces Valley near Colo Heights, Big Yango and the Simpson Valley near Bucketty will be assessed through the development of a precinct plan for each location.
- The NPWS will liaise with the Bucketty community in determining the suitability of developing picnic facilities at the OGNR Bucketty Wall.

4.3.3 Recreation Vehicle Access

The park road system is one of the major determinants of recreation opportunities in a national park or state recreation area. It is the primary means whereby most visitors reach features of interest. The growing popularity of recreational four-wheel drive vehicles and trail-bikes, has led to increased use of remote areas. In the Hawkesbury and southern Hunter region, this new pattern of recreation has focussed on the area of Yengo National Park and Parr State Recreation Area.

A good public road system surrounds the two parks, consisting of the Putty Road to the west, the Great Northern and Bucketty-Wollombi-Broke Road to the east, and the Wheelbarrow Ridge Road to the south. The public access system within the parks comprises the Mogo, Boree, Yango / Howes and Old Settlers trails. A number of other roads provide access to public utilities and private inholdings. Many of these roads and trails are private or are Crown roads excluded from Yengo National Park and Parr State Recreation Area.

There are many tracks in the two parks which were established essentially for the purpose of extraction of timber. These tracks have no legal status and detract from the natural values and are often sites for illegal activities such as car and rubbish dumping, theft of bushrock and wildflowers and arson.

Policies

- The proposed vehicle access system is shown on the map included. Other tracks and trails not part of this system will be assessed for management purposes and if not required will be closed and rehabilitated.
- The primary public vehicle access routes (2WD) through the two parks will be:
 - Mogo Creek Road between St Albans and George Downes Drive.
 - Bicentennial Road then Wheelbarrow Ridge Track and Road from Wisemans Ferry to Colo Heights.
 - From Laguna or Wollombi access will be by Yango Creek Road to Finchley Trig Lookout then via Yango Track and Boree Track back to Laguna.
- The Mt Simpson, Boree, Old Settlers, Womerah Range and Howes / Yango Tracks will be maintained to a standard suitable for dry weather access only. Controlled access may be provided along the Womerah Range Trail.
- No new public access roads will be constructed during the life of this plan. Relocation of an existing road may be undertaken if required for environmental or public safety reasons.
- Pending approval from the RTA and local councils where appropriate, the NPWS may temporarily close the public vehicle access system during high fire danger periods, adverse weather conditions or local emergencies.
- NPWS managed public vehicular access routes within the two parks will be sign posted and managed to an appropriate trafficable condition.
- Recreational vehicles will be encouraged to follow minimal impact driving codes within the two parks.

Actions

- Bala Range track will be assessed for its suitability in providing public access to views over the Macdonald River and if suitable may be included in the public vehicle access system.
- An assessment will be made as to the feasibility of constructing car parks at Bucketty Wall and near the Bala Range and Wheelbarrow Ridge Roads.
- The NPWS will negotiate with the relevant councils and landowners regarding the management of the Old Settlers Road, Howes / Yango trails to prevent damage to these roads and illegal access to private property during wet weather.

4.3.4 Horse-riding

Horse riding is a popular activity in the Colo Heights and Macdonald Valley areas. The majority of the current rides occur around the St Albans and Colo Heights township areas. This use mainly involves endurance and training rides by individuals or groups co-ordinated through a local network of horse riding associations, and the Australian Endurance Riders Association (AERA). Many of the events, including the Shazada and Quilty rides, attract national entrants.

Most of the horse tracks leading into the two parks cross private land, with access agreements in place between the local horse riding associations and private property owners.

As with other uses, horse riding does have an impact on the environment, and consequently its use will be limited to management trails and primarily those trails in the southern and south-eastern section of the parks. This network of tracks as shown on the attached Map 2 will be used for other management requirements including fire and pest management.

Policies

- Regular and on-going consultation will be held with community groups and stakeholders on the management of horse riding in the reserves.
- Horse riding in the reserves will only be permitted on designated management trails in that section of Yengo National Park to the south and east of St Albans (and including the Prestons Track) and within Parr State Recreation Area. This network of multi-function trails will be maintained, and used for other requirements including fire, pest species and plant and animal management.
- Authorised horse riding routes may be temporarily closed at any time to riders depending on trail conditions or management needs. Prior consultation on trail management problems and options will be undertaken with peak user groups prior to implementation of any permanent closures.
- Closed tracks and trails will be encouraged to over grow or will be actively rehabilitated.
- All group (> 8 horses) or commercial horse riding events in the parks will require a consent from the Regional Manager.
- The track and trail network will be managed for sustainable use with minimal impact, and a monitoring program will be instigated specifically to assess the effect of horse riding on the trail system.

Actions

- A monitoring program will be instigated specifically to assess the effect of horse riding activities on the trail system within the parks.
- A horse riding code will be developed in association with local horse riding groups.
- The NPWS will design a horse stile in conjunction with horse riding groups to prevent illegal trail bike access along trails which are part of the horse riding trail network.

4.3.5 Cycling (Mountain Bikes)

Cycling is an increasingly popular recreational activity within the parks especially with the expanding use of mountain bikes. Public roads and management trails provide opportunities for rides up to two days duration. The Old Great North Road is a particularly popular trail for mountain bike riding.

Policies

- Cycling will be permitted on all public roads and management trails except in those areas where trails pass through the private property and access is prohibited. Trails closed will be signed posted as “ Private Property Ahead” and symbol signs erected indicating that access is not permitted.
- The NPWS will promote minimal impact cycling within the parks.
- Group rides (> 12 persons) and commercial cycling activities within the parks will require prior approval from the Regional Manager.

Actions

- The NPWS will negotiate with neighbouring property owners in reference to cyclist access along management trails passing through their property. Trails where access is not permitted will be sign posted.

4.3.6 Bushwalking

Bushwalking in the two parks is not currently as popular as that of adjoining national parks though it is on the increase. Few popular routes or destinations for bushwalking have developed apart from in the vicinity of Mt Yengo, Old Great North Road and along the Macdonald River. Since the two parks were declared, the level of bushwalking use has increased.

Two walking tracks used regularly are the Mogo Camping area to Circuit Flat Bridge and Burragurra walking tracks. Both tracks require formalisation and erosion control works. The Circuit Flat Bridge Track requires upgrading due to illegal vehicle access and fire damage and clearing as a result of thick vegetation regrowth caused by fires. Burragurra is a popular walking track and leads to an Aboriginal engraving site, illegal vehicle access and uncontrolled water drainage has caused severe erosion along the track.

Despite the current low level of bushwalking in the two parks, many opportunities exist for walking along the routes of disused logging tracks, management trails and access roads.

Policies

- New walking tracks will only be constructed if:
 - relocation of an existing track is necessary to avoid or minimise environmental impact or improve public safety;
 - it will assist in the protection of natural or cultural features;
 - it is required as part of the design of another visitor facility; and
 - internal or external funds are made available for a specific purpose and the long-term maintenance commitments are reasonable.
- Priorities for walking track construction and maintenance will be developed and reviewed in consultation with relevant interest groups.
- Walking tracks and routes will be promoted in brochures and displays.

Actions

- Trails and tracks will be appropriately sign posted.
- Mogo Camping Area to Circuit Flat Bridge walking track will be upgraded and maintained and will include sign posting and interpretation.
- Circuit Flat Bridge to Mt Lockyer walking track will be upgraded and maintained and will include sign posting and interpretation.
- Interpretation and sign posting will be provided at interest points along the Old Great North Road.
- The walking track to Burragurra will be upgraded in consultation with the relevant Aboriginal Land Councils and community groups.
- Regional staff will assess the suitability of developing a walking track between Mogo camping area and the Boree Track and will this track if consistent with the above policies.

- Regional staff will assess the suitability of developing a circuit walk in the vicinity of Finchley Camping Area and will this track if consistent with the above policies.
- Regional staff will assess the suitability of developing a walking track from the Bala Range track down into the Macdonald River and will this track if consistent with the above policies.

4.3.7 Research

Large natural areas are recognised as being essential for the continued survival of biodiversity. Yengo National Park and Parr State Recreation Area are an essential link in a system of natural areas that protects these values. Accordingly the two parks offer a wide range of research opportunities.

Little research has been carried out on the broader natural features and processes to date, although considerable notable work has been undertaken on the fluvial geomorphology of the Macdonald River catchment.

Scientific research in the two parks aims to improve the NPWS understanding of the natural and cultural heritage and the processes which effect them. Research may also seek to establish the requirements for the management of particular sites or species. Where relevant, the results of research studies and surveys will be utilised in the management of the two parks.

Policies

- Research institutions will be encouraged to undertake research within the two parks, which is of direct benefit to conservation and presentation.
- The NPWS will encourage research in the following priority areas:
 - monitoring and impact of recreational activities, including horse riding and recreational vehicles;
 - conservation strategies for threatened species;

- comparative studies of the two parks and other major and contiguous conservation areas in the Hawkesbury, Hunter and Blue Mountains region particularly of the World Heritage values;
- cultural heritage;
- effects of fire on threatened flora and fauna; and
- ecologically acceptable techniques for the control of introduced plants and animals.

Actions

- The Region will develop a prospectus as a guide to priority research projects in all parks.

4.3.8 Management Operations

Management of the two parks is presently the responsibility of two (2) NPWS Regions, the Blue Mountains - Wollemi and Central Coast - Hunter Range. Area depots are located at strategic points around the two parks at Bucketty, Mill Creek, Colo Heights and Bulga.

The public road system previously described surrounds and provides access through the two parks for both the public and for management purposes. The large numbers of access roads to inholdings, are however of limited value for park management purposes. The trails required for management operations are outlined within Map 2.

The NPWS has responsibility for the management of hundreds of kilometres of trails in the two parks. Gravel may be brought into the two parks or excavated from existing road alignments, that are not historically significant, to help maintain the roads. Imported gravel can however pose a threat to the parks natural integrity through the introduction of exotic materials such as weeds.

In some locations, no suitable gravel source is economically available to maintain infrastructure due to the remoteness of many sites. The creation or maintenance of gravel pits on the national park or state recreation area may in some cases be the only practical alternative.

Any extraction of gravel will be limited to that required for the NPWS's own use on the two parks. This activity will be undertaken only when the material is necessary to achieve approved management objectives and practices and the program of extractions is subject to an approved review of environmental factors or environmental impact statement.

For fire management purposes the collection of weather data in the form of rainfall figures, humidity and temperatures is vital for planning. Information provides a valuable planning tool to plan and predict future fire management works and also fire danger periods. Due to the remote areas in the two parks without weather recording stations, it is planned to establish up to four (4) automatic weather-monitoring points around the two parks to improve fire management.

Policies

- Public vehicle access will not be allowed on management trails.
- Management trails will be managed and maintained for the following management purposes:
 - fire management including prescribed burning and wildfire control and associated purposes;
 - introduced species management;
 - maintenance of cultural heritage sites;
 - search and rescue;
 - essential vehicular access for other organisations undertaking their statutory responsibilities;
 - other purposes associated with the implementation of this plan.
- Park management access routes will be sign posted and mapped and managed for essential park management, authorised property access and authorised non-vehicle based recreation.
- Park management access routes and other management facilities no longer required by the NPWS or other authorised authority will be allowed to overgrow or will be rehabilitated using indigenous plant and soil material, and methods recommended by appropriate authorities.
- The extraction of gravel will be limited to that required for the NPWS's own use on the two parks. Gravel will be extracted in accordance with an approved extractions program, which will be subject to a review of environmental factors or an environmental impact statement.
- The extraction of sand, clay, rock, gravel or any like substance from new quarry sites will be prohibited, except for essential management work where no practical/prudent alternative is available such as along the Old Great North Road and where environmental impact is considered acceptable.
- Rehabilitation of borrow areas will use local soils and plants propagated from local genetic stock.
- Up to four (4) remote weather stations may be established.

Actions

- NPWS staff will prepare and implement an annual program of trail maintenance and rehabilitation works consistent with the above policies.
- The NPWS will adopt best practice in the management of existing quarries used for essential management purposes.

- The NPWS will assess the feasibility, both economically and environmentally of maintaining the existing gravel pits within the two parks for the maintenance of infrastructure.
- Up to four (4) remote weather stations may be positioned around the two parks.

4.3.9 Alien Uses, Leases and Licences

There are currently a number of organisations and individuals occupying or using lands reserved as Yengo National Park / Parr State Recreation Area for public or private purposes. These works, facilities and operations can affect to varying degrees the natural, cultural and recreation values of the park.

Roadside drainage works and stockpile sites can have undesirable impacts, including alterations to water drainage and water quality in the two parks. Some stockpile sites encroach on the two parks. There are a number of power lines and associated developments through the two parks, which impact on scenic values, significant vegetation communities and rare or threatened plant species and contribute to erosion, weed dispersal and problems of illegal use. Formal agreements are required to address issues of concern to park management including use and maintenance of vehicle access routes, clearing of vegetation under power lines, use of herbicides and the visual impact of the power lines.

A number of other government organisations currently occupy land in the two parks or have influence on park management due to the proximity of their works and utilities. Private interests also have licences, occupancies or non-formalised uses of reserve lands and telephone towers. All were pre-existing tenures and under section 39(2) of the Act continued when the two parks were established. They include Energy Australia, Northpower and Transgrid power lines and occupiers of permissive occupancies under the *Crown Lands Act 1993*.

There are also a number of licensed Telecom towers and agreements are in place for the maintenance of access roads to these assets.

It is the long-term aim of the NPWS to reduce, and if possible eliminate, the number of non-NPWS tenures including roads used for their maintenance, held under lease, occupancy or licence.

There are a number of radio, repeater and telephone towers that are operated and maintained by communication authorities. These structures are located in and along the boundaries of the two parks.

Policies

- The NPWS will liaise with organisations and individuals occupying or using lands reserved as Yengo National Park/Parr State Recreation Area, to assess the nature, authority, impact and necessity for their presence.

- The NPWS will formalise and update agreements for all essential alien uses (eg. transmission lines, water pipelines and radio towers) and authorised access to inholdings within the two parks, in accordance with the Act and NPWS Policies, with the specific aim of minimising adverse impacts on the two parks.
- Permissive occupancies will be phased out within two (2) years from the date of this plan.
- Existing leases, licences and other occupancies in the two parks will be kept under regular review and in conjunction with the licensee and where appropriate, the facility or occupancy, including associated roads, will be relocated, closed or terminated and the site rehabilitated.
- Other alien uses, which are not essential and/or not covered by formal agreements, will be terminated and / or removed within the term of this plan.
- New works, facilities or operations proposed by any organisation or individual will not be permitted within the two parks unless they are consistent with the purpose of reservation of the two parks and the objectives of this plan.
- Alien tenures will be managed in accordance with the principles and objectives of this plan of management and in accordance with the conditions of the lease, licence or agreement document.

Actions

- The NPWS will pursue the termination of permissive occupancies within the two parks within the time frame of this Plan.
- The NPWS will establish and maintain a register of all alien uses, leases and licences in the park.
- Where other authorities manage facilities in the two parks, appropriate agreements will be negotiated under the National Parks and Wildlife Act.

5.0 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, the NPWS Corporate Plan, field management policies and established recreation and conservation philosophy. It also includes Directorate and Regional strategic planning.

The orderly implementation of this plan will be undertaken within the annual programs of the NPWS Blue Mountains - Wollemi and Central Coast – Hunter Range Regions and will be subject to the availability of necessary staff and funds and to any special requirements of the Director-General or Minister.

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

The environmental impact of all activities will continue to be assessed at all stages and any necessary investigations will be 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 two parks 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 orderly implementation of this plan, relative priorities for identified activities are summarised below:

TABLE 5: PRIORITY IMPLEMENTATION OF ACTIONS**Key to Priorities:**

High = urgent/or very important Actions already underway or planned for immediate implementation

Medium = actions which are important but not urgent

Low = actions which may be deferred in preference to other priorities

Ongoing = recurrent actions, generally already underway

Actions have been abbreviated for inclusion in this table. For full details refer to the main text of the plan.

Plan Ref.	Activity	Priority
4.1.1	Geology, Geomorphology and Soils	
4.1.1	Existing vehicle trails will be assessed for public access and for management purposes. Trails not suited to these requirements will be systematically closed.	Ongoing
4.1.1	Revegetation of Pierces Valley will be encouraged.	Low
4.1.1	Educational display boards will be erected at key points.	Low
4.1.2	Catchment Management	
4.1.2	The NPWS will continue to promote TCM through field days and neighbour newsletters.	Ongoing
4.1.3	Native Plants & Animals	
4.1.3	NPWS will liaise with local councils and other authorities to minimise the impact of potentially threatening processes on native species and communities. Where relevant, threatened species recovery plans and threat abatement plans will be implemented in co-operation with other authorities within the park.	Ongoing
4.1.3	NPWS will progressively undertake biodiversity surveys, to assist in the development of ecologically based fire management, pest management and visitor management programs.	Ongoing
4.1.3	NPWS will liaise with neighbours and interest groups to gain local knowledge on the location of threatened species and threats.	Ongoing
4.1.4	Introduced Plants & Animals	
4.1.4	A program of priority control of introduced animals will be implemented as set out in the Blue Mountains – Wollemi and Central Coast – Hunter Range Regions Pest Management Strategies.	Ongoing
4.1.4	Liaison with neighbours will occur in relation to feral animal control activities, particularly in areas of known Brush-tailed Rock Wallaby habitat.	Medium
4.1.4	NPWS will survey and control weeds in cooperation with neighbours and other authorities in the upper catchment areas first and work	Ongoing

	down stream.	
4.1.4	NPWS will survey the Macdonald River and Webbs Creek catchment areas for weed infestations and control measures will be put in place as funding allows.	Medium
4.1.5	Fire Management	
4.1.5	A Reserve Fire Management Plan will be prepared for Yengo National Park and Parr State Recreation Area and will be made available for public comment in 2001.	High
4.1.5	A regular review of all existing management trails within the two parks will be established. Unnecessary trails will be closed and rehabilitated.	Ongoing
4.1.6	Wilderness	
4.1.6	Public awareness of the appropriate use of wilderness areas will be promoted.	Medium
4.1.6	Any declared wilderness boundaries will be signposted on tracks and trails and other areas where appropriate to highlight their location.	Low
4.1.6	The Service will seek the co-operation of the flight industry, the Civil Aviation Authority and the Department of Defence to minimise the impacts of aircraft use over any declared wilderness area and as a possible extension of the "Fly Neighbourly" programme.	Low
4.1.6	A brochure will be prepared which identifies the boundaries of any declared wilderness and which contains a minimal impact code of conduct for recreational activities within the wilderness. The information will seek to encourage visitors to use fuel stoves and to remove all waste.	Low
4.1.6	The Service will condition licences and consents issued for activities within any declared wilderness to minimise impact and user conflicts and to ensure consistency with the policies within this section of the plan.	Low
4.1.6	The Service will incorporate details on the location of any declared wilderness and management policies that apply to it into new or revised interpretation and public information displays and programmes.	Low
4.1.6	A program of track and trail closure and removal of unwanted management structures from any declared wilderness will be prepared and implemented subject to the policies within this plan.	Low
4.1.6	The Service will issue notices to all holders of permissive occupancies within any declared wilderness are giving 12 months notice of termination.	Low
4.1.6	The Service will identify acquisition priorities for freehold properties within any declared wilderness area and seek to negotiate purchase with landholders as funds become available.	Low
4.1.6	The Service will seek to negotiate voluntary conservation agreements or wilderness protection agreements as appropriate, with the owners of park inholdings and park neighbours within any identified wilderness area.	Low

4.2.1	Aboriginal Heritage	
4.2.1	A strategy and on-going program of surveying and recording Aboriginal sites, including assessments of significance, will be developed by Regional staff in conjunction with Local Aboriginal communities.	Medium
4.2.1	A regular program of monitoring impacts at Aboriginal sites, which are well known to the public will be developed in conjunction with local Aboriginal communities.	Medium
4.2.1	The Frying Pan Rock Aboriginal site will have a vehicle barrier erected to prevent vehicle damage to the site.	High
4.2.1	The Burrigurra Aboriginal Site Track will be repaired and erosion control measures implemented.	High
4.2.1	NPWS will prepare guidelines with various Local Aboriginal Land Councils and Aboriginal Community concerning the use and management of traditional and newly created Aboriginal sites for cultural revival practices.	Low
4.2.1	Interpretive signs may be erected with the approval of the Aboriginal Community at Finchley and Burrigurra Aboriginal sites.	Medium
4.2.2	Historic Features	
4.2.2	The development of a cooperative management agreement with Gosford City Council in order to acquire external grant funding for the management of the Old Great North Road.	Ongoing
4.2.2	A Memorandum of Understanding (MOU) with the Bucketty community will be developed.	High
4.2.2	Historic interpretation will be included in park display boards at key points around the park including Mogo Camping Area and Finchley Trig Lookout.	Medium
4.3.1	Community Relations, Education, Interpretation & Park Promotion	
4.3.1	Prepare a Regional Community Relations Strategy.	High
4.3.1	Neighbours issues will be sought through postage paid surveys.	Medium
4.3.1	Attend major field days to promote the roles of the NPWS.	Ongoing
4.3.1	Interpretive displays will be provided and maintained at key points at easily accessible destinations such as Mogo Camping Area, Finchley Trig Lookout, Bucketty Depot and on the Putty Road.	Medium
4.3.1	Regional staff will assess and liaise with the Bucketty community in determining whether further interpretation is appropriate at the OGNR Bucketty Wall.	Medium
4.3.1	Liaise with the Aboriginal community about providing an interpretive display at Burrigurra Aboriginal site.	High
4.3.1	Brochures will be provided in the form of a visitor guide promoting selected natural and cultural features in the two parks and covering a range of management issues, vehicle use, minimum impact bushwalking and fire management.	Low
4.3.1	Brochures will be distributed from tourist information outlets, user group organisations and NPWS offices and centrally located shops	Ongoing

	tourists often visit.	
4.3.1	Regional staff will actively seek the upgrading of the NPWS Web site to include maps on the specific parks.	Medium
4.3.2	Recreational Opportunities	
4.3.2	A precinct plan will be developed for Pierces Valley near Colo Heights, Big Yango and the Simpson Valley near Bucketty.	Medium
4.3.2	The NPWS will liaise with the Bucketty community in determining the suitability of developing picnic facilities at the OGNR Bucketty Wall.	Low
4.3.3	Recreational Vehicle Access	
4.3.3	Bala Range track will be assessed for its suitability in providing public access to views over the Macdonald River.	Medium
4.3.3	A car park may be provided at the Bucketty Wall, Bala Range and Wheelbarrow Ridge Road.	Low
4.3.3	The NPWS will negotiate with the relevant councils and landowners regarding the management of the Old Settlers Road and Howes / Yango trails.	Medium
4.3.4	Horse-riding	
4.3.4	A monitoring program will be instigated specifically to assess the effect of horse riding activities.	High
4.3.4	A horse riding code will be developed.	High
4.3.4	NPWS will design a horse stile to prevent illegal access along trails.	Medium
4.3.5	Cycling (Mountain bikes)	
4.3.5	The NPWS will negotiate with neighbouring property owners in reference to cyclist access. Trails where access is not permitted will be sign posted.	High
4.3.6	Bushwalking	
4.3.6	Trails and tracks will be sign posted.	Ongoing
4.3.6	Mogo Camping Area to Circuit Flat Bridge walking track will be upgraded and maintained, including sign posting and interpretation.	High
4.3.6	The Circuit Flat Bridge to Mt Lockyer walking track will be upgraded and maintained, including sign posting and interpretation.	Low
4.3.6	Interpretation and sign posting will be provided a interest points along the Old Great North Road.	Medium
4.3.6	The walking track to Burragurra will be upgraded in consultation with the relevant Aboriginal Land Councils and community groups.	High
4.3.6	Regional staff will assess the suitability of developing a walking track between Mogo camping area and the Boree Track and will construct this track if suitable.	Low
4.3.6	Regional staff will assess the suitability of developing a circuit walk in the vicinity of Finchley Camping Area and will construct this track if suitable.	Low
4.3.6	Regional staff will assess the suitability of developing a walking track from the Bala Range track down into the Macdonald River and will construct this track if suitable.	Low

4.3.7	Research	
4.3.7	The Region will develop a prospectus as a guide to priority research projects in all parks.	Ongoing
4.3.8	Management Operations	
4.3.8	NPWS staff will prepare and implement an annual program of trail maintenance and rehabilitation works consistent with the above policies.	Ongoing
4.3.8	NPWS will adopt best practice in the management of existing quarries.	High
4.3.8	NPWS will assess the feasibility, both economically and environmentally of maintaining the existing gravel pits.	High
4.3.8	Up to four (4) remote weather stations may be positioned around the two parks.	Low
4.3.9	Alien Uses, Leases and Licences	
4.3.9	The NPWS will pursue the termination of permissive occupancies within the two parks within the time frame of this Plan.	High
4.3.9	The NPWS will establish and maintain a register of all alien uses leases and licences in the park.	Ongoing
4.3.9	Where other authorities manage facilities in the two parks, appropriate agreements will be required under the National Parks and Wildlife Act.	Ongoing

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