

Wollemi National Park



Plan of Management

NSW
NATIONAL
PARKS AND
WILDLIFE
SERVICE

WOLLEMI NATIONAL PARK

PLAN OF MANAGEMENT

NSW National Parks and Wildlife Service

April 2001

This plan of management was adopted by the Minister for the Environment on 5th April 2001.

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FOREWORD

Wollemi National Park covers an area of about 488,620 hectares of rugged dissected plateau located on the north-west fringe of the Sydney Basin. The park is the second largest national park in New South Wales. It is part of a large system of unmodified and interconnected sandstone landscapes surrounding the Sydney metropolitan area.

The park is contiguous with other major conservation areas including Blue Mountains National Park to the south, Goulburn River National Park to the north, Gardens of Stone National Park in the west and Yengo National Park and Parr State Recreation Area in the east. Wollemi National Park, together with Blue Mountains National Park, Gardens of Stone National Park, Nattai National Park, Kanangra-Boyd National Park, Thirlmere Lakes National Park, Yengo National Park and Jenolan Karst Conservation Reserve, have been recently inscribed on the World Heritage List as the Greater Blue Mountains World Heritage Area.

Important values of the park include the spectacular wild and rugged scenery, its geological heritage values, its diversity of natural environments, the occurrence of many threatened or restricted native plant and animal species including the Wollemi pine and the broad-headed snake, significant plant communities, the presence of a range of important Aboriginal sites and the park's historic places which are recognised for their regional and national significance.

The park offers excellent opportunities in conjunction with other conservation areas in the Sydney sandstone system for the conservation of evolutionary and ecological processes and for the provision of opportunities for solitude and self-reliant recreation. These values were recognised by the declaration of the Wollemi Wilderness Area in March, 1999.

This plan of management establishes the scheme of operations for Wollemi National Park. In accordance with section 75 of the National Parks and Wildlife Act 1974, this plan of management is hereby adopted.

BOB DEBUS
Minister for the Environment

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1. INTRODUCTION

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

The procedure for the adoption of a plan of management is specified in the Act and involves the following:

- * The plan is placed on public exhibition for at least one month and any person may make representations about the plan.
- * The plan and copies of all the representations are referred to the National Parks and Wildlife Advisory Council for consideration.
- * The Director-General submits the plan together with any comments and suggestions of the Council to the Minister.
- * The Minister may adopt the plan after considering the comments of the Advisory Council or may refer the plan back to the Director-General and Council for further consideration.

Once a plan of management has been adopted by the Minister, no operations may be undertaken within the national park except in accordance with the plan.

A plan of management for Wollemi National Park was placed on public exhibition for a period of five months from July to November 1997. During this period the plan attracted 724 representations covering 23 issues. All comments received were referred to the Advisory Council along with the plan for its consideration and advice. The comments and suggestions of the Advisory Council were, in turn, considered by the Minister in adopting this plan.

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2. MANAGEMENT CONTEXT

2.1 NATIONAL PARKS IN NEW SOUTH WALES

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.

The International Union for the Conservation of Nature and Natural Resources (IUCN) in 1994 defined a national park as:

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

National parks are part of the regional pattern of land use. Many land uses throughout the region, for example forestry, mining and agriculture, require substantial modification of the natural environment. Management of national parks, however, aims at minimising disturbances to the natural environment.

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 WOLLEMI NATIONAL PARK

2.3.1 Location and Regional Context

This plan applies to all lands reserved as Wollemi National Park. The park comprises an area of approximately 488,620 ha bounded in the south by the Bells Line of Road, Blue Mountains National Park and the nearby towns of Bell, Bilpin and Kurrajong Heights. The northern boundary of the park is deeply indented and forms the southern escarpment of the Hunter Valley near the towns of Bulga, Denman, Jerrys Plains and Bylong. For most of its length, the Putty Road forms the eastern boundary of the park except near Putty where the park adjoins Putty State Forest. The western boundary is largely marked by the commencement of the open grazing lands of the central west slopes of New South Wales and the towns of Glen Alice, Kandos and Rylstone.

The park lies between Goulburn River, Gardens of Stone, Blue Mountains and Yengo National Parks and Parr State Recreation Area and forms an integral link in the chain of protected natural lands surrounding the Sydney metropolitan area (Map 1: page 4).

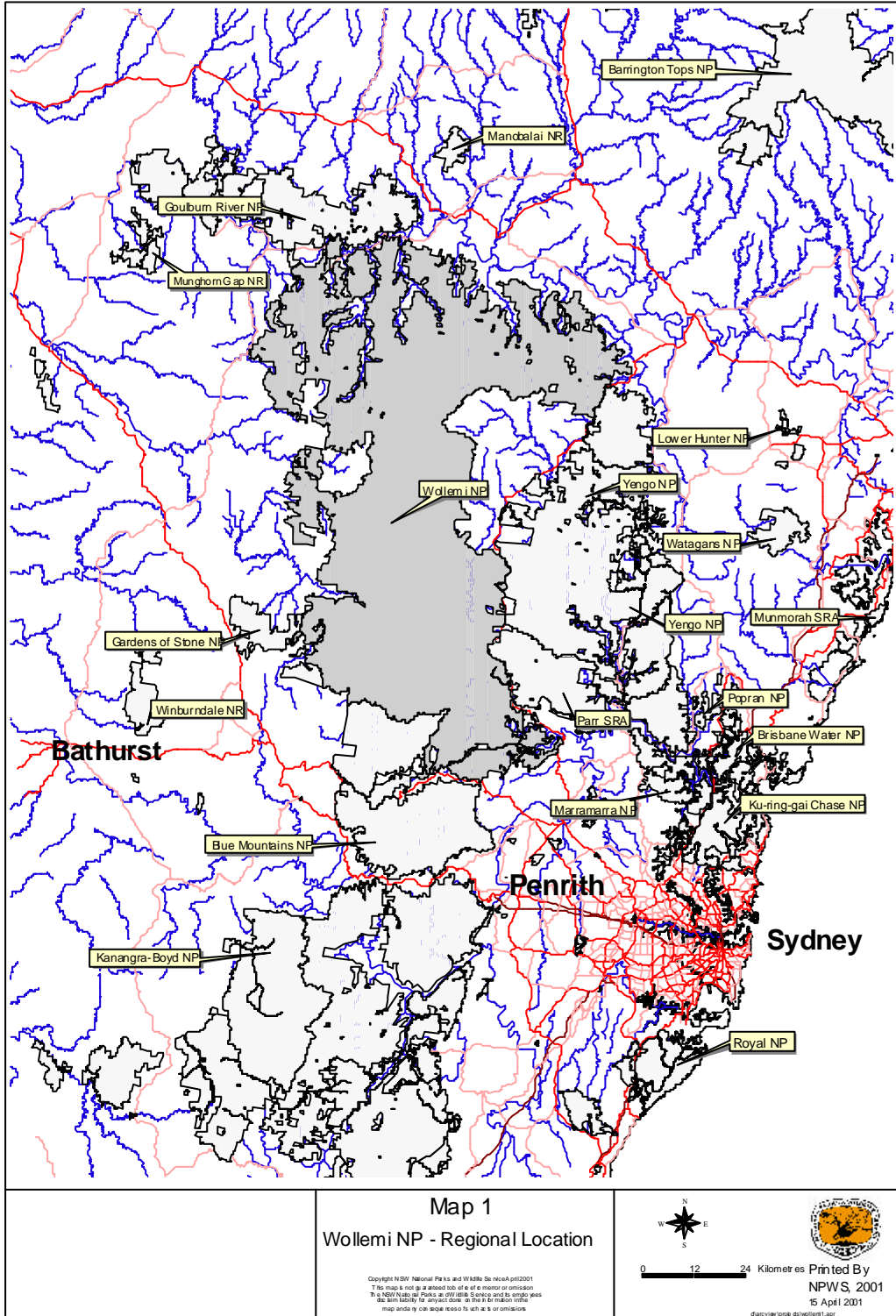
This system of reserves act as a large integrated natural bushland system which preserves the links between the Sydney, Hunter and Central West regions of New South Wales.

The south-eastern section of the park adjoins the outer fringes of the Sydney metropolitan area, where the present mix of urban and rural uses is undergoing rapid change as the region's population increases. This area of the park is subject to intensive pressure, and therefore requires similar management practices as parks in the metropolitan area. 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. The Sydney Regional Environmental Plan No. 20 (Hawkesbury Nepean River) provides the framework for planning and development in this area. This plan is currently under review.

Both the western and northern sections of the park adjoin regions where large-scale agricultural and industrial development has occurred in the last decade.

Management of recreation within Service managed lands is undertaken in accordance with the concept of a recreation opportunity spectrum (Clark and Stankey 1979). This concept recognises that a variety of destinations and settings are required within a region to satisfy the variety of needs of recreationists. The park has to be placed within a spectrum of opportunities which recognises that active

MAP 1 LOCALITY MAP OF WOLLEMI NATIONAL PARK



recreational activities and sophisticated facilities are best supplied off-park by private operators. It also recognises that consideration should be given to the range and extent of opportunities provided in surrounding national parks, state recreation areas and other crown lands to ensure that the facilities and opportunities within Wollemi National Park complement these other areas.

Accordingly, the park is well placed to provide recreation opportunities towards the less developed end of the recreational opportunity spectrum and can play a particularly important role in the provision of wilderness oriented recreation.

The park lies within the local government areas of Rylstone, Muswellbrook, Singleton, Hawkesbury, Blue Mountains and Greater Lithgow.

2.3.2 Importance of Wollemi National Park

The park is important in the way that it makes a significant contribution to the large system of natural areas which fringe the Sydney metropolitan area. The park is especially significant for the opportunity of protecting the largest wilderness area remaining in New South Wales (Helman *et al*, 1976; Prineas and Gold, 1978; Michael Bell and Assoc., 1978; The Colong Foundation, 1993; NPWS, 1996).

Because of its size and relative freedom from human impacts the park presents outstanding opportunities for the conservation of plant and animal communities in their natural state and the maintenance of natural ecological processes with little or no human interference. Additionally, many of the catchments within the park are both large and pristine. The Colo River valley is one of the largest sandstone canyon systems in Australia and has been identified as one of a number of wild and scenic rivers in New South Wales (Helman, 1979). The large relatively undisturbed catchment areas of the park provide an extremely important control mechanism for flood mitigation, water supply and water quality maintenance in both the Hawkesbury-Nepean and Hunter River catchments.

The park has an awe-inspiring array of important geological and geomorphological features such as pagoda rock formations, quaternary alluvium deposits, basalt capped mountains, diatremes and a wonderful variety of impressive scenic formations including deep gorges, winding river valleys, canyons, hanging swamps, waterfalls and precipitous sandstone escarpments.

These features provide excellent opportunities for geological and geomorphological research and education and are of tremendous aesthetic and scenic importance for eco-tourism and adventure. For example Tayan Peak and Newnes have both been listed as significant geological heritage sites within New South Wales (Schon, 1984).

Nutrient-rich basalt outcrops occur as pockets throughout the area. They support different plant communities than the surrounding sandstone areas and provide a more diverse range of species and habitats within the park albeit in small and mostly disturbed areas. Accordingly, these are sites of considerable conservation interest.

The park lies within the Central Tablelands Division of NSW. Wollemi National Park has a significant role in conserving vegetation communities of this botanical region, particularly its drier northern extent. Although there has been no extensive and systematic survey of plant communities within the park, a number of threatened species or species of limited distribution are known to occur within or adjacent to the park. These include *Apatophyllum constablei*, *Acacia asparagoides*, *Eucalyptus bensonii* and *Rupicola decumbens*, all of which are highly restricted local endemics. Leigh and Briggs (1988) have identified 25 rare or threatened Australian plant species within the park.

The internationally significant Wollemi pine *Wollemia nobilis* was recently discovered in a remote section of the park. The pine is a very significant species being a remnant of the pre-flowering Gondwanan era (60-200 mya) and being a new genus of gymnosperm (ie cone plant). The discovery has been heralded as one of the greatest botanical discoveries of the 20th Century and a testament to the philosophy and principles of wilderness conservation. The recent discovery of this tall tree in a remote canyon of the park, is evidence of its wild and unexplored character.

The range of topography, altitude, aspect, fire regime and microclimates have resulted in diversity of habitats for native plants and animals. The vegetation in particular, exhibits an outstanding range in terms of its structure and composition. For example the Illawarra and Singleton Coal Measures which outcrop in the northern escarpment areas of the park produce deep clay loams which are important habitat for conserving poorly represented Yellow-Box/Ironbark woodland communities which in themselves are important habitat for the threatened regent honeyeater.

The Mellong Swamp on the eastern edge of the park is a significant area of Quaternary alluvium, consisting of deep sand and clay plains dissected by sandstone ridges. This landscape supports a unique assemblage of plants and communities and is therefore of great geomorphological and botanical interest. The swamps are important for the conservation of reptiles and invertebrates. The Mellong Swamp communities are small areas which are not well conserved in other nearby conservation areas.

Wollemi National Park also contains elements of sub-tropical rainforest at Wheeney Creek which is near its most south-west occurrence on the coast of New South Wales. This area of the park is threatened by visitor pressures and adjoining rural-residential development.

The expansive landscapes, large pristine catchments, interbedded strata and temperate climate of the park provide outstanding habitats for reptiles and invertebrate fauna. Animal inventories for the Blue Mountains dissected sandstone plateau currently record 46 mammals, 235 birds, 55 butterflies, 58 reptiles and 32 amphibians as occurring within or in close proximity to the park.

A number of threatened mammal and bird species have been recorded within the park such as the brush-tailed rock wallaby, koala, yellow-bellied glider, brush-tailed phascogale, tiger quoll, broadheaded snake, glossy black cockatoo, turquoise parrot, and powerful owl. Other threatened species such as the regent honeyeater which have

been recorded in nearby areas are also likely to rely on the park for habitat.

Wollemi National Park is one of a number of conservation and recreation reserves in close proximity to Sydney and the Central Coast regions. Reserves in the Sydney region are set mostly in a coastal or riverine environment. Their proximity to metropolitan areas subjects those reserves to considerable recreation pressure. In contrast, Wollemi National Park lies mostly on the Central Tablelands, and contains substantial areas of remote terrain and wild and scenic waterways.

Recreation use is largely unsophisticated and self-reliant, however a small number of sites on the edge of the park provide more developed settings such as at Dunns Swamp, the Colo River area, Wheeney Creek and Newnes. The south-eastern section of the park near the Colo River, in particular, provides an important recreation facility adjacent to north-west Sydney.

One hundred and twenty Aboriginal sites have been recorded in the park, representing only a very small proportion of those expected to be in the area. The cultural context of these sites is currently being developed to explain their contemporary significance and traditional functions.

The park also contains sites which provide important evidence of early exploration of the Blue Mountains and Upper Hunter areas. In the 19th and early 20th Century, pastoralists and industrialists sought land to the north of the Sydney Basin for grazing and mining. Evidence of their occupation of this area still can be found within the park and provides important archaeological information from which the past can be better understood. For example clearings in the Wolgan Valley, Gaspers Mountain, Mount Coriaday and Mount Wirraba and huts in the north and western sections of the park show evidence of the early settlement of this area.

The Newnes Shale Oil Refinery Ruins / Glow Worm Tunnel precinct provides an excellent example of the early industrial and mining efforts in this area and as a result has been listed on the Register of the National Estate.

3. OBJECTIVES OF MANAGEMENT

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

- * protection and preservation of the scenic and natural features;
- * conservation of native plants and animals;
- * maintenance of natural processes;
- * protection and preservation of cultural resources;
- * provision of appropriate recreational opportunities; and
- * encouragement of scientific and educational inquiry into environmental features and processes, into prehistoric and historic features and into park use patterns.

In addition to those general objectives the following specific objectives apply to Wollemi National Park:

- * to manage Wollemi National Park in recognition of its role as part of a contiguous system of parks, reserves and other protected lands;
- * to maintain the park's biodiversity with emphasis on the protection of threatened species;
- * to protect and where necessary restore areas to a wilderness condition within the proposed Wollemi Wilderness Area;
- * to protect the park's catchment values;
- * to provide and manage wilderness recreation opportunities;
- * to provide developed recreation destinations at selected areas on the edges of the park;
- * to promote public awareness, understanding and appreciation of the park with emphasis on:
 - wilderness and world heritage values;
 - natural and cultural heritage values;
 - threatening processes and minimal impact use; and
 - community participation in park management.

4. POLICIES AND FRAMEWORK FOR MANAGEMENT

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

4.1 Conservation of Nature;

4.2 Cultural Heritage; and

4.3 Use of the Park.

The policies established in this plan of management provide the framework for management consistent with anticipated resources available to the Service and anticipated community trends over the next five to ten years.

The actions identified are those to which priority will be given in the foreseeable future. Other management actions may be developed over the life span of this plan consistent with the overall policies and direction set out herein.

4.1 CONSERVATION OF NATURE

4.1.1 Geology, Landform, Soil and Catchments

The Blue Mountains dissected sandstone plateau rises from the east (300m) to the west (1100m), with a sharp drop off along the western sandstone escarpment. As a result of the rise in elevation, gradients in rainfall, temperature, relative humidity and wind speed occur. Notably, there is much higher rainfall to the west (1200-1400 mm) compared with the lower eastern section of the park (700-800mm). So too, a significant gradient in temperature occurs from east to west across the park.

Wollemi National Park lies on the western edge of the Sydney Basin, and is based on four strata of sedimentary rock. They are the Permian coal measures, the Narrabeen and Hawkesbury sandstones and shales and the Wianamatta shales at the top of the series. The rock strata in this section of the Sydney Basin tilt upwards to the north-west. Erosion activity has weathered away most of the Wianamatta and Hawkesbury series throughout the park exposing the Narrabeen group.

The Narrabeen group consists of sandstones and claystones which have given the characteristic dissected landscape of the park, dominated by many deep valleys, canyons, waterfalls and cliffs. Erosion by major watercourses over time has resulted in the towering cliffs of the Wolgan, Colo, Capertee and Widden Valleys.

In the south-eastern quarter of the park, near Colo Heights, outcrops of the overlying Hawkesbury sandstone occur, as well as smaller remnants of the Wianamatta shales. Soils formed from the Narrabeen and Hawkesbury sandstones are generally very shallow with little development, and are characterised by relatively low nutrient levels, especially of phosphorus. The Wianamatta shales form a slightly richer, deeper soil.

The high erodibility of the sandstone-based soils of the park has special implications for management as areas of soil disturbance inevitably require substantial works to stabilise and rehabilitate. Areas of specific concern include parts of the vehicle trail network, some popular walking tracks, horse-riding trails, Gosper's airstrip and disturbed areas at Bilpin and Colo Heights. Erosion of soils resulting from frequent or extensive high intensity fire applications is also a management concern.

The weathering of the sandstones of the park has resulted in a scenic landscape of deeply dissected plateaux, cliffs and narrow gorges. Some formations, in particular the Burra-Moko Head sandstones to the south-west, have eroded to form narrow canyons. The number and diversity of such canyons is unmatched in Australia. A notable scenic feature of the park is the spectacular Colo Gorge and its tributaries, noted for its sheer cliffs, being up to 300 metres high. This is the most extensive sandstone canyon system in eastern Australia.

Underlying the Narrabeen group are the Illawarra and Singleton Permian Coal Measures which are visible beneath cliff lines along river valleys such as the Capertee and along the northern escarpment of the park. These strata form steep vegetated slopes and weather to rich deep clay loams. A good example is found at Newnes, where the area has been identified as a significant geological heritage site for its combination of natural beauty, its proximity to Sydney, its exposure of oil shale deposits and its potential for education and interpretation (Schon, 1984).

Tertiary basalts are more common in the north-west of the park with significant peaks being Nullo Mountain, Kerry Mountain, Mount Coricudgy, Mount Pomany, Mount Coriaday and Mount Monundilla. In many locations a number of extinct volcanic vents have weathered faster than the surrounding sandstone. Similarly the cores of brecciated igneous and sedimentary rock have eroded to saucer shaped depressions in some valley bottoms (eg Gospers and Davis Holes). These two geological features are collectively called diatremes and are important botanical, interpretive and educational sites. Diatremes are destinations for many of the extended bushwalks undertaken in the north of the park. These areas were traditionally taken up for grazing and are the source of many of the park's infestations of introduced plants.

Tayan Peak, a remarkable conical-shaped and symmetrical mountain near Glen Alice has been identified by Schon (1984) as a significant geological site in New South Wales. The Peak provides a rare exposure of a Tertiary-age volcanic crater and demonstrates well-exposed contact between the volcanic intrusion and the surrounding rocks.

Small areas of alluvial deposits occur in the park. They are more commonly associated with broader developed valleys. A significant example of alluvium occurs as a large outcrop of Quaternary age in the Mellong Swamp area, adjoining the Putty Road. This consists of level areas of deep sands and clays with relatively rich soils, dissected by steep sandstone ridges.

Wollemi National Park incorporates and protects a number of relatively undisturbed catchments. These catchments make significant contributions to maintaining water

quality in the Hawkesbury and Goulburn-Hunter River systems and of maintaining important plant and animal habitat.

A number of waterways, including the Wolgan, Capertee and Colo Rivers, arise from outside the park. Catchment disturbance and pollution in these waterways can have serious impacts downstream on the rivers hydrology, habitat use and recreational enjoyment downstream.

Contamination of some catchments by infestations of introduced plants resulting from agricultural activities has also occurred. Other risks to catchments include potential road-borne chemical pollution as well as adjoining agricultural and industrial activities.

The Catchment Management Act came into effect in 1989. This provides a framework to manage catchments such as the Colo River to ensure cleaner water and minimise environmental degradation.

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

Policy

- * The outstanding scenery and natural features of the park will be protected.
- * The Service will examine any development or activity which may compromise the natural skyline, viewscape or catchment values of the park. The Service will seek to minimise any potential impacts on park values.
- * Features and sites of geological, geomorphic and/or pedological significance will be protected against damage from human activities.
- * Disturbed areas will be rehabilitated on a priority basis.
- * Management activities, where relevant, will incorporate soil erosion management principles and practices and will be undertaken on advice from the Department of Land and Water Conservation.
- * Works involving restoration or rehabilitation on the park will be undertaken with materials which are geologically compatible and free of pollutants and foreign propagules.
- * Catchment values will be protected and all practical steps taken to limit disturbance and the entry of pollutants into catchments.
- * The Service will continue to support the concept of total catchment management and the advisory role of catchment management boards and trusts in the management of waterways which traverse the park.

- * Fire management regimes will be prescribed to ensure minimal risk of erosion of sensitive lands within the park and flooding of adjoining properties (see also Section 4.1.5 Fire Management).

Actions

- * The following areas will be rehabilitated:
 - Bilpin motocross circuit;
 - Gosper's Mountain airstrip;
 - Gravel quarry at Nullo Mountain;
 - Parts of the former township site at Newnes subject to the recommendations of a conservation plan for that site;
 - Former Wolgan coal mine near Wolgan River; and
 - Disturbed areas within the catchment of Blackwater Creek.
- * To reduce impacts on the park, the Service will develop best practice guidelines for developments adjoining the park and within the catchments of the Capertee, Wolgan and Wollangambe Rivers and Wheeny and Tootie Creeks. This process will include consultation with local government, other consent and determining authorities, and relevant stakeholders including catchment management committees and trusts.
- * The Service will seek representation where appropriate on total catchment management committees and trusts and provide information and assist with the implementation of catchment management programs within the park.

4.1.2 Native Plants

As a result of its large area and diversity of landscapes, the park protects a large number of different plant communities and important species. Preliminary broad scale vegetation studies have been completed for the park however systematic surveys of plant communities have not yet been undertaken. McRae and Cooper (1985), Benson and Keith (1990) and Ryan, Fisher and Shaeper (1996) do however provide an indication of the plant communities and species which occur in some parts of the park.

From our current understanding the most widespread vegetation types in the park are the eucalypt dominated open forests on steep sandstone-shale terrain. They cover approximately 90% of the park. The pattern of eucalypt vegetation is largely mosaic with occasional distinctive communities such as rainforest, heath and grassy knolls.

Approximately 40% of the vegetation is composed of a sheltered dry sandstone forest. Other significant structural types include the northern escarpment woodlands, exposed Hawkesbury woodland and grey box woodland. Only about 4% of the park is composed of rainforest types. Of particular significance, is the diversity of Eucalypts within the park, with over 70 species recorded.

Communities of Conservation Significance

The Permian-derived soils near the northern perimeter of the park support white box and yellow box woodlands. These woodlands are of particular conservation significance and are poorly represented in the park and other conservation areas. The conservation of these communities has in some cases been compromised by illegal clearing on the edges of the park and invasion by introduced plants and animals.

The Mellong swamps communities are formed on low relief valleys of Quaternary alluvium and supports significant communities of heath and woodland. An unusual mix of species and plant communities occur; some are understood to be the only example of this particular combination in the Sydney Basin. The Mellong swamps communities are only partly represented within the park system.

The park conserves significant areas of warm temperate rainforest, located on and below basalt peaks and in the deeper and moister gullies and gorges. Two warm temperate sub-alliances (*Ceratopetalum-Diploglottis-Acmena* and *Ceratopetalum/Schizomeria-Acmena-Doryphora*) are at their northern most limit of distribution within the park at Wheeney Creek and Emu Creek respectively. Important dry rainforest sub-alliances are also found within the park, with one sub-alliance (*Choricarpia leptopetala*) being at its southern limit of distribution within the park at Wheeney Creek (James, 1994).

Species of Conservation Significance

Although there has been no extensive and systematic survey of plant communities within the park, a number of threatened species, species at the geographic limits of their distribution and species of limited distribution are known to occur within or adjacent to the park. These include *Apatophyllum constablei*¹, *Acacia asparagoides*, *Eucalyptus bensonii* and *Rupicola decumbens*, all of which are highly restricted local endemics. Leigh and Briggs (1988) have identified 25 rare or threatened Australian plant species within the park. James (1994) identifies 39 species of conservation significance within the park.

Other plant species of conservation significance which occur within the park include *Eucalyptus gregsoniana*, *Isopogon prostratus*, *E. fergusonii* ssp. *dorsiventralis* spp. *nova*, *Pomaderris brunnea*¹, *Acacia bulgaensis*, *Acacia pubescens*¹, *Callistemon shiressii*, *Olearia cordata*¹, *Alania endlicheri*, *Atkinsonia ligustrina*, *Leptospermum spectabile*, *Kennedia retrorsa*¹ and *Platysace clelandii*.

Apart from the Wollemi Pine Species Recovery Plan, no other recovery plans for threatened plant species which occur within the park have yet been formally adopted under the provisions of the Threatened Species Conservation Act 1995.

¹ Species listed as threatened species under the Threatened Species Conservation Act 1995.

The Wollemi pine, *Wollemia nobilis*¹ was discovered in late 1994 and is a local endemic species also listed under the Threatened Species Conservation Act 1995. It occurs in a remote section of coachwood-sassafras warm temperate rainforest in a deep sheltered canyon of the park. The plant, a member of the Araucariaceae family, is understood to be a living botanical relict from the Jurassic Period (between 60-200 mya). The plant is of great international scientific and community interest both as a living fossil and as a new living genus of gymnosperm (Jones, Hill and Allen, 1995).

The extremely small population and the fragile habitat make this species very vulnerable to threats such as changes to the area's fire regime, plant pathogens and trampling. The management of the pine is defined within the Wollemi Pine Species Recovery Plan which focuses on protecting the population in-situ, investigating its horticultural potential, communicating the importance of the plant to the community and undertaking co-operative research with the Royal Botanical Gardens (RBG). A Memorandum of Understanding with the RBG is in place which outlines the roles of both organisations in researching and managing the species.

Research programs are currently aimed at sampling the genetic diversity of the population, documenting the ecology of the population and investigating propagation methods. Access to the Wollemi pine site is strictly controlled and the location of the population is kept as confidential as possible. A Wollemi Pine Access Policy has been developed which outlines the criteria upon which decisions are made regarding both public and research access to the site. A Wollemi Pine Conservation Team has been established consisting of officers from the Service and the RBG. The role of the Team is to develop a plan for achieving the long-term conservation of the Wollemi pine population.

Policy

- * The management of native plant communities will be directed towards protecting biodiversity and the protection of species and communities that are threatened or of special conservation significance (see also Section 4.1.4 Introduced Plants and Animals, Section 4.1.5 Fire Management and Section 4.3 Use of the Park).
- * Threatened species recovery plans will be developed and implemented for priority species listed under the Threatened Species Conservation Act 1995 and will be placed on public exhibition.
- * The Wollemi pine population will be given priority for both research and species recovery planning and implementation (see Section 4.1.5 Fire Management).
- * The species recovery plan for the Wollemi pine will contain policies and actions which minimise the risks associated with trampling, changed fire regimes and fire management practices, fungal pathogens, introduced species, commercial exploitation of the wild population and catchment management practices.
- * Unless otherwise specified in the species recovery plan, the Service will keep the location of the Wollemi pine site confidential and will continue to regulate access

to the site. Activities directly related to the implementation of the Wollemi pine species recovery plan will be permitted providing prior approval from the Regional Manager has been given. Persons found or proven to be at the site without permission may be prosecuted under the Threatened Species Conservation Act 1995 and/or the National Parks and Wildlife Act 1974.

- * The Service will continue to undertake appropriate co-operative research and survey programs with the RBG and tertiary institutions, with priority given to threatened species and in particular to better improving our understanding of the ecology, genetic make-up and horticultural properties of the Wollemi pine (see also Section 4.3.9 Research).
- * The Service will seek to maintain and enhance community appreciation of the conservation of the Wollemi pine and other threatened plant species through interpretation and education programs and in accordance with species recovery plans.
- * The Service will continue to participate with the RBG on the Wollemi Pine Conservation Team and will monitor the condition of the site and the implementation of recovery plan actions.
- * The Service will encourage effective involvement and co-operation of other levels of government and the local community where appropriate in the implementation of species recovery plans.

Actions

- * A biodiversity survey program will be designed and implemented in conjunction with local community groups and tertiary institutions to systematically collate information on the vegetation of the park giving priority to the survey for threatened species and their habitats (see also Section 4.1.3 Native Animals and Section 4.3.9 Research).
- * Management profiles and guidelines will be developed for all threatened species within the park.
- * The species recovery plan for the Wollemi pine will be implemented in accordance with the policies listed above. The plan will be kept under review as new information comes to hand.
- * The Service will develop and implement a community relations strategy as part of the species recovery plan for the Wollemi pine which will target neighbours and local communities with information in the form of personal briefings, a poster, brochure, small portable display and information kit.

4.1.3 Native Animals

The varied topography and vegetation provides a diversity of habitats for native animals. A systematic survey of animals in the park has not been undertaken however opportunistic sightings are often reported by Service staff and others.

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

Fifty eight reptiles and 32 amphibians have been recorded on the Blue Mountain dissected plateau and most of these species are also likely to be found within the park. Species include the Blue Mountains water skink *Eulamprus leuraensis*, red-naped snake *Furina diadema*, Leseur's velvet gecko *Oedura lesueurii*, White's skink *Egernia whitii* and the tree skink *Egernia striolata*. The endangered broad-headed snake *Hoplocephalus bungaroides*¹, occurs on Hawkesbury sandstone areas in the east of the park. A major threat to the reptiles within the park is illegal bushrock removal which damages habitat for many important species (eg broad-headed snake). This activity although being managed reasonably well by the Service at present, remains a constant threat to the reptiles of the park and surrounding areas.

Amphibians recorded within or near the park include the red-crowned toadlet *Pseudophryne australis*¹, the green and golden bell frog *Litoria aurea*¹, the heath frog *Litoria littlejohni* and the giant burrowing frog *Heleioporus australiacus*¹, the Blue Mountains tree frog *Litoria citropa*, the tusked frog *Adelotus brevis*, brown striped frog *Limnodynastes peronii*, great barred frog *Mixophyes fasciolatus* and the brown toadlet *Pseudophryne bibronii*.

A large number of bird species (235) have been recorded on the Blue Mountains dissected plateau area. A number of those species are listed as threatened under the Threatened Species Conservation Act 1995. The regent honeyeater *Xanthomyza phygia* for example, is likely to occur as a nomadic opportunist with very specific nesting requirements in mature ironbark and red-yellow box communities.

Other endangered species which are especially vulnerable or which have small populations are the powerful owl *Ninox strenua*¹, and the glossy black cockatoo *Calyptorhynchus lathami*¹. Large areas of potential habitat exist within the park for the powerful owl.

¹ Species listed as threatened under the Threatened Species Conservation Act 1995.

The park's waterways provide important habitat for about twenty native fish species. The protection of native fish species in the park are the management responsibility of NSW Fisheries.

Forty six mammals have been recorded on the Blue Mountains dissected sandstone plateau area. They include the threatened brush-tailed rock wallaby *Petrogale penicillata*¹, which occurs in populations in both northern and southern areas of the park where suitable rock habitats on exposed aspects are found. Wollemi National Park plays a major regional and national role in the conservation of this species. Other important species in the area include the common bent-wing bat *Miniopterus schreibersii*, large pied bat *Chalinolobus dwyeri*¹ and the greater broad-nosed bat *Scoteanax rueppellii*¹.

Reported sightings within the park of the threatened squirrel glider *Petaurus norfolcensis*¹ and the brush-tailed phascogale (*Phascogale tapoatafa*¹) require confirmation. Isolated sightings of other threatened species including the koala *Phascolarctos cinereus*¹ and tiger quoll *Dasyurus maculatus*¹ and the yellow-bellied glider *Petaurus australis*¹ have also been reported and confirmed. Koalas have been recorded from Colo Heights, Howes Valley, Newnes and the Mellong swamps. Other important animal species occurring within the park include the New Holland mouse *Pseudomys novaehollandiae*, the northern brown bandicoot *Isodon macrourus* and the platypus *Ornithorhynchus anatinus*.

Although no recovery plans have yet been formally adopted for threatened animals within the park under the provisions of the Threatened Species Conservation Act 1995, a number of plans have been developed to guide the recovery of threatened or significant animals known to occur within the park (eg Webster and Menkhorst, 1992; Wagner and Jackson, 1993; Grant, 1991).

Policy

- * The management of animal species and habitats within the park will give priority to threatened species, critical habitat and endangered populations (see also Section 4.1.4 Pest Species Management; Section 4.1.5 Fire Management and Section 4.3 Use of the Park).
- * Species recovery plans and threat abatement plans will be prepared, placed on public exhibition, reviewed in the light of comments received and implemented for those threatened species which are known or suspected to occur within or near the park.
- * Research and survey will be encouraged into the distribution, habitat requirements and ecology of threatened animal species which occur within the park (see also Section 4.3.9 Research).

¹ Species listed as threatened under the Threatened Species Conservation Act 1995.

- * The Service will liaise with NSW Fisheries in the identification of actions for the protection of aquatic fish habitats within the park.

Actions

- * A biodiversity survey program will be designed and implemented in conjunction with local community groups and tertiary institutions to systematically collate information on the native animals of the park and their habitats giving priority to the survey for threatened species (see also Section 4.1.2 Native Plants and Section 4.3.9 Research).
- * The distribution of threatened species will be mapped and potential threats to their conservation identified and mitigated .
- * Management profiles and guidelines will be developed for threatened and other significant animal species within the park.
- * The Service will co-operate with local landcare groups in the recovery of the regent honeyeater and other threatened species and their habitats both within the park and in areas adjacent to the park.

4.1.4 Introduced Plants and Animals

Introduced species within the park and on adjoining land are of concern as they have the potential to out-compete or predate on native species, to disrupt food chains, to alter habitat and to impact on world heritage and wilderness qualities and recreational experiences.

Blue Mountains and Central Coast Regions have detailed Pest Species Control Plans which identify introduced species of concern and provide detailed information on control priorities and methods.

Introduced Plants

Under the Noxious Weeds Act 1993, the Service has a statutory responsibility to prevent the spread of noxious weeds to adjoining lands. In general, the park is free from widespread infestations of introduced plants. Localised infestations are generally associated with disturbed sites, watercourses and areas adjacent to the park boundary.

Infestations of concern include St John's wort *Hypericum perforatum* in the Nullo Mountain area and Widden Valley and blackberry *Rubus fruticosus* along waterways particularly Wollemi Creek, Blackwater Creek, Wolgan River, Colo River, Cudgegong River and Capertee River. Cape ivy *Senecio mikanioides* occurs in the wilderness area of the Wolgan Valley. Tree of Heaven *Ailanthus altissima* occurs at Koondah Creek and in the Newnes and Wheeney Creek areas. Lantana *Lantana camara* is found at Wheeney Creek. Other species of concern are prickly pear *Opuntia stricta* and tiger pear *Opuntia aurantiaca* and the occurrence of willow *Salix* sp. along the Colo River.

The spread of *Coreopsis sp.* from the Putty Road and Bells Line of Road into the park along vehicular access routes is also a concern.

Ongoing park management programs have been directed at the control of specific infestations of introduced plants. Considerable success has been made to date with the control of tree of heaven at California, blackberry at Putty Creek and Newnes and lantana at Parsons Creek.

Introduced plant control methods used include herbicide spraying and injection, physical removal and biological control. Control methods are species specific and the effective management of some species relies on the use of more than one control method. The control methodology selected for each target species is selected on the basis of its effectiveness and its minimal impact on native flora and fauna.

Introduced Animals

Introduced animals of concern to park management are the feral pig *Sus scrofa*, feral goat *Capra hircus*, fox *Vulpes vulpa* and feral cat *Felis catus*. Foxes and cats occur primarily on the periphery of the park, close to human settlement. They are believed to have had the most impact on native fauna populations as they both predate upon native fauna and compete with native predators. Wild dog *Canis familiaris familiaris* are a management concern on the north-westerly boundary of the park.

Fox control programs are presently undertaken around the western and northern perimeter of the Park in association with adjoining landholders. Control is usually by way of ground baiting with monitored bait stations. Cats are extremely difficult to trap or bait and current control is opportunistic only.

Cattle grazing occurs in parts of the park under permissive occupancies which have been carried forward when the park was gazetted. Permissive occupancies are currently being phased out of the park. Apart from the undesirable effects of cattle grazing, cattle frequently roam beyond the occupancies and lead to the establishment of wild cattle populations.

Cattle are relatively widespread and occur in areas such as the Wolgan Valley, Wheeny Creek, Capertee Valley, Mount Pomany, Mellong Swamp and Martindale Creek areas. Cattle are a concern due to the effects they have on the park such as trampling of vegetation, selective grazing of native plants, fouling of springs and waterways, spread of weeds and soil erosion. Wild cattle are also a concern to neighbouring properties due to the potential for the spread of bovine diseases.

Feral goats occur in limited numbers in the Nullo Mountain area, Wheeny Creek and the northern and north-western escarpments of the park. Goats selectively graze on rock shelf vegetation and their hard hooves can cause considerable disturbance to fragile cliff face soils. Goats directly compete for habitat with the threatened brush-tailed rock wallaby. Current control methods include trapping and aerial shooting.

Pig populations have been recorded at Putty, Newnes Plateau, Bilpin, Mount Tootie, Mellong swamps, Nullo Mountain and Kurrajong Heights. Feral pigs cause widespread

disturbance as they overturn soil for tubers and fungi. There is evidence in some areas of the park of the deliberate release of pigs, probably for hunting purposes. Management programs including trapping, selected poisoning and opportunistic shooting are undertaken as resources permit.

Feral bees occur in the park. They can compete with native bees, honeyeaters and small mammals for nectar and nesting holes and may disrupt natural pollination mechanisms. There are currently no licensed bee keeping operations within the park.

Wild dogs are reported periodically, particularly in the northern and western areas of the park. The Service supports a policy of co-operative baiting of wild dogs in perimeter areas where a program compliments similar controls on adjoining properties. Ground baiting is the preferred practice as it reduces impacts on non-target species and enables accurate data to be accumulated on baiting success.

The Service considers the dingo to be part of the native fauna of NSW. As such, the Service has a responsibility to conserve and maintain existing dingo populations in Service areas. The Service recognises that wild dogs from Service-managed areas sometimes impact on livestock in adjacent areas. In these cases, the issue is the control of dogs attacking livestock, regardless of their classification as dingoes or feral dogs. Despite the Service's conservation responsibility for the dingo, it accepts the need for management of these wild dogs to minimise attacks on stock.

Annual control programs are undertaken throughout the park targeting pigs, foxes and cattle. Wild dogs are controlled along the north-western boundary of the park.

Environmental assessments are undertaken prior to the adoption of major vertebrate pest control programs where there is a potential for an impact on non-native species.

Policy

- * In accordance with the Noxious Weeds Act 1993, priority for control of introduced species will be given to those species which have the potential to spread to neighbouring properties.
- * The Service will co-operate with other agencies such as the rural land protection boards, regional noxious weed committees and land-holders in implementing pest species control programs.
- * 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 or world heritage values;
 - occur within the proposed Wollemi Wilderness Area;
 - are having a detrimental impact on Aboriginal or historic places or recreational areas;
 - 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.
- * Control programs will be continually monitored to review their effectiveness.
 - * Grazing activity and permissive occupancies in the park will be progressively phased out park within a two year period from the adoption of this Plan(see also Section 4.1.6 - Wilderness and Section 4.3.11 - Alien Uses).
 - * No European honey bee hives will be permitted within the park.
 - * Removal of exotic plants at historic places will be subject to the recommendations of any conservation plan. The conservation plan will contain strategies to reduce the risk of exotic seed dispersal from those places.

Actions

- * Introduced species and their populations will continue to be systematically surveyed and recorded.
- * Introduced plant control programs will give priority to the control of :
 - Blackberry within the proposed wilderness area, along waterways adjacent to the Park boundaries and at Wolgan Valley, Blackwater Creek, Nullo Mountain and Cudgegong River;
 - Willow on the banks of the Colo River;
 - St Johns wort at Nullo Mountain;
 - Lantana at Parsons Creek;
 - Tree of Heaven at Koondah Creek, California and Newnes;
 - Cape ivy at Wolgan Valley; and
 - Weeds in the Wheeny Creek catchment.
- * Introduced animal control programs will give priority to the control of:
 - Foxes along the north-western perimeter of the park;
 - Feral pigs at Nullo Mountain, Newnes Plateau, Putty and Mellong Swamp;
 - Feral goats on the north-western escarpments and at Nullo Mountain; and
 - Cattle on the Wolgan and Capertee Valleys, northern park areas and Mellong Swamps.
- * Wild dogs will be controlled along the north-western perimeter of the park.
- * Options will be investigated for the re-establishment of native vegetation on the Colo-Meroo poplar plantation.
- * The Service will assist the Roads and Traffic Authority in the development of a weed control plan for the road shoulders of both Bells Line of Road and Putty Road (See also Section 4.3.11 - Alien Uses, Leases and Licences).

- * The Service will prepare education kits and seek publicity in popular magazines and appropriate specialist publications on the impacts and penalties of introducing non-indigenous animals in natural areas.
- * European honeybee swarms/hives identified in the Park will be removed in consultation with the Department of Agriculture.

4.1.5 Fire Management

Fire has long been a regular feature of the park environment but little information on pre-European or historic fire is available before the major fires within the park in 1957. The Service has kept a more comprehensive record of bushfires within the park since gazettal in as a national park in 1979.

As the area surrounding the park was developed in the early 1880's, small settlements developed on the alluvial soils of the Upper Hunter area, Capertee and Wolgan River valleys and in the Howes Valley and Putty localities. These and the basalt mountains and the volcanic necks, attracted rough grazing and associated practices of burning to produce 'green pick'. These fires occurred mainly in late spring and early summer and were often left to burn unchecked causing extensive and frequent wildfires throughout the area.

In major drought years, these fires burnt large areas of what is now Wollemi National Park, bypassing the natural moist fire barriers of canyons and watercourses. These fires occasionally burnt out to some of the rural properties in the adjoining valleys and over the crown leases and private land within the park. Problems with soil erosion and flooding were reported. The impacts of this regime of fire on native species and communities are unknown but declines in habitat and species diversity and richness are likely. The impacts on tall open forest and rainforest communities were probably severe. It is likely that the shrubland, woodland and open forest communities in areas close to park boundaries have experienced unusually high fire frequencies since the early 1900's. It is also likely that most vegetation types in the park experience fire frequencies which are higher than those required for the maintenance of long-term species and community diversity.

Since the Park's gazettal in 1979, human causes have accounted for 70 percent of wildfires with the remainder being caused by lightning strikes. Human caused fires have been concentrated on the eastern side of the Park. Traditional approaches to the use of fire by adjoining land-holders continue to impact on this area. Major areas of the park were affected by intense wildfires in 1994.

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

Co-operative fire management is seen as a key approach by the Service to manage and control fire in the park. Service participation in local bush fire management committees is an important part of achieving the Service's fire management goals and objectives. The Service participates in the preparation of fire management plans and plans of operations which are required under section 52 of the Rural Fires Act 1997. Fire management in Wollemi National Park has three main objectives:

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

Fire management policies and procedures are contained within the Service's "Fire Management Policies" (NPWS, 1991). Reserve Fire Management Plans are currently updated annually and contain information on Service policies and procedures for fire management within the park. These policies and procedures are usually transferred to the plan of operations and bush fire risk management plans prepared for local government areas in accordance with Section 52 of the Rural Fires Act 1997.

The Service adopts a fire regime approach to fire management within the park where a combination of fire frequency, fire intensity, season of burning and the spatial distribution of fire within a landscape, is prescribed in order to achieve management objectives. The fire regime is prescribed using a zoning approach which in turn is based on priority management objectives and performance indicators for certain areas. Further details on the fire regimes and zoning for specific areas of the park will be included in the park fire management plan. Environmental impact assessments will be undertaken prior to prescribed burning and other fire management activities.

Policy

- * Fire in Wollemi National Park will be managed in accordance with the management objectives stated above.
- * A fire management plan will be prepared for the park by June 2002. The fire management plan will detail asset protection, strategic wildfire and heritage management zones for which prescriptions will be developed consistent with the policies below.
- * The park fire management plan will be placed on public exhibition and comments received will be reviewed by a steering committee comprising representatives from the Regional Advisory Committee and local bush fire management committees.
- * The Service will participate in the development of Section 52 plans where they affect the Park, applying the objectives and strategies developed in the park fire management plan.

- * The park fire management plan will identify opportunities for the development of co-operative arrangements with neighbours to reduce the risk of damage to life and property on adjoining lands and inholdings.
- * Fire will be used as means of reducing fire hazards in areas where there is an identified bushfire threat and for the purposes of managing the conservation of the park's biodiversity.
- * Environmental impact assessments will continue to be carried out prior to implementing prescribed burning and other fire management activities.
- * Research into fire ecology will be encouraged to refine fire management prescriptions with priority given to threatened species and critical habitats as defined within special heritage management zones.
- * Fire regimes involving fire frequencies of <15 year average fire cycle will be minimised in areas containing any of the following values unless otherwise prescribed within a conservation plan, species recovery plan, reserve fire management plan or Section 52 plan;
 - in declared wilderness areas or old growth forest areas;
 - greater than 50% of any catchment exceeding 5,000 hectares;
 - on slopes greater than 18° or in areas identified by DLWC as being of high soil erosion risk (see also Section 4.1.1 Geology Landform Soil and Catchments);
 - in rainforest communities and rainforest ecotonal areas where a higher standard of >50 year average fire cycle will apply;
 - in threatened species and other identified critical habitats; and
 - on volcanic diatremes, alluvial flats, in Yellow Box / Ironbark vegetation communities and on the lower slopes and valley floors of gorges and canyons.
- * Unless otherwise identified within a species recovery plan, park fire management plan or Section 52 plan, fire regimes involving fire frequencies of >50 years average fire cycle will be minimised within heathland, shrubland, swampland and low open woodland communities.
- * Unless otherwise specified within this plan, an adopted species recovery plan, conservation plan, reserve fire management plan or Section 52 plan, the risk of high intensity wildfires will be minimised in the following areas:
 - Within asset protection and strategic wildfire management zones; and
 - within 100 metres of known koala habitat or the habitat of other fire intensity sensitive threatened species; at significant geological sites, Aboriginal sites or historic places; at or near major visitor areas, utilities and other park infrastructure and within the area of significant scenic landscapes.
- * Prescribed burning will be implemented in late summer-autumn as far as possible and will be managed to minimise smoke impacts on residential areas particularly in the Sydney and Newcastle metropolitan areas.

- * The use of heavy machinery and fire retardants for fire suppression will be closely supervised by Service staff and the impacts carefully managed within 100 metres of any threatened species habitat; near Aboriginal sites and historic places and wilderness areas.
- * Unless otherwise specified within the species recovery plan; earthmoving equipment, ground crews, fire retardant, firefighting foam, waterbucketting and other fire fighting resources will not be permitted either within 500 metres or anywhere within the upper catchment of any known Wollemi pine site (see also Section 4.1.2 Native Plants).
- * On days of high fire danger or above, or when bushfires are burning within the park, the recreational use of the park will be regulated to minimise further risk of wildfires and associated threats to visitor safety and co-operative arrangements with neighbours and other fire authorities for bushfire detection and monitoring will be implemented.

Actions

- * The Service will prepare and implement a park fire management plan in accordance with the above policies and review the plan annually.
- * The Service will undertake ongoing liaison with park neighbours on co-operative fire management programs.
- * Fire history records will be maintained and analysed annually for planning purposes.
- * Regional staff will attend bush fire management committee meetings and volunteer bush fire brigade meetings and contribute to co-operative wildfire suppression and risk management planning and operations within the park and as required on adjoining lands.
- * Regional staff will ensure that conditions relating to appropriate fire use within the park are included in recreational consents and licences.

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 NPW Act 1974 and section 6 (1) the Wilderness Act 1987 if;

- the area is, together with its plant 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 a 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.

In considering whether an area should be declared as wilderness, the Service may consider areas of land which are otherwise unsuitable for declaration, if they are required for the management of that wilderness area. This may include small areas of cleared land or structures which have been identified as important cultural sites or essential for the management of the area's wilderness condition. Similarly the Service may recommend that identified wilderness not be declared in areas where wilderness management or legal imperatives exist.

Wollemi National Park has previously been recognised as one of the largest remaining wilderness areas in New South Wales (Prineas and Gold, 1978; Helman, 1976; Wilderness Working Group, 1986). The rugged landscape, low nutrient soils, and dry climate have largely prevented the use of this area for settlement or primary industry. An area of 387,300 hectares was identified as the Wollemi Wilderness Area in 1997 and 1999.

The Stage 1 Wollemi Wilderness Area was declared on 5th March 1999. It covers an area of 361,000 hectares. The wilderness includes portions of Blue Mountains and Wollemi National Parks. An area of 120 hectares of vacant crown land and 1,200 hectares of Coricudgy and Newnes State Forests (Stage 2) will also be added to Wollemi Wilderness Area following their addition to Wollemi National Park.

A map of the Wollemi Wilderness Area within Wollemi National Park is shown on Map 2. Further minor areas of national park endorsed by Cabinet for wilderness declaration will also be added to the Wollemi Wilderness Area in the near future.

The Service has identified sections of the Capertee, Wolgan, Wollagambe and the Colo Rivers and Martindale and Blackwater Creeks and their major tributaries within the identified Wollemi Wilderness Area, as being suitable for declaration as wild and scenic rivers (NPWS, 1996). These sections of these river systems may be declared as "wild and scenic" rivers under Section 61 of the Act.

A wide variety of recreational activities are considered appropriate for wilderness areas including bushwalking, camping, caving, fishing, li-loing, canyoning, canoeing, abseiling and climbing. Some of these activities require consent for safety reasons (see Section 4.3), for protection of significant sites and to ensure that wilderness qualities are not impaired for other users (ie group activities which may denigrate opportunities for solitude).

"Existing interest" provisions under both the Wilderness Act 1987 and the National Parks and Wildlife Act 1974, enable the continuation of any licence, consent or easement previously granted within an area affected by wilderness declaration. Freehold and leasehold Crown lands within the identified wilderness area will not be declared as wilderness without the consent of the landholder.

The wilderness qualities of the area may be compromised by air force training activities and other aircraft movements associated with nearby airports such as Richmond, the proposed Badgerys Creek airport and Williamstown. The "Fly Neighbourly" program was

established in parts of Australia recently (eg Blue Mountains City Council area) as a voluntary program designed to minimise aircraft impacts on the environment.

Policy

- * Areas of Wollemi National Park declared as wilderness, will be managed in accordance with 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.

- * Additional areas endorsed by cabinet for declaration as wilderness, including areas of Crown land and state forest, will be added to Wollemi Wilderness Area.

- * Sections of the following rivers and creeks within the Wollemi Wilderness Area may be declared and managed as wild and scenic rivers under Section 61 of the Act; Capertee River, Putty Creek, Colo River, Wollemi Creek, Wollangambe River, Martindale Creek, Nayook Creek, Ovens Creek, Blackwater Creek, Koondah Creek, Girribung Creek and Coorongooba Creek.

MAP 2
MAP OF THE WOLLEMI WILDERNESS AREA

- * Public awareness of minimal impact practices will be promoted and encouraged for recreational activities within the Wollemi Wilderness Area.
- * Vehicular access routes within declared wilderness will be rehabilitated except where required for essential management purposes subject to the policies below.
- * Vehicular access within the Wollemi Wilderness Area will only be provided under the following circumstances and will be subject to the prior and continuing consent of the NPWS Regional Manager:
 - Access to inholdings where a consent for vehicular access was granted prior to the area being declared wilderness;
 - Access to cultural sites (eg Aboriginal grave sites) 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 programs aimed at protecting the wilderness condition (eg wildlife management or pest species control programs, infrastructure maintenance, prescribed burning programs) or for protecting and conserving important cultural sites.
- * Temporary tracks and trails created for management purposes (eg wildfire suppression) within declared wilderness will be actively rehabilitated using local plant and soil materials.
- * Pedestrian access to the whole or part of declared wilderness, may be temporarily restricted if visitor use or certain activities are causing unacceptable impacts.
- * Group recreational use within declared wilderness will be restricted to a maximum of 8 persons unless a smaller group size is specified in Section 4.3 (eg for lead-climbing activities). Variations in maximum group size may be approved by the Regional Manager consistent with Section 4.3.
- * Walking tracks and routes within the Wollemi Wilderness Area 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 the Wollemi Wilderness Area 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 declared wilderness will only be approved where the activities are consistent with this plan.
- * Structures will not be permitted within the 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 any conservation plan.
- * Priority will be given to park protection and species conservation programs within the Wollemi Wilderness Area.
- * The Service will give notice of termination of all permissive occupancies within declared wilderness within two years of the adoption of this plan (See also Section 4.3.11 - Alien Uses).
- * The Service will seek the co-operation of the owners of park inholdings and of park neighbours within the Wollemi Wilderness Area, to ensure that the wilderness condition of the park is protected to the maximum extent possible.
- * Freehold and leasehold Crown lands within the identified wilderness area will not be declared as wilderness without the consent of the landholder.

Actions

- * Declared wilderness boundaries will be signposted on tracks and trails and other areas where appropriate to highlight their location.
- * The following vehicle access routes will be maintained for essential park management and/or property owner access purposes only. These routes will rehabilitated and gazetted and managed as wilderness where these management and property access requirements no longer apply (see Section 4.3.2 also):
 - Mount Cameron Trail to Mount Cameron only;
 - Army Road and associated side trails (eg Wirraba Trail west of Mount Wirraba);
 - Gaspers Airstrip Trail (only until rehabilitation works are finished at the airstrip);
 - Kerry Mountain Trail;
 - Hunter Main Trail; and
 - The end of the Grassy Hill, Culoul and Drip Rock Trails.
- * The following routes within the Wollemi Wilderness Area will be allowed to overgrow or will be rehabilitated using techniques recommended by the

Department of Land and Water Conservation (see also Section 4.3.2 - Vehicle Access):

- Galah Mountain Trail north of Galah Mountain;
- Deanes Lookout Trail and associated side tracks;
- Mount Molong and Green Hill Trails;
- Wolgan River Trail (east of Newnes Shale Oil Refinery Complex only);
- Capertee River Trail;
- Wirraba Trail (from Mount Wirraba east to Putty Creek);
- Gaspers Airstrip Trail (following rehabilitation of the airstrip area);
- Blackwater Creek Trail (following rehabilitation works in the valley); and
- Other vehicle access routes occurring within or intruding into the declared wilderness and not otherwise required for essential park management or property access.

- * 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 the declared wilderness area and as a possible extension of the "Fly Neighbourly" program.
- * A brochure will be prepared which identifies the boundaries of the 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 the Wollemi Wilderness Area 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 the Wollemi Wilderness Area and management policies that apply to it into new or revised interpretation and public information displays and programs.
- * A program of track and trail closure and removal of unwanted management structures from the Wollemi Wilderness Area will be prepared and implemented subject to the policies within this plan.
- * The Service will issue notices to all holders of permissive occupancies within the Wollemi Wilderness Area.
- * The Service will identify acquisition priorities for freehold properties within the identified Wollemi 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 the identified Wollemi Wilderness Area.

4.2 CULTURAL HERITAGE

Cultural heritage within the park includes all Aboriginal heritage sites and all historic places including sites, buildings and other works together with pertinent contents and surroundings. Wollemi National Park is important in conserving evidence of prehistorical and historical land use in this area.

4.2.1 Aboriginal Heritage

Wollemi National Park contains approximately 120 known Aboriginal sites although many more Aboriginal sites and places would be expected from a systematic survey. The known sites provide valuable insights into Aboriginal lifestyles and their interaction with the environment. Aboriginal people occupied the area now known as Wollemi National Park for at least 12,000 years prior to European settlement. Evidence of that occupation is varied and includes open campsites, occupation deposits in sandstone shelters (some of which contain art), rock engravings, burials, scarred trees, ceremonial grounds, stone arrangements and grinding grooves.

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

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

The Windradyne, Wanaruah, Darkinjung and Daruk Local Aboriginal Land Councils and other Aboriginal groups represent the contemporary Aboriginal community involvement in Wollemi National Park. The on-going involvement of the Aboriginal community with the management of Aboriginal heritage in the park is encouraged at all levels.

Aboriginal sites within the park are non-renewable and are subject to deterioration from both natural and human processes. For example, art sites and rock engravings can be damaged by wind erosion and vandalism, scarred and carved trees can be destroyed by fire, animal and human interference. Some Aboriginal sites within the park may therefore require active management to ensure their continued existence.

Policy

- * The Service will liaise with the Windradyne, Wanaruah, Darkinjung and Daruk Local Aboriginal Land Councils and other Aboriginal communities on all aspects of Aboriginal site management within the park (see also Section 4.3.1 - Recreation Management).

- * The provisions of the Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (ie The Burra Charter) will guide management decisions for the Aboriginal sites within the park.
- * All known Aboriginal sites and places will be recorded and an assessment made of each site's significance and threats to its long term preservation. Priority will be given to areas threatened by current or future disturbances.
- * Non-destructive research for the purpose of locating new sites or assisting site conservation will generally be encouraged in the park.
- * Visitor impacts on Aboriginal sites within the park (eg Deep Pass) will be closely monitored and visitor use will be regulated and site protection works undertaken where necessary.

Actions

- * A strategy and on-going program of surveying and recording Aboriginal sites including assessments of significance will be developed by NPWS staff in conjunction with local Aboriginal communities.
- * A regular monitoring program of Aboriginal sites which are well known to the public will be developed in conjunction with local Aboriginal communities.

4.2.2 Historic Heritage

In contrast to the Aboriginal use of the region, European attitudes to the area around the park were based on their knowledge of the area as an unproductive, remote and rugged landscape. As a result large areas have remained largely unoccupied and undisturbed. There was however, some limited use of the area for agriculture, forestry and oil shale mining and in more recent times for defence force exercises.

The park has 25 recorded historic places which contain the physical evidence of past land-use. These relics include fences, huts, building foundations, stock yards, early roads, railways and travel routes, shale oil mines and associated structures. Other historic evidence and associations are likely and need to be recognised.

Oil shale at Newnes and Baerami was mined in the first half of this century and the remains of this activity are of particular historic heritage value.

The Newnes / Glow Worm Tunnel precinct represents one of Australia's largest self contained oil shale production schemes. The oil shale industry operated for over 31 years at Newnes between 1906 to 1937. The precinct features a complex of distillation, refining, treatment plants, subsidiary industries, such as a candle factory, sulphate of ammonia plant, brickworks and infrastructure including a township, scattered domestic buildings, mines and a railway. The precinct contains an extensive archaeological resource for the study of oil shale mining, retorting, refining and by-product technology,

the adaptation of this technology to the Australian environment and the spectrum of employee living standards.

The precinct is of technological importance for remains of retorts, refineries, coke ovens, railway alignments and railway station. The site of the town demonstrates the way of life of an isolated pioneering mining community of the early twentieth century. Although most of the structures are now only ground level foundations, the sites and functions are well documented (eg Burke, 1991). Many historic features associated with the oil shale mines still exist, such as the tunnels at Newnes and remnants of oil refining structures, rail and road systems and the Glen Davis-Newnes pipeline. Several of the relics are unique, such as the beehive kilns which are the largest set of "beehive" coke ovens in Australia. Over 100 historical archaeological features have been located and recorded (Burke, 1991).

Future works at Newnes will be guided by the recommendations contained within the archaeological report for the site (Burke, 1991), together with a conservation plan for the Newnes / Glow Worm historic precinct and a master plan covering recreational use and conservation works for the area as a whole management unit.

The Baerami oil shale mines site in the Baerami Valley, in and adjacent to the north of the park, is a much smaller development than that at Newnes. The Baerami site reflects the resourcefulness of the Australian industrial pioneers and is typical of the oil shale industry as a whole. Several artefacts on site are considered unique in Australia, particularly the style of the retort machinery. This site has also been extensively studied and well recorded. Visitation to the site will be monitored for the need to provide facilities in the future. The general approach will be to leave structures, ruins and artefacts as they are. Some minimal protection works will be undertaken to conserve essential fabric where possible and protect public safety.

Several huts are conserved in the park (Ashley, 1992). They are examples of the simple, small shelters developed for rough bush winter grazing and are commonly associated with grassy clearings. The huts are relatively well stabilised, but most would require substantial work for complete restoration.

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

Policy

- * The provisions of the Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (ie The Burra Charter) will guide management decisions for historic places within the park.
- * Identified cultural heritage places will be recorded and an assessment made of each site's significance and threats to its long term management.
- * Priority for conservation planning will be given to those places under threat or needing work. This process will involve consultation with the community.

- * Non-destructive research for the purpose of locating new sites or assisting site conservation will generally be encouraged in the park.
- * Visitation to historic places will be monitored and use regulated when necessary.

Actions

- * Active management and protection of cultural sites will be undertaken on a priority basis as recommended in NPWS (1995a) and Burke (1991) and in accordance with any other approved conservation plans produced after the adoption of this plan.
- * A conservation plan will be prepared for each of the oil shale works at Newnes and Baerami. In the interim, these sites will be managed so as to conserve and understand their essential fabric and significance by:
 - Plant control and clearance around sites and artefacts particularly blackberry and tree of heaven at Newnes;
 - Slope erosion control;
 - Removal of regrowth from the coke ovens at Newnes;
 - Maintenance of existing visitor and safety facilities;
 - Re-establishment of the stormwater drainage control system at Newnes;
 - Control of public access to the roof of the coke ovens at Newnes;
 - Works to stabilise the walls of the paraffin shed at Newnes;
- * A conservation plan will be prepared and implemented for each hut in the park. Priority will be given to Sheepskin Hut and the California Hut. In the interim, critical protection and appropriate research works will continue on huts, when necessary.
- * Visitor information including brochures and on-site interpretive signs for Newnes / Glow Worm Tunnel precinct, and the above huts will be updated to include additional historical information and visitor use information.

4.3 USE OF THE PARK

Wollemi National Park will be managed to ensure that its use, whether by the general public, special interest groups, Service staff or other authorities, is appropriate and conforms with the management objectives of this plan.

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

- recreation in both natural and wilderness settings;
- environmental education;
- promotion of natural and cultural heritage conservation;
- scientific research; and

- management operations by the Service and other authorities.

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

4.3.1 Recreation Management and Tourism

The rugged terrain of Wollemi National Park and its relative inaccessibility have been strong determining factors on both the style and location of recreational use of the park. Accordingly, most recreational activity has occurred around the edges although wilderness treks and recreational vehicle use of trails into remote areas are increasingly popular.

In recent years, recreation has expanded to include various types of day and overnight use of the more accessible parts of the park. Day use is currently concentrated in the Colo area because of its proximity to the Sydney metropolitan area and the availability of permanent water. Dunns Swamp and the Newnes / Glow Worm Tunnel precinct on the western side of the park are also popular locations for picnicking and car-based camping. The remainder of the park is used primarily for dispersed vehicle touring, bushwalking and pack-camping.

The recreational use of Wollemi National Park is predicted to increase as the metropolitan areas of Sydney and Newcastle expand and the demand for outdoor recreation, particularly self-reliant and adventure activities in natural settings increases. Adventure activities such as canyoning and abseiling are especially growing in popularity in the Capertee, Wolgan and Wollangambe River valleys.

Group use of park areas has the greatest potential to impact on park management. User conflicts, risks of accidents and injuries and impact on natural and cultural heritage values, all rise in direct proportion to the size of the group. An upper limit on group numbers will depend on the area to be visited and the nature of the activity. Although maximum group numbers are specified for some activities, such numbers will be subject to future reviews and consultation with user groups.

The Service attempts to manage recreation within national parks in a context of available recreational opportunities within the region as a whole. Wollemi National Park is surrounded by a large and diverse system of parks, reserves and land use which provide developed types of destinations and settings for active recreation activities. The park is well placed to provide recreational settings at the unmodified end of the recreational spectrum and to therefore cater for passive natural area recreationists and those wanting a wilderness experience.

Two recreational settings are recognised within the park each with different management objectives and therefore each with a different management approach. These are:

Wilderness Setting - involves a large, substantially unmodified area of land, that represents an ecologically viable system containing many of the significant natural

features and processes of Wollemi National Park. The area also provides many outstanding opportunities for solitude and self-reliant recreation. The rugged, extensive and remote areas of the park identified as wilderness (NPWS, 1996) fulfil this criteria. Recreational use of wilderness needs to be carefully managed and closely monitored to ensure that the wilderness condition is not compromised by that use (see also Section 4.1.6 - Wilderness).

Natural Setting - comprises the balance of Wollemi National Park. Some areas have been partially modified by roads and clearing. Substantial areas, however, retain many natural and cultural values of importance and complementary significance to the adjacent wilderness area. Public vehicle access is provided to a number of visitor destinations.

The Service is keen to promote minimal impact use of both settings, but needs to set higher standards within the park wilderness setting to ensure that its wilderness values are not compromised.

Commercial recreation is an important activity within the park which has grown significantly in recent years. It contributes to the improvement of the regional economy; it enhances the range of recreational opportunities available to park visitors; it fosters a greater appreciation and understanding of park values and it provides a means for the Service to better manage visitor impacts and care for visitor safety. Commercial recreation can however also lead to the deterioration of certain sites if not carefully managed. All commercial activities within the park require prior approval of the Regional Manager.

There are a number of groups who have an interest in the management of recreation within the park. These include industry groups (eg Ecotourism Association of Australia), peak user groups, conservation groups, local councils, local businesses and regional tourism organisations.

The policies and actions below provide a framework within which more detailed policies for specific recreational activities such as bushwalking, horse riding and canoeing are developed later within this plan.

Policy

- * Recreational facilities which show unacceptable environmental damage may be temporarily closed for repairs or permanently closed and rehabilitated. The Service will wherever possible undertake consultation and discussion of options with peak industry or recreational groups before such action is implemented.
- * Recreational facilities will be limited to the edges of the park and will not be provided within wilderness areas.
- * Recreational use of the park 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.

- * The Service will consult with industry and peak user groups where appropriate in regulating recreational use and reviewing group size limits.
- * The Service will regulate and prescribe appropriate standards for group size, group numbers, leader-client ratios, guide qualifications etc in accordance with adopted Service policy for certain activities and in accordance with any area specific guidelines (eg NPWS, 1995b).
- * The maximum group size for all activities within the natural recreational setting within the park will be 20 persons unless otherwise approved by the Regional Manager or unless otherwise specified within this plan. Such an approval will be subject to specific conditions.
- * As detailed in Section 4.1.6 Wilderness, the maximum group size for the wilderness recreational setting will be 8 persons unless otherwise approved by the Regional Manager.
- * Commercial recreational and environmental education activities will only be considered within the park by the NPWS Regional Manager where:
 - The operator and guides demonstrate skills, knowledge and experience which are appropriate to the activity, the recreation setting and the needs of clients (eg has appropriate industry accreditation);
 - The activity is financially viable and is able to cover all Service costs related to managing the activity within the park and preferably has flow-on benefits to local economies;
 - The activity is ecologically sustainable, has a minimal short term impact on the environment and is consistent with park management objectives;
 - The operator has consulted with neighbours, local Aboriginal communities and other operators as required by the NPWS Regional Manager;
 - If previously licensed, the operator had a good previous record and had complied with licence conditions; and
 - The activity promotes natural and/or cultural heritage conservation and minimal impact use.
- * Recreational activities which may encroach on, or interfere with any Aboriginal site or place will not be permitted unless consultation with the local Aboriginal community has occurred (see Section 4.2.1 - Aboriginal Heritage).
- * Special conditions may be imposed on recreational use of the park during periods of high to extreme fire danger periods (see also Section 4.1.5 Fire Management) or in the event of bushfires.
- * The Service will ensure that recreational management within the park is consistent with regional tourism planning and development and that the Service plays an active role in the development of regional tourism strategies.

Actions

- * Regional staff will maintain a register of all consents issued for recreational activities within the park and will conduct monitoring and auditing of visitor impacts at regularly used sites.
- * Park brochures, booklets and information signs will be reviewed to ensure that consistency with the policies below.
- * Regional staff will prepare and annually review guidelines for both commercial and group recreational use of the park in conjunction with industry and peak user groups to ensure consistency with the policies below.
- * Local NPWS staff will actively contribute to the development and implementation of regional tourism strategies and projects within the park and adjoining areas.
- * Local NPWS staff will actively participate on the Blue Mountains and Hunter Regional Tourism Organisations and the Hunter Economic Development Corporation and relevant local government tourism committees.

4.3.2 Vehicular Access and Touring

The sheer size and remoteness of the park and the lack of public transport along major arterial routes means that vehicular access is the only reasonable means of obtaining access to most park facilities. Vehicle access is subject to the management objectives and policies specified for the protection of the park and recreational use as defined earlier.

Vehicular access within the park is provided along both public roads and suitable park management trails; not all park trails are available for public vehicle access. Some are only maintained to a standard suitable for park management purposes or for access to inholdings. The costs of constructing and maintaining unsealed park trails in a stable condition and which are safe for public use in all weather conditions is often difficult to justify given the level of use.

There are two types of authorised vehicle access available within the park:

- Public vehicle access routes - which are maintained (by the Service and others) for recreational driving within the park in all but the most extreme weather conditions; and
- Park management access routes which are required for essential park management works such as fire suppression, pest species control, infrastructure maintenance or heritage management (see Section 4.3.10 - Management Facilities) and which occasionally provide access to inholdings (see Section 4.3.11 Alien Uses).

A substantial public road network encircles the park, enabling approaches from the Bells Line of Road, Colo River, Wolgan, Rylstone, the Putty Road and the Hunter Valley. Most of these approaches reach only as far as the edge of the park. The growing

popularity of four-wheel drive vehicles and trail and mountain bikes however, has led to increased accessibility into more remote areas.

Authorised public access routes are provided through the park in a number of areas including at Colo Heights, along Doyles Range, at Mountain Lagoon, Bilpin, Kurrajong, along the Hunter Range and in the Mellong Swamp, Culoul Range and Grassy Hill areas.

Authorised public access trails are also provided in the adjacent Blue Mountains and Yengo National Parks and Parr State Recreation Area, Gardens of Stone and Goulburn River National Parks, and in or to the nearby Putty, Coricudgy, Nullo Mountain, Comleroy, Ben Bullen and Newnes State Forests.

Sections of both the Wirraba Trail and the Hunter Main Trail have been of particular concern to the Service as a result of a significant decline in their state of repair. Both trails were constructed in the 1960's and the Wirraba Trail in particular is now extremely eroded and in an unsafe condition. Unsympathetic use of both trails has increased trail networking and wildfires. As a result, maintenance of these trails as public thoroughfares in a national park setting is a significant financial drain on the Service.

The Wirraba Trail was not constructed for recreational use but was constructed for Army training purposes. Access to the eastern end of the Wirraba Trail across private property was recently closed by the local landholder. Illegal bypass trails in the same area were also subsequently closed by the Service for both safety and environmental reasons. The closure was the subject of much controversy. The Wirraba Trail intrudes into the identified Wollemi Wilderness Area and part of the trail is required for property access. It is intended to rehabilitate the section of trail between Mount Wirraba and Putty Creek (See Section 4.1.6 - Wilderness).

Restoration works undertaken on the Hunter Main Trail since 1994, have improved the condition of the trail but have been repeatedly damaged by users during periods of wet weather despite public announcements and gating and temporary trail closures. Maintenance of the Hunter Main Trail is also a significant financial drain on the Service. Both trail erosion and damage to the surrounding park area is rapidly escalating. The Service is undertaking urgent action to limit the use of the trail in wet weather and to stabilise the trail under the current access arrangements. The Hunter Main Trail intrudes into the Wollemi Wilderness Area but is an important asset for managing bushfires within the park. It is intended to maintain this trail to a standard suitable for essential wilderness management purposes only (see Section 4.1.6 Wilderness).

There are many trails in the park without legal status. Many of these were constructed for timber extraction, cattle grazing and bushrock removal. Most are disused, have no management function and detract from the park's natural values. In addition, these trails are often access for illegal activities, such as car dumping, rubbish dumping, timber extraction, illegal cropping and arson.

There are a number of groups who have an interest in the management of the vehicular access routes within the park. These include peak user groups, conservation groups, local councils, fire control authorities, utility companies, local businesses and regional tourism organisations.

The park map attached inside the back cover shows the authorised vehicle access routes occurring within the park.

Policy

- * The following vehicle access routes within the park will continue to be available for public use:
 - The Commission Road (subject to an access agreement with TransGrid)
 - Parts of the Bulga Trail (ie from the Commission Road to private property);
 - That part of the Hunter Main Trail between Bakers Road and the Commission Road;
 - Bakers Road;
 - Narrango Road and Dunns Swamp trail;
 - Wolgan River Road at Newnes to the Industrial Ruins Car Park Walking Track;
 - Glow Worm Tunnel Road to the Tunnel Walking Track;
 - Old Coach Road from Newnes Plateau to the Old Coach Road Walking Track;
 - Galah Mountain Trail to the wilderness boundary;
 - Southern and northern access routes to the Deep Pass Walking Track;
 - Mountain Lagoon and Comleroy Roads and Mountain Lagoon Fire Trail;
 - Colo River Trail (T3 Trail);
 - Bob Turners Trail to the start of the Bob Turner Walking Track;
 - Grassy Hill Trail to the wilderness boundary (ie to Canoe Creek gate);
 - Culoul Range Trail to the wilderness boundary (ie to Hollow Rock area);
 - Mellong Swamp Trail; and
 - California Trail (subject to private property owner’s discretion, weather conditions and a permit from the Service);
 - Myrtle Trail (subject to private property owner’s discretion and a permit from the Service);
 - Martindale Trail (subject to private property owner’s discretion and a permit from the Service); and
 - Other routes marked "Public roads" or "Vehicle Access " as shown on the map inside the back cover of this plan.

- * Use of any of the above roads and routes outside the park or which are not under direct control of the Service will be subject to negotiation and approval where necessary, by user groups with local landholders, councils and other appropriate authorities. The Service may, where it is appropriate for park management purposes, assist user groups with these negotiations.

- * Small, low-key rest areas adjacent to the authorised vehicular access routes will be provided where this is required by park users and where environmental and financial impacts are acceptable (see also Section 4.3.4 - Camping and Day Use).

- * Public vehicle access routes and associated facilities no longer required by user groups will be incorporated into the park management access route system where required or will be rehabilitated.

- * Unauthorised vehicular access routes will be allowed to overgrow or will be actively rehabilitated where necessary using indigenous plant and soil material and methods recommended by the Department of Land and Water Conservation.
- * The public vehicle access system may be temporarily closed during high fire danger periods, adverse weather conditions or local emergencies. Public notice and liaison with user groups will occur wherever possible prior to such closure.
- * Vehicle access routes which fall within the Wollemi Wilderness Area will be rehabilitated unless required for essential park management purposes (see Section 4.1.6 Wilderness for details).
- * All public vehicular access routes within the park will be signposted, mapped and managed to an appropriate trafficable condition.
- * Recreational vehicle users will be encouraged to follow minimal impact driving codes within the park.
- * Permits for the California Trail, Myrtle Trail, and Martindale Trail may be issued by the Service where:
 - liaison and formal agreement has been reached with other appropriate authorities, landholders and neighbours where necessary;
 - environmental impact is acceptable;
 - road maintenance requirements are acceptable;
 - there is minimal impact on other user groups; and
 - net benefits to park management can be demonstrated.
- * The group size for vehicle touring and “Tag Along Tours” within the park will be limited to a maximum of five vehicles unless otherwise approved by the NPWS Regional Manager. Vehicle tours will only be permitted on public vehicle access routes.

Actions

- * The Service will seek assistance from the NSW Recreational Four Wheel Drive Clubs Association of NSW and ACT Inc., for the adoption and promotion of a minimum impact recreational driving code of conduct within the park.
- * The Service will continue to maintain public vehicle access routes to appropriate trafficable standards.
- * Service staff will liaise with neighbours and authorities responsible for the maintenance of public vehicular access routes through or to the park to ensure that these routes are maintained and signposted in a complementary and co-operative manner.
- * The Service will seek agreement from Hawkesbury City Council for the

incorporation into the park and rehabilitation of both the Mellong Swamp and New Yard Creek Trails.

- * An annual program of rehabilitating unauthorised vehicle access routes will be undertaken by Service staff.
- * The Service will consult with the Department of Land and Water Conservation in the development of guidelines for effecting the rehabilitation of vehicle access routes within the park.

4.3.3 Walking Tracks and Bushwalking

Bushwalking is undertaken throughout the park along vehicle access routes, constructed walking tracks, less formal paths and cross-country walks depending on the type of experience required by the walker. Each type of walk has associated infrastructure and facilities which suit the particular setting in which it placed. For example signposting and formal constructed tracks are considered inappropriate in a wilderness setting, whereas well signposted and constructed walking tracks are expected to be provided in close proximity to developed camping and picnic areas.

Walking tracks provide park visitors with the opportunity to experience the natural and wilderness recreational settings of the park and to reach particular destinations. Informal walking tracks often occur at the commencement of walking routes into remote areas and adjacent to camping sites within the park. A network of informal tracks have developed over time in the Colo-Mountain Lagoon and Wheeney Creek areas and in the canyons in the south-west sections of the park. A small number of short tracks also occur in relation to popular park destinations such as the Newnes / Glow Worm Tunnel precinct, Dunn's Swamp and Blackwater Creek.

There are very few constructed walking tracks in the park. Several walking tracks have however, been upgraded to a constructed level close to developed areas to provide ease of access for visitors and to help protect the local area from the effects of intensive use. Tracks of this type are expensive to both develop and to maintain.

It is not proposed to construct walking tracks in any areas other than from established picnicking and camping areas within the park. This policy is consistent with the objective of minimising intrusions on the natural values of the park (see also Section 4.1.6 - Wilderness).

Unregulated high intensity or remote area bushwalking can cause walker safety, user conflict and heritage and fire management concerns for park managers. Bushwalking access to the Wollemi pine site is not permitted (see Section 4.1.2 Native Plants).

Policy

- * Authorised walking tracks will be mapped, signposted and maintained to acceptable Service standards which are appropriate to the recreational setting in which they occur. Signposting will be confined to track heads and junctions on popular tracks and conform to the NPWS sign manual.

- * Authorised walking tracks will be upgraded to a higher standard where required in accordance with environmental and safety requirements, visitor demand and management priorities. Upgrading may include the re-routing of old tracks to a more suitable location and the rehabilitation of those re-routed tracks.
- * Authorised walking tracks and associated facilities may also be established in other areas of the park (eg along Putty Road and Bulga) subject to demonstrated visitor demand and environmental and financial assessment.
- * Bushwalkers within the park will be encouraged to follow minimal impact bushwalking codes.

Actions

- * Authorised walking tracks will be maintained in the following locations:
 - In the Newnes / Glow Worm Tunnel precinct; being from Newnes to Glen Davis via Pipeline Pass; from Newnes to the Glow Worm Tunnel along the former railway alignment; the Glow Worm Tunnel-Old Coach Road circuit and through the Newnes Oil Shale Refinery Ruins;
 - To Deep Pass from both the northern and the southern access roads;
 - At Dunns Swamp;
 - From Mountain Lagoon to the Colo Meroo Camping area via Gospers and Mailes Ridges;
 - At Wheeney Creek;
 - From the end of the Upper Colo Road along the road reserve to the Colo Meroo Camping Area;
 - From the end of the Colo River (T3) Trail north of Mountain Lagoon to the junction of Tootie Creek and the Colo River; and
 - From the end of Bob Turners Trail to the Colo River.
- * The Service will construct or upgrade walking tracks in the following locations subject to an environmental and financial impact assessment:
 - At Dunns Swamp;
 - In the Glow Worm Tunnel / Newnes Shale Oil Refinery Ruins precinct;
 - At Deep Pass; and
 - In the Wheeney Creek area.
- * The Service will review its publications to ensure up to date information is available and minimal impact bushwalking codes are included.
- * The Service will assist authors and publishers of bushwalking publications with information on the park to ensure safety and environmental considerations are promoted within the park.

4.3.4 Picnicking, Camping and Boating

Camping is a popular activity within the park. Most car-based camping within the park occurs at Newnes, Dunns Swamp and Wheeney Creek, where a range of facilities are provided including car-parking, toilets, barbeques, walking tracks and interpretive facilities. It is a major objective of this plan to continue to maintain and where resources permit, enhance the facilities at these selected locations to cater for any increases in usage. The Dunns Swamp car-based camping area for example is currently being upgraded to cater for both overnight and day use. These facilities will be managed as natural area camping and day-use sites as more developed camping sites are provided outside the park at Glen Davis, Rylstone, Colo, Upper Colo, Lower Portland and Mount Wilson.

Basic camping facilities are provided at walk in camp sites at Deep Pass and Colo Meroo. Deep Pass is a very popular walk-in camping site providing a focal point for day walks and other activities. It is becoming increasingly popular for educational and other group activities. A toilet system is needed to minimise water quality impacts on Nayook and Wollangambe Creeks and to provide hygienic facilities for park users of this area. The site at Colo Meroo is a popular walk in site with easy access, a covered cooking area, pit toilets and a sandy beach for swimming.

Self reliant overnight camping occurs at many popular locations associated with wilderness walking routes. Current use levels and impacts along walking routes in remote areas are relatively small but are increasing.

Picnicking is mainly associated with vehicle access routes, principally around the edges of the park. Some of the camping areas are also used extensively for picnicking. Picnicking sites are provided at Honeysuckle Creek Rest Area on the Bylong-Sandy Hollow Road, picnic sites along the Glow Worm Tunnel Road and at Wheeney Creek Picnic Area where barbeques, tables and toilets are provided.

The Service has identified a need to investigate the provision of rest areas at Coxs Gap (perhaps involving the relocation of Honeysuckle Creek Rest Area) and midway along the Putty Road, in the vicinity of Kangaroo Waterholes.

Unregulated high intensity camping and picnicking activities can create trampling, litter and hygiene concerns, user conflict, erosion and heritage and fire management problems.

Boating is undertaken on the dam at Dunns Swamp. High speed power boats and jet skis on the dam annoy campers seeking a quiet camping experience and are a danger to swimmers and canoeists.

Policy

- * Picnicking and camping facilities will continue to be provided in the Colo Meroo, Wheeney Creek, Newnes and Dunns Swamp areas. This will include a number of sites which provide for appropriate vehicular access, camping and picnicking.

- * Generators will not be permitted within the park unless approved by the Regional Manager.
- * Low key camping and picnicking areas (including toilets) may be provided at Sheepskin Hut, Kings Cross, Coxs Gap and Kangaroo Waterholes subject to visitor demand and financial impact assessment, and in conjunction with the relevant road authorities where appropriate.
- * Visitors will be encouraged to remove their own rubbish from camping and picnicking sites. Recycling facilities will be provided at picnicking and camping sites where feasible.
- * Visitors will be encouraged to practice minimal impact camping.
- * Bush camping will be regulated to minimise impacts on other park visitors, neighbours, important natural and cultural heritage and wilderness areas.
- * Bush camping will not be permitted in close proximity (ie < 200 metres) to vehicular access routes, constructed walking tracks, threatened species, endangered populations, critical habitat or hazardous areas within the park.
- * The Service will discourage camping within the canyons of the park.
- * Jet skis will be prohibited in the park.

Actions

- * Major car-based camping and picnicking areas will continue to be provided and appropriately upgraded at:
 - **Newnes**; car based camping facilities will include toilets, interpretation and car parking. Walk-in campsites will be developed along the Wolgan River. Small, car based picnicking sites will also be provided;
 - **Wheeney Creek**; facilities are being provided for camping, picnicking and short walks. More formalised camping and picnicking facilities may be provided in the future in association with Hawkesbury City Council in the areas immediately south and west of the creek crossing. Interpretation facilities will also be provided at this location; and
 - **Dunns Swamp**; facilities will be developed to provide for camping, picnicking and interpretation. Toilets, fireplaces, tables and a recycling facility will be provided. Car parking and a boat launching facility will be provided for canoes and small boats.
- * Low key camping and picnicking facilities will be provided and appropriately upgraded at:
 - **Deep Pass**; a walk-in camping area will continue to be provided in the clearing at Deep Pass. Facilities may include toilets and interpretive signposting. The main access will be via a walking track from the south;

- **Colo-Meroo**; a walk-in camping area will continue be provided with access along Upper Colo Road and from Mountain Lagoon via Mailes Ridge;
 - **Sheepskin Hut**; basic facilities consisting of a toilet and barbeque facilities will be provided subject to a conservation plan for the site;
 - **Commission Road**; several low-key picnicking and camping sites adjacent to the road will be established (eg near Kings Cross); and
 - **Honeysuckle Creek**; small, low key car-based picnicking facilities are currently provided at Honeysuckle Creek near Bylong.
- * The Service will investigate providing low key lookout and picnic facilities at either Mount Boonbourwa or Coricudgy, in consultation with State Forests and adjoining landholders.
 - * The Service will investigate options for changing the name of Dunns Swamp.
 - * The option of providing small car-based camping areas will be investigated for the Newnes Plateau area, south of Newnes on the Wolgan River, Kangaroo Waterholes and at Coxs Gap.
 - * The Service will investigate options with Hawkesbury City Council for rationalising the management of the Wheeney Creek Picnic and Camping area.
 - * The Service will investigate the establishment of a formal car parking area on the Upper Colo Road servicing the Colo Meroo site, in consultation with Hawkesbury City Council and adjoining landholders.
 - * The Service will liaise with the Waterways Authority for the purposes of seeking a four knot speed limit on the dam at Dunns Swamp.

4.3.5 Horse Riding

Recreational horse riding in the park is mostly confined to the vehicle access system although a network of informal horse riding trails and bridle paths has developed in the Colo River and Wheeney Creek areas. Horse riding is a popular activity in areas adjacent to the park's southern boundary and this is where most pressure on the park occurs.

The use of horses in association with permissive occupancies for grazing is also common in the northern parts of the park. Horse riding within the park includes small group activities and larger organised endurance events. There are a number of groups who have an interest in the management of horse riding within the park. These include peak user groups and conservation groups.

The National Bicentennial Trail crosses the north-west section of the park along the Myrtle, Glen Alice, Never Never and Mycumbene Trails. No horse riding facilities are provided along this route. Overnight horse based camping is currently permitted at Dewys Forty near Nullo Mountain for users of the Bicentennial National Trail.

Many of the soil types within the park are highly susceptible to erosion. Horse riding can have unacceptable impacts in terms of erosion as well as increase nutrient inputs and create some safety concerns.

Policy

- * Horse riding will only be permitted in the park on public roads, public vehicle access routes and authorised horse riding routes. .
- * Horse riding along the Bicentennial National Trail within the park (Glen Alice, Myrtle, Never Never and Mycumbene Trails) will continue to be permitted and these trails will be designated as authorised horse riding routes.
- * Horse riding will not be permitted within the Wollemi Wilderness Area.
- *
- * A review will be undertaken of all authorised horse riding routes within the Wheeney Creek / Mountain Lagoon area of the park in conjunction with user groups. Future management of horse riding in this area will be determined by a Horse Riding Management Plan which will be placed on public exhibition before being adopted by the Director-General.
- * Authorised horse riding routes may be temporarily or permanently closed at any time to riders depending on track conditions or management needs. Prior consultation on management problems and options will be undertaken with peak user groups prior to implementation of any permanent closures.
- * Unauthorised horse routes within the park will be allowed to overgrow or will be actively rehabilitated if necessary.
- * Horse riding support facilities (eg water and yards) will not be provided in the park.
- * Prior approval from the NPWS Regional Manager will be required for competitive horse riding events, commercial horse riding or group activities involving > 8 horses. These activities will only be permitted where alternative recreational settings are not available within the region and the environmental impact of such activities is acceptable.
- * A minimal impact horse riding code will be promoted to horse riders using the park through brochures and licensing of commercial activities.
- * Overnight horse camps will only be permitted at 'Dewys Forty' near Nullo Mountain, for users of the Bicentennial National Trail.

Actions

- * The Service will prepare a horse riding management plan for the Wheeney Creek/Mountain Lagoon area of Wollemi National Park, which *inter alia* identifies authorised horse riding routes. The plan will be placed on public exhibition within 2 years of the adoption of this plan of management.
- * Authorised horse routes will be signposted and included on park maps.
- * The impact of horse riding within the park will be monitored by Service staff.
- * The Never Never and Mycumbene Trails will be closed to horses if impacts become unacceptable.
- * A code of conduct for horse riding within the sandstone parks of the Sydney Region will be developed after consultation with peak user and conservation groups. This code will be promoted to horse riders, clubs and other related horse riding organisations.
- * The Service will investigate the installation of gates which permit horseriding on the Myrtle, Glen Alice, Never Never and Mycumbene Trails.

4.3.6 Adventure Activities

Wollemi National Park is one of the most popular destinations in New South Wales for the adventure recreational activities such as canyoning, abseiling, rock climbing, orienteering, rogaining and canoeing.

Canyoning involves traversing narrow, slot-like sandstone chasms by a combination of rock scrambling, walking, swimming, li-loing and/or abseiling. This activity is characterised by both large organised groups at popular locations and small groups and individuals in more remote locations.

Canyons are common features in Wollemi National Park and canyoning is a popular summer activity in the Wolgan, Capertee and Wollangambe River despite difficult access to some locations (Jamieson, 1995). Rockclimbing and abseiling also occur in dispersed locations throughout the park but is most popular on the sandstone cliffs in the Wolgan Valley.

Orienteering involves traversing terrain and testing navigational skills to locate predetermined sites. This sport is characterised by very large organised groups using park areas for short periods (usually less than 12 hours).

All of these adventure activities have been undergoing a steady increase in popularity since the mid-1980's. In some areas they have caused environmental impacts, such as track formation, damage to vegetation and rock surfaces and camping impacts. Adventure activities are likely to increase in the future, particularly as new canyon areas are discovered and popularised. Management of adventure activities will focus on the

protection of natural features, minimisation of conflicts between user groups, maintenance of the quality of visitor experience and the encouragement of safety principles and self sufficiency and responsibility.

Despite difficult access to some parts of the river and frequent low water levels, canoeing, li-loing and white-water rafting are popular activities in the park particularly on the Colo River upstream of the Upper Colo Bridge (NSWCA, 1990).

Policy

- * Adventure activities will be defined by NPWS policy.
- * Maximum group size for adventure activities will be 12 persons unless otherwise specified below or otherwise approved by the NPWS Regional Manager.
- * Maximum group size for abseiling within the park, canoeing or rafting on the Colo River and its tributaries will be 8 persons unless otherwise approved by the Regional Manager.
- * Maximum party size for lead-climbing activities will be restricted to 4 persons unless otherwise approved by the NPWS Regional Manager.
- * Use of specific areas may be regulated to protect natural and cultural features, minimise park user conflicts, prevent over crowding or for public safety.
- * Specific facilities for adventure activities will not be provided.
- * Bolting of new routes will not be permitted within the park. Replacement of bolts on existing routes will be in accordance with Service policy.
- * Rock bolts or anchors will be removed where they impact on natural or cultural values or where they do not conform with Service policy.
- * The Service will promote minimal impact use for adventure activities within the park.

Actions

- * A code of conduct for canyoning, orienteering, rogaining, abseiling and rock climbing activities will be developed, promoted and reviewed in conjunction with user groups to address environmental protection, self-reliance and safety issues and will be incorporated within recreational consents and licenses.
- * A visitor use monitoring program for specific well patronised adventure activity sites will be established eg for the Wolgan River valley.

4.3.7 Cycling

Cycling is an increasingly popular recreation within the park. Public roads and management trails within the park provide opportunities for short rides through to multi-day excursions. Cycling is generally not permitted on walking tracks or within the Wollemi Wilderness Area.

Cyclists occasionally cause safety concerns to walkers on the Glow Worm Tunnel Walking Track during peak visitor periods. Generally however there is little conflict between cyclists and other park visitors. Many walking tracks are unsuitable for cycling due to the rough steep terrain.

Policy

- * Cycling will only be permitted on designated vehicle access roads, those management trails not within the Wollemi Wilderness Area, and The Old Coach Road and the Glow Worm Tunnel walking tracks. Bicycles must be walked on the Glow Worm Tunnel Trail between the carpark and a point 100 metres north of the tunnel.
- * Cycling will generally not be permitted within the Wollemi Wilderness Area or on walking tracks. However cycling may be permitted on certain management trails within the Wollemi Wilderness Area as approved from time to time by the Regional Manager and in accordance with Service policy.
- * Use of specific vehicle access routes for cycling may be regulated by signposting and/or mapping to minimise conflict with other park users and to avoid serious environmental impacts or risk of injury.
- * Maximum group size for cycling within the park is 12 persons unless otherwise approved by the NPWS Regional Manager.
- * The Service will promote minimal impact cycling within the park.

Actions

- * A minimal impact code of conduct for cycling activities will be developed and promoted in brochures and signs in conjunction with bicycle peak user groups to address safety and environmental issues.
- * Regional staff will, in consultation with user groups, identify, signpost and map those vehicle access routes and other areas which are suitable for cycling within the park.
- * The impacts of cycling will be closely monitored and where necessary restrictions on access to certain trails may apply.

4.3.8 Promotion of the Park

The majority of Wollemi National Park attracts comparatively few visitors compared to other sandstone parks of the Sydney region. This is due to the relative remoteness and ruggedness of the park with few destinations able to be accessed by two wheel drive vehicles or public transport. The park provides special opportunities due to its size and naturalness to increase public awareness of values associated with wilderness and biodiversity.

Promotion of the park is currently directed towards neighbours and park visitors. This includes providing directional signs, a park brochure, regular neighbour newsletters, a brochure and poster on the Wollemi pine and a brochure on the Newnes / Glow Worm Tunnel, Dunns Swamp and Colo-Meroo precincts.

Another key component of promotion occurs in the local community, where provision of educational material on the park contributes to enhancing appreciation of park values.

The park is widely appreciated for the opportunities it provides for adventure activities such as abseiling, canyoning and remote bushwalking. As pressure increases for these opportunities in the Sydney-Hunter region, impacts on the park will become a much more serious concern for park management.

Visitation and interest in the park is expected to grow considerably due to the interest generated by the Wollemi pine, the implementation of regional and local tourism marketing plans (eg Hunter and North West Sydney) and the Sydney Olympics.

Tourism master plans and strategies developed for the Blue Mountains area have identified a need for the development of a "Grand Circular (*Tourism*) Route" for the Blue Mountains area, together with the development of better infrastructure and signage along that route. Hawkesbury Council and local Service staff have also identified a need for a shared visitor information centre on or near Bells Line of Road near Bilpin, to complement the visitor centres on the Grand Circular Route in the southern Blue Mountains.

It has been suggested that this centre would not only be an important component of the Grand Circular Route proposal, but would provide a base for eco-tourism and environmental education activities in the northern Blue Mountains area and form a base for park operations in the northern Blue Mountains, Gardens of Stone and southern Wollemi National Park areas.

Policy

- * The Service will promote the following major themes within the park:
 - the importance of the parks and reserves of the Blue Mountains region for biodiversity conservation and associated World Heritage values;
 - wilderness values and a wilderness code of conduct;

- appropriate use of the park, particularly bushwalking and touring opportunities and minimal impact codes or practices for high impact activities such as horse riding, recreational vehicle use and adventure activities; and
 - the importance of early settlement and use of the park area particularly of the huts and oil shale refinery sites.
- * Interpretive and public education programs will target park neighbours, local communities and schools, high impact recreationists and visitors to vulnerable or sensitive sites (eg canyon and caves).
 - * The Service will actively participate in regional tourism and regional development organisations and will co-operate with the Department of Tourism in the development and implementation of regional tourism marketing strategies.

Actions

- * The park information brochure on the park will be updated.
- * Brochures, posters and interpretive signs will be prepared and reviewed on:
 - the Wollemi Wilderness Area and the Greater Blue Mountains World Heritage Area;
 - vehicle touring opportunities;
 - bushwalking and camping opportunities within the park particularly at Newnes Shale Oil Refinery Ruins / Glow Worm Tunnel precinct, Deep Pass, Dunns Swamp, Colo Meroo and Wheeney Creek areas;
 - features of natural and cultural heritage importance such as the Newnes / Glow Worm Tunnel precinct and the Wollemi pine.
- * An annual newsletter on the park will be produced and promoted to park neighbours.
- * Service staff will assist authors and publishers with information on the park and will encourage the promotion of minimal impact recreational use where possible.
- * The Service will ensure that information on minimal impact recreational use of the park is available on all Service park publications, at visitor centres and on park interpretive/information displays.
- * Park interpretive/information displays will be located in Mudgee, Rylstone, Dunns Swamp, at the proposed Mount Boonbourwa Lookout , Newnes Oil Shale Refinery Ruins / Glow Worm Tunnel precinct, Deep Pass, Mountain Lagoon and Upper Colo, Colo Heights, Putty, Bulga, Jerrys Plains and at selected huts.
- * The Service will investigate options for the construction of a visitor centre on or near the Bells Line of Road near Bilpin in conjunction with local councils, local economic development boards and tourism organisations.

- * The Service will supply the park brochure and a range of other NPWS publications on the park to local tourist information centres.

4.3.9 Research

The function of research in the park is to assist in the understanding of its resources, use and effective management. Wollemi National Park has limited potential to attract tertiary institution interest in undertaking research because of the park's distance from population centres and its difficult access and remoteness.

The park and its regional setting however offers an outstanding range of research opportunities that would provide important information for park management. These include topics such as a recreation needs analysis, recreational use patterns and user impacts; fire ecology, hazard/risk assessment and fire behaviour research; pest species distribution and impacts; threatened species ecology, habitat requirements and distribution; survey and assessment of significance of cultural sites; adequacy of conservation of plant communities and economic valuation of park and reserves to the region.

There is currently very little published material available which the Service can use to assist with management of the park.

Policy

- * Priority will be given to research and survey of the following:
 - threatened species distribution, habitat requirements and ecology;
 - adequacy of conservation of major plant communities within the region;
 - pest species distribution, ecology and control;
 - cultural heritage sites and assessments of significance; and
 - recreational needs analysis and recreational user impacts particularly for activities such as horse riding, cycling, adventure activities and recreational vehicle use.
- * Research activities in the Wollemi Wilderness Area will be restricted to those which are non-destructive; or if destructive cannot reasonably be undertaken at other locations and which will provide important information for park management purposes.
- * All research activities within the park will require prior consent from the Regional Manager.

Actions

- * A prospectus of research projects will be prepared annually and discussed with universities.
- * The Service will establish a Wollemi National Park Research Fund for which proposals from post graduate research students and others will be sought.

Proposals will be assessed according to the policies above and offers of financial and in-kind support will be made to successful applicants.

4.3.10 Management Facilities

Wollemi National Park is currently managed by Blue Mountains and Central Coast Regions with regional offices at Gosford and Blackheath. Staff work locations have also been established at Mudgee, Rylstone, Bulga, Colo Heights and Richmond.

With the exception of Richmond these facilities work well for park management purposes particularly in the northern section of the park. A proposal to relocate the Richmond work location to the south-eastern section of the park has been proposed for some time (see also Section 4.3.8 Promotion of the Park). It is proposed that a visitor centre/workshop be located somewhere in the Bilpin area on the Bells Line of Road to better manage visitation and tourism in the south-eastern section of the park including the Wheeney Creek, Colo Meroo and northern Blue Mountains National Park areas (eg Mount Banks and Wollangambe River area).

Regional staff are also investigating options for the establishment of a residence/workshop in the Lithgow / Newnes area to better service and manage the Newnes / Glow Worm Tunnel precinct, Deep Pass, Newnes Plateau and Capertee River areas of the park together with the adjacent Gardens of Stone National Park.

Other management facilities in the park include fire management utilities such as access trails and helipads. Access routes required for essential park management and private property access are shown on the map inside the back cover of this plan.

Policy

- * Park management infrastructure will be located off-park or on disturbed areas on-park wherever possible and will be subject to environmental and financial impact assessment.
- * Park management access routes will be maintained for the following purposes:
 - fire management including prescribed burning and wildfire control and associated purposes;
 - pest species management;
 - maintenance of cultural heritage sites;
 - park survey;
 - regulatory activities;
 - other purposes associated with the implementation of this plan; essential vehicular access for other organisations undertaking their statutory responsibilities; and
 - rehabilitation purposes.

- * No additional park management access routes will be constructed except in the following situations:
 - re-alignment of an existing route to a more environmentally acceptable location;
 - protection of specific natural and cultural heritage values, property or life where such protection is more important than the impact of the track; and
 - emergency situations (eg wildfire control) where there is no practical or prudent alternative.

- * Park management access routes will be signposted and mapped and managed for essential park management access and/or property access purposes only in accordance with the policies within this plan.

- * The following major access routes within the park will be maintained for essential park management purposes (see also those routes within the Wollemi Wilderness Area - Section 4.1.6).
 - Park boundary trails near Bulga and Jerry's Plains constructed originally as fire suppression lines;
 - Glen Gallic and Yarrowa Trails;
 - Reubens Trail;
 - Kerrabee and Mailmans Gap Trails;
 - St Helena Trail;
 - Mycumbene Trail;
 - Never Never Trail;
 - Spring Log Trail;
 - Nullo (East) Trail;
 - Nullo (West) Trail;
 - Cox's Creek Trail;
 - Growee Trail;
 - Bylong Trail;
 - Glen Alice Trail;
 - Canobla Gap Trail;
 - Capertee Creek and Little Capertee Creek Trails;
 - D'Arcy Range Trail;
 - Tootie Creek Trail;
 - Cabbage Tree Creek Trail;
 - Gaspers Ridge Trail;
 - Gees Arm Trail;
 - Trails in the Wheeney Creek area of the park providing access to properties off Blaxlands Ridge Road, Comleroy Road and Putty Road;
 - Wheeney Gap (North and South) and McMahons Road Trails;
 - Gaspers Lookout Trail;
 - High Ground Trail;
 - Bowan Hill Trail to Bowan Hill;
 - Drip Rock Trail;
 - Grassy Hill Trail beyond Canoe Creek gate to the wilderness boundary;
 - Culoul Range Trail beyond Hollow Rock to the wilderness boundary;
 - Wirraba Trail from Long Wheeney Creek to Putty Creek;

- Melaleuca Trail; and
 - Those trails referred to within Section 4.1.6 Wilderness.
- * Park management access routes will be maintained to dry weather 4WD standard and will not be available for public vehicle use except as below.
 - * Park management access routes may be used for public vehicle access purposes subject to the provisions of :
 - A neighbour/inholding access agreement (see Section 4.1.6 - Wilderness; and Section 4.3.11- Alien Uses);
 - An alien tenure, research or commercial licence; or
 - A consent from the Regional Manager for exceptional or special interest purposes (eg access to cultural sites and access for the disabled) where no reasonable alternative exists, where the environmental and financial impacts are acceptable and where there are minimal impacts on other user groups (refer also Section 4.1.6 - Wilderness).
 - * Park management access routes and associated facilities no longer required by the Service or other approved user groups will be allowed to overgrow or will be actively rehabilitated using indigenous plant and soil material and methods recommended by the Department of Land and Water Conservation.
 - * Aircraft will not be permitted to land within the park unless part of an authorised management operation.

Actions

- * The Service will undertake an investigation into the options for the relocation of the Richmond office and the establishment of a visitor centre near the south-east section of the Park and for establishing a staff works location in the Lithgow / Newnes area.
- * The following routes within the park will be allowed to overgrow or will where necessary be actively rehabilitated using techniques recommended by the Department of Land and Water Conservation (see also Section 4.1.6 - Wilderness):
 - Wirraba Trail from Wirraba Mountain east to Putty Creek;
 - Unnamed side trails off the Martindale Trail;
 - Tayan Peak Trail;
 - Wolgan River Trail from Newnes to Annie Rowan Creek;
 - Mount Cameron to Mount Barakee route;
 - Unnamed side trails off the Culoul Range, Grassy Hill and the Putty Road (eg near High Wollemi); and
 - Other vehicle access routes not part of the authorised vehicle access system as mentioned above or not shown on the map inside the back cover of this plan.

- * Service staff will prepare and implement an annual program of trail maintenance and rehabilitation works consistent with the above policies.

4.3.11 Alien Uses, Leases and Licenses

There are currently a number of organisations and individuals occupying or using lands reserved as Wollemi National Park for public purposes (eg Integral Energy and TransGrid powerlines and local council pipelines) or private purposes in association with inholdings. Although these uses are inconsistent with the objectives of the Act, many are the result of the Section 39 "Existing Interest" provisions of the Act.

This does not however, preclude the Service, on behalf of and with approval of the Minister, reaching an agreement in regards to the future use or conditions of use of the park for these alien uses. Alien uses can affect to varying degrees the natural, cultural and recreation values of the park. For example permissive occupancies for grazing can result in trampling, selective grazing, weed dispersal and soil erosion and are therefore not consistent with the purposes of reservation of the park.

Roadside drainage works and stockpile sites along the Putty Road and Bells Line of Road can have more subtle, but equally undesirable alterations to water drainage in the park. The 330KV powerlines and associated developments through the Bulga, Colo and Kurrajong areas generate major impacts in the park such as clearing of vegetation, use of herbicides, maintenance of access trails and the visual impact of the lines and towers. The Service has a agreement with Electricity Association of NSW for the construction and maintenance of powerlines within national parks.

Many of the alien works, facilities and operations are not presently covered by a lease, licence or easement under the Act, or by any other form of agreement.

There are also a small number of inholdings and/or neighbouring property holders which require formalised access agreements through the park (eg access along the Army Road, Wirraba Trail and Martindale Trail).

Policy

- * The Service will liaise with organisations and individuals occupying or using lands reserved as Wollemi National Park to assess the nature, authority, impact and necessity for their presence.
- * Permissive occupancies will be phased out of the park within a 2 year period from the adoption of this Plan (see also Section 4.1.6 Wilderness and Section 4.1.4 Introduced Plants and Animals).
- * The Service will formalise and update agreements for all essential alien uses (eg transmission lines, water pipelines, vehicle access and radio towers) within the park in accordance with the Act.
- * Other alien uses which are not essential and/or not covered by formal agreements within 4 years, will be terminated and/or removed.

- * New works, facilities or operations proposed by any organisation or individual will not be permitted within the park unless they are consistent with the Act, the purpose of reservation of the park and the objectives of this plan.
- * The Regional Manager will approve access to private or leasehold property within the park only subject to appropriate conditions in the following circumstances; ie where
 - no reasonable alternative exists;
 - approval from other relevant authorities and neighbours has been given;
 - the environmental impact of proposed use is acceptable;
 - the proposed use is consistent with approved past use patterns; and
 - the access route is also required for essential park management purposes.
- * The Service will seek commercial returns for all alien uses in the park.

Actions

- * The Service will seek the co-operation of the RTA for the management of stockpile sites which may impact on the park.
- * The Service will negotiate with TransGrid for maintenance agreements, rationalisation and removal and rehabilitation where possible of powerline easements and associated infrastructure.
- * The Service will issue termination notices to all holders of permissive occupancies park within a 2 year period from the adoption of this Plan.
- * The Service will seek to formalise or renegotiate all alien tenure licences within the park over the next four years and will seek the Valuer-General's assistance in determining revenue returns to the Service.
- * The Service will develop formal access agreements with landowners requiring access along management access routes consistent with the policies above.

5. PLAN IMPLEMENTATION

Plans of management are part of a system of planning employed by the Service to direct the management of national parks throughout the State. This plan is placed in a hierarchy of planning instruments used to guide the management of Wollemi National Park. Other planning instruments include Service-wide policy documents, conservation plans, species recovery plans, Section 52 fire management plans, local environmental plans and the Sydney Regional Environmental Plan No. 20.

The implementation of this plan will be undertaken within the annual programs of the Service. Priorities, determined in the context of directorate strategic planning, 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 on-going review, within which works and other activities carried out within the park are evaluated in relation to the objectives laid out in this plan.

Activities undertaken in the park by the Service are required to be assessed under Part 5 of the Environmental Planning and Assessment Act. The Service requires that a review of environmental factors (REF) be prepared in accordance with Clause 82 of the Environmental Planning and Assessment Regulation 1994 for all activities likely to impact on the park.

Plans of management are statutory documents and therefore have special significance. In accordance with Section 81 (4) of the National Parks and Wildlife Act, 1974, and notwithstanding anything in that or any other Act or in any instrument made under that or any other Act, no operations can be undertaken within Wollemi National Park except in accordance with this plan.

This plan will be implemented over a five to ten year period. If, after adequate investigation, operations not included in this plan are found to be justified, either for the purpose of conserving the park's resources or for their use, this plan will be amended in accordance with Section 75 (8) and (9) of the Act.

Other lands may be added to the park during the currency of this plan. Such lands will be managed to be consistent with this plan. If other lands acquired are proposed to be managed for a purpose inconsistent with this plan, such proposals will be placed on public exhibition as an amendment to the plan.

As a guide to the orderly implementation of this plan, relative priorities for identified activities are summarised overleaf.

Activity	Plan Ref
HIGH PRIORITY	
Liaise with local government regarding developments adjoining the park	4.1.1
Rehabilitate Bilpin motocross circuit	4.1.1
Rehabilitate Gospers airstrip	4.1.1
Rehabilitate the gravel quarry at Nullo Mountain	4.1.1
Develop/implement species recovery plans for threatened species	4.1.2 & 4.1.3
A biodiversity survey program will be designed and implemented	4.1.2 & 4.1.3
Develop management profiles/guidelines for important species	4.1.2 & 4.1.3
Map the distribution of threatened species and potential habitat	4.1.2 & 4.1.3
Control of blackberry within the proposed wilderness area, along waterways adjacent to the park boundaries and in the Wolgan Valley, Blackwater Creek, Nullo Mountain and Cudgegong River.	4.1.4
Control Cape ivy in the Wolgan Valley	4.1.4
Control goats on the north-west escarpments and at Nullo Mountain	4.1.4
Control lantana at Parsons Creek	4.1.4
Control pigs at Nullo Mountain, Newnes Plateau, Putty and Mellong Swamp	4.1.4
Control St Johns wort at Nullo Mountain	4.1.4
Control of Willow on the Colo River	4.1.4
Control tree of heaven at Koondah Creek California and Newnes	4.1.4
Control cattle on the Wolgan and Capertee Valleys, northern park areas and Mellong Swamp	4.1.4
Control wild dogs and foxes along the north western perimeter	4.1.4
Control of weeds within the Wheeney Creek catchment	4.1.4
Prepare and implement a park fire management plan	4.1.5
Attend bushfire committee meetings and contribute to s.52 plans	4.1.5
Rehabilitate unauthorised vehicle access routes within wilderness	4.1.6
Maintain park management access routes within wilderness	4.1.6
Negotiate wilderness agreements for inholdings/neighbours	4.1.6
Prepare a Wollemi Wilderness Area brochure	4.1.6

Promote minimal impact use of wilderness	4.1.6
Identify acquisition priorities within the wilderness area and negotiate purchase	4.1.6
Signpost the Wollemi Wilderness Area	4.1.6
Implement a regular monitoring program of Aboriginal sites	4.2.1
Maintain significant historic heritage sites	4.2.2
Undertake interim protection works and further research at Newnes	4.2.2
Adopt and promote minimum impact recreational touring program	4.3.2
Develop guidelines for effecting rehabilitation of vehicle access routes	4.3.2
Maintain vehicle access routes to appropriate trafficable standards	4.3.2
Implement program of rehabilitating unauthorised access routes	4.3.2
Investigate and rationalise management of facilities - Wheeney Creek	4.3.4
Prepare a horse riding management plan for the Wheeney Creek/ Mountain Lagoon area	4.3.5
Signpost and map authorised horse riding routes	4.3.5
Develop a code of conduct for horseriding in Sydney Region	4.3.5
Develop a code of conduct for adventure activities	4.3.6
Prepare and review interpretive material on the Wollemi Wilderness Area	4.3.8
Prepare and review interpretive material on vehicle touring	4.3.8
Produce an annual newsletter on the park for neighbours	4.3.8
Update the park information brochure	4.3.8
Prepare a research prospectus	4.3.9
Maintain park management access routes to appropriate standard	4.3.10
Develop formal access agreements for owners of inholdings	4.3.11
Develop agreements with the RTA and TransGrid	4.3.11
Terminate all permissive occupancies	4.1.6 & 4.3.11
Formalise/renegotiate all alien tenure licences	4.3.11
MEDIUM PRIORITY	
Rehabilitate parts of the former township site at Newnes	4.1.1
Rehabilitate the former Wolgan coal mine near the Wolgan River	4.1.1

Develop and implement a community relations strategy for Wollemi pine	4.1.2
Co-operate with local Landcare groups in the recovery of the regent honeyeater and other threatened species and their habitats	4.1.3
Survey and record locations and numbers of introduced species	4.1.4
Remove European honeybee swarms/hives	4.1.4
Maintain and analyse fire history records	4.1.5
Undertake ongoing liaison with park neighbours on co-operative fire management	4.1.5
Rehabilitate and remove management structures from wilderness	4.1.6
Revise interpretive material to include wilderness boundaries	4.1.6
Develop/implement a strategy of surveying and recording Aboriginal sites	4.2.1
Update interpretive displays and brochures for the Newnes Ruins	4.2.2
Prepare and implement a conservation plan for Newnes and Baerami	4.2.2
Prepare and implement hut conservation plans	4.2.2
Contribute to regional tourism strategies and projects	4.3.1
Implement and review guidelines for group and commercial recreational activities	4.3.1
Map, signpost and maintain all authorised walking tracks	4.3.3
Update walking track brochures and promote minimal impact bushwalking	4.3.3
Maintain and upgrade where necessary camping and picnicking areas	4.3.4
Investigate lookout and picnic facilities at Mount Boonbourwa or Coricudgy	4.3.4
Investigate options for changing name of Dunns Swamp	4.3.4
Liaise with Waterways Authority regarding imposition of 4 knot speed limit at Dunns Swamp	4.3.4
Develop a minimal impact code of conduct for cycling activities	4.3.7
Construct and upgrade interpretive displays	4.3.8
Prepare and review interpretive material on bushwalking and camping	4.3.8
Promote minimal impact use in all interpretive displays	4.3.8
Supply park publications to local tourist information centres	4.3.8
Investigate options for a visitor centre on Bells Line of Road at Bilpin	4.3.8

LOW PRIORITY

Rehabilitate disturbed areas within the catchment of Blackwater Creek	4.1.1
Discuss weed control options with the RTA	4.1.4
Prepare education kits on the impacts of feral animals on the park	4.1.4
Include fire use provisions within recreational consents and licences	4.1.5
Minimise impacts of aircraft flights over wilderness	4.1.6
Maintain recreational use register and audit major use sites	4.3.1
Liaise with other road/trail management authorities and neighbours	4.3.2
Upgrade walking tracks/routes	4.3.3
Investigate car based camping options at various locations	4.3.4
Investigate establishment of formal carpark at Colo Meroo	4.3.4
Monitor the impact of horse riding	4.3.5
Provision where necessary of horse riding access gates on National Trail	4.3.5
Implement a visitor use monitoring program for adventure sites	4.3.6
Remove rock anchors from wilderness areas	4.3.6
Identify, map and signpost cycling routes	4.3.7
Assist authors and publishers with information on the park	4.3.8
Prepare and review interpretive publications	4.3.8
Implement a research grant system for the park	4.3.9
Investigate options for relocation of management infrastructure	4.3.10

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7. DEFINITIONS AND ABBREVIATIONS

In this plan of management:

- * "Act" means the National Parks and Wildlife Act 1974 as amended from time to time and any Act replacing the same.
- * "bush fire management committee" means a committee constituted under Section 50 of the Rural Fires Act 1997 and which is responsible for co-ordinating fire management activities within a local government area/s.
- * "conservation plan" means a conservation plan prepared in accordance with the Burra Charter (see ICOMOS below) and its associated guidelines (see Kerr, 1985) and which has been approved for adoption by the Director-General or delegate;
- * "declared wilderness" means the area within the park which is gazetted by the government as the Wollemi Wilderness and which is managed in accordance with the Wilderness Act 1987;
- * "DLWC" means the NSW Department of Conservation and Land Management;
- * "ICOMOS" stands for the Australian ICOMOS Charter for the Conservation of Places of Cultural Significance (ie the Burra Charter) which is a set of principles to help in planning the care and management of heritage items;
- * "identified Wollemi Wilderness Area" means the area assessed by the Service as fulfilling the wilderness criteria specified in Section 6 (1) of the Wilderness Act 1987;
- * "IUCN" stands for the International Union for the Conservation of Nature and Natural Resources;
- * "Minister" refers to the Minister responsible under the Act;
- * "Park" means the area of land permanently reserved by or under the Act and known as Wollemi National Park.
- * "Region" in the context of this plan means either the NPWS Blue Mountains Region or the Central Coast Region;
- * "Regional Advisory Committee" means the committee of community representatives approved by the Minister and appointed under the Act to advise and assist with the management of the area/Region for which they are appointed;
- * "Regional Manager" means the person appointed for the time being as the officer of the National Parks and Wildlife Service in charge of the Park or the Region in which the Park is located and includes any person acting as such;

- * "Section 52 plan" means a bush fire risk management plan or fire operations plan developed by a bush fire management committee and approved by the NSW Bush Fire Co-ordinating Committee in accordance with Sections 58 or 59 of the Rural Fires Act 1997;
- * "Service" refers to the National Parks and Wildlife Service of New South Wales;
- * "species recovery plan" means a plan prepared in accordance with Part 4 of the Threatened Species Conservation Act 1995;
- * "vehicle access route" means any public road or trail used for public or management vehicle access purposes to or through the park;
- * "voluntary conservation agreement" means a formal agreement made between the Minister and a property owner/lessee in accordance with the Act for the conservation of natural or cultural heritage.
- * "wilderness protection agreement" means an agreement between the Minister and a statutory authority or other Minister in accordance with the Wilderness Act 1987 for the management and protection of an identified wilderness area.
- * "wildlife" means native plants and animals; and
- * "Wollemi Wilderness Area" means the area gazetted by the government as the Wollemi Wilderness together with any subsequent gazetted additions. The area is managed in accordance with the principles established under Section 9 of the Wilderness Act.