

COOLAH TOPS NATIONAL PARK

PLAN OF MANAGEMENT

NSW National Parks and Wildlife Service

November 2002

This plan of management was adopted by the Minister for the Environment on 17 November 2003.

Acknowledgments

This plan of management is based on a draft plan was prepared by staff of Blue Mountains Region and Landscape Conservation Division of the National Parks and Wildlife Service with the assistance of specialists in Central and Western Directorates and Head Office. Mr Roy Cameron made a significant contribution researching the park's cultural history and assisting in the planning process.

During preparation of the draft plan a series of meetings was held with individuals and community organisations with an interest in the management of Coolah Tops National Park. Valuable information and ideas from these meetings and suggestions contributed by the former Upper Hunter District Advisory Committee have been incorporated into the draft plan.

The plan draws heavily on the findings of several investigations funded by State Forests of NSW into the plants and animals of Coolah Tops and the Service gratefully acknowledges the assistance of State Forests in making these reports available.

Cover photograph of Norfolk Falls, Coolah Tops National Park, by Michael Sharp.

NSW National Parks and Wildlife Service

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FOREWORD

Coolah Tops National Park is located on the Liverpool Range 30 km east of the town of Coolah in central NSW. It was reserved in 1996 and, with recent additions that have not yet been gazetted, has an area of 12,056 ha.

The park lies on a basalt plateau and protects extensive tall open forests including areas of old growth and the tallest recorded individuals of silvertop stringybark *Eucalyptus laevopinea* and snow gum *Eucalyptus pauciflora*. It is significant as a western outlier of moist montane habitat. The tall open forests support high populations of arboreal mammals and several threatened plant and animal species. A large number of native animal species are at their western limits of distribution in or near the park.

The high natural heritage values of the park will be protected through appropriate fire management, control of access, introduced species control and research to improve knowledge about the species present and their management requirements.

A relatively large number of Aboriginal sites have been recorded in the park, indicating that the area was used quite intensively by Aboriginal people. The sites will be protected from disturbance.

Several historically interesting structures remaining from previous agricultural and logging use are scattered through the park. The Cox's Creek Sawmill (formally Bone Creek) and forestry barracks will be interpreted. Brackens Hut will be maintained and used for visitor and staff accommodation. Other cultural resources will be recorded and protected from disturbance.

The Coolah Tops area is scenically attractive and is known for its tall stands of snow gums, giant grass trees, waterfalls and lookouts. It has been a low key visitor destination for some years. Since establishment of the park, day use and camping facilities have been progressively constructed at popular sites and information is being provided about the area's natural and cultural heritage and visitor opportunities. Visitor appreciation of the area's significance will be promoted and minimal impact practices will be encouraged.

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

**BOB DEBUS
MINISTER FOR THE ENVIRONMENT**

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

- * The Director-General gives notice that a plan of management has been prepared.
- * The plan is placed on public exhibition for at least one month and any person may comment on it.
- * The plan and copies of all representations are referred to the National Parks and Wildlife Advisory Council for consideration.
- * The Director-General submits the plan, together with the recommendations of the Advisory Council, to the Minister.
- * The Minister may adopt the plan after considering the recommendations of the Advisory Council or may refer the plan back to the Director-General and Council for further consideration.

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

This plan will apply to Coolah Tops National Park and any future additions to this park. Where management strategies or works are proposed for the park or any additions that are not consistent with this plan, an amendment to the plan will be required.

The planning process leading to the development of this plan has involved the collection and use of a large amount of information which, for reasons of document size, has not been included in the plan. For additional information or enquiries about any aspect of Coolah Tops National Park or this plan of management, please contact the Service's Mudgee Area Office at Shop 1/160 Church Street Mudgee or by phone on (02) 6372 7199.

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. Under the National Parks and Wildlife Act national parks are described as 'spacious areas containing unique or outstanding scenery or natural phenomena'.

For the purposes of preparing plans of management, the NSW National Parks and Wildlife Service has adopted the World Conservation Union Guidelines for Protected Area Management Categories (IUCN 1994) which define a national park as:

"A natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area, and (c) provide a foundation for 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. Management of national parks aims to minimise disturbance to natural and cultural heritage. Other land uses, for example agriculture, forestry and mining, are distinguished by an acceptance or encouragement of environmental modification. National parks, therefore, provide for only a limited part of the range of land uses in a region.

2.2 COOLAH TOPS NATIONAL PARK

2.2.1 Location, Gazettal and Regional Setting

Coolah Tops National Park is located on the Liverpool Range 30 km east of the town of Coolah in central NSW. The park covers the former Bundella State Forest and part of the Warung State Forest and was reserved in 1996. Additional land has been acquired (see Summary Map) and when added to the park, will bring the area to 12,056 ha.

The bulk of the park lies within the local government areas of Coolah and Merriwa Shires with a small area in Quirindi and Murrurrundi Shires. The district is largely agricultural and includes the rich Liverpool and Breeza Plains to the north and the Merriwa plateau to the south.

2.2.2 Importance of Coolah Tops National Park

Coolah Tops National Park is one of a series of conservation reserves sampling the basalt country of the Mount Royal and Liverpool Ranges. The other reserves are Barrington Tops, Mount Royal, Ben Halls Gap and Towarri National Parks and Wallabadah and Cedar Brush Nature Reserves. These areas lie along an east-west corridor and demonstrate changes in plant and animal communities with differences in topography and climate, particularly rainfall. Coolah Tops is the most westerly and driest area and the only one within the Brigalow Belt South Bioregion, apart from the small Cedar Brush Nature Reserve.

Coolah Tops lies at the junction of the Liverpool Range and the Warrumbungle Range. It provides a link between the more easterly basalt reserves and Warrumbungle National Park to the northwest, which has some tableland plant and animal elements.

Biological values

Coolah Tops is an isolated basaltic plateau in an otherwise lower and largely cleared landscape. It is also a westerly extension of the northern tablelands intruding into the western slopes. This position gives it botanical and conservation significance (Binns, 1996).

The park's dominating tall open forest vegetation communities differ from the other reserves on basalt in the district, which commonly support cool temperate rainforest or have different co-dominant species. Species such as New England blackbutt *Eucalyptus campanulata* and messmate *E. obliqua* which are widespread in similar habitats elsewhere in the Northern Tablelands are absent from Coolah Tops.

The park contains some old growth areas in former state forest flora reserves. It has extensive and structurally well developed snow gum *E. pauciflora* and silvertop stringybark *E. laevopinea* forests including the tallest recorded individuals of these species (Binns, 1996).

The sub-alpine forests of the park have disjunct occurrences in a small number of high altitude locations. The park will become increasingly important for conservation of cold-adapted plant and animal species as climatic warming continues to occur.

As well as silvertop stringybark, mountain ribbon gum *E. nobilis* occurs extensively in the park. Both species are regarded as poorly reserved. The latter is probably at the western limit of its distribution (Binns, 1996).

E. melliodora communities in lower parts of the park are representative of some of the areas on adjacent private property which have been cleared.

The recent additions to the park include the endangered grassy white box woodland community.

The rare plants *Discaria pubescens* (Briggs and Leigh 1995) and *Teucrium* species D, which is otherwise restricted to the Tamworth district, have been recorded in the park.

Coolah Tops supports a good range of native animals for its size and provides optimum habitat for many arboreal mammals. It has the highest recorded densities of the greater glider *Petauroides volans* (NPWS 1998). The greater glider population in the park is significant as it is near the western limit of the species' range (Kavanagh, 1995). The brown antechinus *Antechinus stuartii* and long-nosed bandicoot *Parameles nasuta* also appear to be at the western limit of their distributions in the park.

At least twelve species of skink are at or very near their western limits (Shields 1995 and NPWS 1998). These are the copper-tailed skink *Ctenotus taeniolatus*, Cunningham's skink *Egernia cunninghami*, black rock skink *E. saxatilis*, tree skink *E. striolata*, white's skink *E. whitii*, eastern water skink *Eulamprus quoyii*, barred-sided skink *Eulamprus tenuis*, red-throated skink *Eulepis platynota*, tussock skink *Pseudemoia pagenstecheri*, weasel skink *Saproscincus mustelina*, Jacky lizard *Amphibolurus muricatus* and *Lampropholis caligula*. Leseur's frog *Litoria lesueuri* may also be at or near its western limits (Shields). Records for the tussock skink, delicate skink *Lampropholis delicata*, *L. caligula* and weasel skink in the park are significant range extensions for these species (Shields and NPWS). The Cunningham's skink in the park differs in appearance from normal and may be a different species or subspecies (NPWS 1998).

A number of bird species at the western limit of their breeding distribution are found in the park - the yellow-tailed black-cockatoo *Calyptorhynchus funereus*, superb lyrebird *Menura novaehollandiae*, bassian thrush *Zoothera lunulata*, golden whistler *Pachycephala pectoralis*, black-faced monarch *Monarcha melanopsis*, rufous fantail *Rhipidura leucophrys*, brown gerygone *Gerygone mouki*, red-browed treecreeper *Climacteris picumnus* and wonga pigeon *Leucosarcia melanoleuca*. Several other bird species are near their western limits and altogether more than 20% of the park's birds are at or near their western limits.

The high number of species at or near their western limits emphasises the importance of Coolah Tops as an isolated western outlier of moist montane habitat.

Threatened animal species recorded in the park (listed in the *Threatened Species Conservation Act 1995*) are the endangered regent honeyeater *Xanthomyza phrygia*, which has been recorded in the new additions to the park, and the vulnerable glossy black-cockatoo *Calyptorhynchus lathami*, powerful owl *Ninox strenua*, barking owl *Ninox connivens*, masked owl *Tyto novaehollandiae*, peregrine falcon *Falco peregrinus*, common bent-wing bat *Miniopterus schreibersii* and large pied bat *Chalinolobus dwyeri*. Other threatened animals may also be present (see section 4.1.3)

Catchment value

The park lies on the boundary of the catchments of the Namoi, Macquarie and Goulburn Rivers. It forms the headwaters of the Talbragar River and several major creeks and has an important role in protecting water quality in these watercourses.

Scenic value

The Coolah Tops area is a prominent landscape feature in the region and forms a contrasting backdrop to the surrounding farmlands.

The tall forests, areas of ferny understorey, giant grass trees, basalt formations and waterfalls make the park very attractive and scenically varied. Panoramic views of the Liverpool and Breeza Plains are available along the northern edge of the park.

Cultural heritage

Aboriginal sites scattered throughout the park indicate that the area was well used by Aboriginal people prior to European settlement.

There are a number of structures remaining from past agricultural and logging activities at Coolah Tops, including the sawmill and barracks sites. These are of high local historical interest because of the former importance of forestry to the economy of the district and the history of strong public feelings about retention of logging versus conservation.

Research value

As an area of restricted habitat which provides a link between eastern and western plant and animal communities, the Coolah Tops plateau is scientifically interesting and provides a number of research opportunities.

Tourism, educational and recreational value

Coolah Tops is an area of naturally vegetated land in the otherwise largely cleared landscape of the surrounding district. This, combined with its scenic value, tall

forests and the numerous waterfalls and other features of interest give it high value for tourism and local recreational use.

Numbers of visitors are expected to progressively increase as facilities are provided and the area is promoted. Coolah Tops will provide easily accessible natural area destinations and recreation opportunities for a variety of visitors.

The natural and cultural significance of the park and interesting landscape also make it of educational value for local schools and community groups.

Summary of Significance

Coolah Tops National Park is of regional conservation significance for the following reasons:

- * the park protects an area of tall montane forest on basalt;
- * it lies on a westerly extension of the northern tablelands and thus supports different plant and animal communities to other basalt reserves in the region;
- the park has small areas of old growth forest and extensive areas of structurally well developed snow gum including the largest recorded individuals of this species;
- the endangered grassy white box woodland community and the rare plants *Discaria pubescens* and *Teucrium* sp. D are found in the park, and it has significant populations of the poorly reserved silvertop stringybark and mountain ribbon gum;
- the park provides optimum habitat for arboreal mammals, including large populations of the greater glider;
- the threatened regent honeyeater, glossy black cockatoo, powerful owl, barking owl, masked owl, common bent-wing bat and large pied bat are found in the park;
- many species of native animals are at or near the western limits of their distribution in the park; and
- the park protects the headwaters of several major rivers and creeks.

The park is of local significance for the following:

- it has a large number of Aboriginal sites and several structures remaining from past forestry and agricultural activities; and
- it is scenically attractive and provides a variety of recreation opportunities.

3. OBJECTIVES OF MANAGEMENT

3.1 GENERAL OBJECTIVES FOR NATIONAL PARKS

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

- * protection and preservation of scenic and natural features, including significant geological and geomorphological features;
- * conservation of wildlife, including maintenance of biodiversity and populations of threatened species;
- * maintenance of natural processes as far as is possible;
- * preservation of catchment values;
- * preservation of Aboriginal sites in consultation with the Aboriginal community;
- * conservation of non-Aboriginal historic features;
- * provision of appropriate recreation opportunities; and
- * encouragement of scientific and educational enquiry into environmental features and processes, cultural features and use patterns.

3.2 SPECIFIC OBJECTIVES FOR COOLAH TOPS NATIONAL PARK

In addition to the above general objectives the management of Coolah Tops National Park will be subject to the following more specific objectives:

- * protection of Coolah Tops National Park as a western sample of montane tall open forest on basalt;
- * conservation of populations of *Discaria pubescens*, *Teucrium* sp. D and the threatened glossy black-cockatoo, powerful owl, barking owl, masked owl, common bent-wing bat and large pied bat;
- * protection of habitat and populations of the many animal species which are at or near the western limit of their distribution in the park;
- * conservation of significant features illustrating former forestry and agricultural use of the area;
- * promotion of visitor and community appreciation of the scientific values of the park's plant and animal communities;
- * provision of a variety of ecologically sustainable low key visitor opportunities which encourage appreciation of the natural environment and cultural heritage of the park.

3.3 OVERALL STRATEGY

Coolah Tops is a new national park with a high local profile and community expectations for heritage conservation and improvement of tourism and recreation opportunities. The park is also relatively small and has significant natural and

cultural values. Management will give priority to protecting these values and addressing the impacts of past forestry and grazing activities. Opportunities for visitor use will continue to be provided at popular locations. Facilities will be progressively improved but will be kept low key and designed to promote appreciation of heritage values.

The following major management strategies and programs will be undertaken:

- control of introduced species, particularly blackberry, St Johns Wort, goats, pigs and foxes;
- appropriate fire management for protection of the tall open forests and habitat for significant native plants and animals;
- on-going maintenance of species records, research and monitoring of impacts to ensure long term conservation of the park's plant and animal communities;
- progressive recording, protection and interpretation where appropriate of cultural heritage sites;
- regular liaison with other government agencies, neighbours and community organisations in relation to management programs; and
- provision of low key day use, camping, walking, viewing and interpretive facilities at features of interest, primarily at the western end of the park. Vehicle based camping will be restricted to three locations in order to minimise the impacts of camping and provide a satisfactory experience at the main visitor destinations.

4. POLICIES AND FRAMEWORK FOR MANAGEMENT

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

- 4.1 NATURE CONSERVATION
- 4.2 CULTURAL HERITAGE
- 4.3 USE OF THE AREA

Natural and cultural heritage and on-going use are presented individually for convenience and clarity. In practice, however, they are strongly inter-related and together form the landscape of an area. Much of the Australian environment has been influenced by past Aboriginal and non-Aboriginal land use practices and the activities of modern day Australians continue to influence bushland through recreational use, cultural practices, the presence of introduced plants and animals and in some cases air and water pollution.

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

The actions identified in the implementation table at the end of the plan 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 policies set out below.

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

4.1 NATURE CONSERVATION

Nature conservation covers all aspects of the natural environment including geology and soils, water quality, native plants and animals and the relationship between these. For convenience, management of landscape values, introduced species and fire are also considered in this section.

4.1.1 Geology, Landform and Soils

Coolah Tops is an elevated basalt plateau on the Liverpool Range (part of the Great Dividing Range). The plateau rises steeply above the surrounding lands and is flanked by cliffs along its northern edge. Columnar basalt formations are found scattered along the northern escarpment of the plateau with readily accessible examples at Tamalie Creek Falls and also at Bald Hill Creek Falls. The basalt is known as the Liverpool Range Beds and is thought to have originated from volcanic vents further to the east on the Liverpool Range during the Tertiary period. Rock types are olivine basalt and dolerite with occasional sediment interbeds.

Most of the park is above 1000m ASL, with the eastern end being a little higher than the western part of the park. The Liverpool Range runs through the middle of the park and from here numerous creeks drop into deep narrow valleys to the south and northwest. Waterfalls occur on several of the creeks. The headwaters of the Talbragar River are located in the centre of the park. The creeks flowing northwards ultimately drain into the Namoi River and those to the south drain into the Macquarie or Goulburn Rivers.

Due to its elevation, the area has a cool temperate climate with frequent frosts and occasional snow. Rainfall is quite high (nearly 1000 mm per year).

Soils are generally rocky and shallow but fertile because of their basaltic origin. In most areas the soils are stable, but those in the swampy areas and herbfields are easily damaged by vehicle use, horse riding, pig rooting and excessive foot traffic. Tracks across swamps in various parts of the park have been closed to public motor vehicles and horses but have been retained for walkers, cyclists and management vehicles. It will be necessary to monitor the impacts of use.

Policies

- * All works will be designed and undertaken in a manner which minimises soil erosion and avoids water pollution.
- * The use of some tracks will be restricted if the impacts of use becomes unacceptable.

Action

- * The impacts of walkers, cyclists and management vehicles on the tracks which cross swamps will be monitored.

4.1.2 Native Vegetation and Introduced Plants

The vegetation of Coolah Tops was surveyed during 1993 and 1994 by Binns (Binns, 1996) and is described below.

Tall open forests dominate the plateau, supported by the fertile soils and good rainfall. Snow gum *Eucalyptus pauciflora* dominates the best quality sites at high altitudes and occurs as pure stands or in association with mountain white gum *E. dalrympleana*, mountain ribbon gum *E. nobilis* and black sally *E. stellulata*. The understorey is usually grassy with scattered shrubs of silver wattle *Acacia dealbata*, *Asperula conferta*, *Carex breviculmis* and *Leptospermum gregarium*.

Silvertop stringybark *Eucalyptus laevopinea* is the most widespread species, occurring both on the plateau and in open forests on upper slopes. It is found in pure stands or in association with ribbon gum, mountain white gum, apple box *E. bridgesiana*, brittle gum *E. praecox*, yellow box *E. melliodora* and rough-barked apple *Angophora floribunda*. In some areas ribbon gum is the dominant species. Commonly there is a grassy and herbaceous ground cover with few shrubs. Species include tussock *Poa labillardieri*, *Poa sieberiana*, bracken *Pteridium esculentum*, tall bluebell *Wahlenbergia stricta*, *Microlaena stipoides*, slender tick-trefoil *Desmodium varians* and twining glycine *Glycine clandestina*. Some areas, particularly the eastern end of the park and the former flora reserves, have a dense ground cover of bracken and common ground fern *Calochlaena dubia*. In areas with a shrubby understorey, common species include tree violet *Hymenanthera dentata*, sticky daisy-bush *Olearia elliptica*, *Cassinia quinquefaria* and sweet bursaria *Bursaria spinosa*.

Rough barked apple, apple box and silvertop stringybark occur as woodland along creek lines at lower altitudes on the southern side of the park. In sheltered gullies there is a low canopy of rainforest elements including brush muttonwood *Rapanea howittiana*, small-fruited olive *Notelaea microcarpa*, native peach *Trema aspera* and pittosporum *Pittosporum undulatum*. River oak *Casuarina cunninghamiana* occurs in a narrow strip along Cattle Creek, Branch Creek and Cooba Bulga Creek. This is of significance as the species is inadequately conserved.

Small areas of long-leaved box *E. nortonii* low open forest occur on cliff tops on the northern and western boundaries. The understorey consists of *Cassinia quinquefaria*, *Acacia neriifolia* and sticky daisy-bush with ground covers.

Swamps of black sally *E. stellulata*, with a thick understorey of tea tree *Leptospermum polygalifolium* or native grasses and herbs occur in a number of locations. There are also isolated occurrences of sensitive low-growth herbfields (grassy balds) on the western end of the Coolah Tops plateau.

Black sally also occurs with mountain white gum along creeks on the plateau. *Echinopogon ovatus*, *Microlaena stipoides*, *Blechnum ninus* and *Acaena novae-zelandiae* are the most common ground covers.

As stated in section 2.2.2 the endangered grassy white box woodland is found in the new additions to the park and two uncommon plant species are found in the park. *Discaria pubescens* occurs in scattered localities but is generally more abundant near creeks in grassy forest. It is a widespread (although uncommon) species, occurring in several national parks. *Teucrium* species D has been recorded as only one small population near the western boundary of the park. It is otherwise restricted to the Tamworth district. The population in the park should be monitored and steps taken to protect it if necessary.

Connections with other naturally vegetated land

The Coolah Tops area is largely surrounded by cleared agricultural land apart from the remaining part of Warung State forest to the east and relatively small areas of forest on private land at lower elevations and along the range. Remaining naturally vegetated areas on private land are valuable remnants of formerly more widespread plant and animal communities and play an important role in maintaining the viability of the park's habitats and movement of species between Coolah Tops and other large naturally vegetated areas. Land owners will be encouraged to conserve these areas through voluntary conservation agreements.

Disturbances and introduced species

Much of the park area has been logged and grazed. The main species logged were silvertop stringybark and, to a smaller extent, mountain white gum and ribbon gum. The impact on the forest floristics and structure has been patchy and generally minor but some weed introduction has resulted. Recovery of the park's vegetation will be monitored, possibly using permanent growth plots previously established by State Forests.

An introduced species is defined in this plan as any plant or animal species not native to the national park. Introduced species within the park and on adjoining land are of concern because they have the potential to have detrimental effects on ecological values and can spread to and from neighbouring land. The native stinging nettle *Urtica incisa* and some pasture weeds such as spear thistle *Cirsium vulgare* and catsear *Hypochoeris radicata* are widespread in the park but do not seriously threaten the integrity of native vegetation in the area.

The noxious weeds St John's wort *Hypericum perforatum*, skeleton weed *Chondrilla juncea* and blackberry *Rubus ulmifolius* are found infrequently in the park, although blackberry is locally common in some riparian sites. The *Noxious Weeds Act 1993* places an obligation upon public authorities to control noxious weeds on land that they occupy to the extent necessary to prevent such weeds spreading to adjoining lands. Spraying programs are undertaken in the park for noxious weeds. Blackberry infestations are being progressively controlled but on-going monitoring

and treatment will be necessary. Access to many of the infestations is difficult and poses major problems for control of this species.

Two small pine plantations are located in the park - at The Barracks and The Pines - and there are also some other exotic trees at The Barracks, Cox's Creek Sawmill, Snow's Hut and at Brackens Hut. These are considered to have local historical interest and, as provided for in section 4.2.2, will be retained but not replaced as they die.

A pest plant control plan has been prepared for the park providing for survey, monitoring and treatment of noxious and environmental weed species.

Policies

- * Native vegetation will be managed to:
 - maintain the tall open forests and other plant communities of the park;
 - conserve the uncommon species *Discaria pubescens* and *Teucrium* species D;
 - encourage regeneration of areas previously logged or grazed; and
 - maximise habitat values for native animal species.
- * The Service will liaise with neighbours to encourage retention of areas of native vegetation close to the park, particularly communities at lower altitudes which are poorly represented in the park and plateau vegetation connecting the park with other reserves to the east.
- * Introduced plant species will be controlled in accordance with the pest plant control plan, with priority to those which:
 - have been declared noxious;
 - threaten the integrity of native communities;
 - may affect neighbouring lands;
 - have a high capacity for dispersal; and/or
 - are new isolated occurrences.
- * The co-operation of other authorities and park neighbours will be sought in implementing weed control programs.

Actions

- * The population of *Teucrium* species D in the park will be monitored and if necessary steps will be taken to protect it.
- * Neighbours will be encouraged to enter into voluntary conservation agreements for significant land adjoining the park.
- * The pest plant control plan will be implemented, with priority to blackberry and St John's Wort.

- * Changes in the park's vegetation as it recovers from previous logging and grazing activities will be monitored.

4.1.3 Native and Introduced Animals

A number of surveys have been carried out for native animals at Coolah Tops (Coles 1994, Kavanagh 1995, Shields et al 1995, NPWS 1998) and the findings are described below. The most extensive habitat is silvertop stringybark open forest. Other principle habitats are snow gum forests, escarpment, swamp and herbfield. Native fauna populations appear to be quite high but diversity, particularly of frogs, is not. The small number of frog species recorded may, however, reflect dry conditions during survey. Low fauna diversity generally may be because of the small size, isolation, relatively low habitat diversity and effects of logging activities. Significantly different native animal assemblages are found in the box woodland community of the lower slopes, little of which is found within the park.

One hundred and twenty-eight bird species have been recorded at Coolah Tops. These are primarily forest and woodland birds such as the little lorikeet *Glossopsitta pusilla*, tawny frogmouth *Podargus strigoides*, cicadabird *Coracina tenuirostris*, eastern yellow robin *Eopsaltria australis*, white-eared honeyeater *Lichenostomus leucotis* and the species listed in section 2.2.2. A variety of waterbirds such as the Australian little grebe *Tachybaptus novaehollandiae*, white-necked heron *Ardea pacifica* and straw-necked ibis *Threskiornis spinicollis* are found in wetland areas. Raptors include the brown goshawk *Accipiter fasciatus* and peregrine falcon *Falco peregrinus*. Populations of several generalist forest species - sulphur-crested cockatoo *Cacatua galerita*, crimson rosella *Platycercus elegans*, striated pardalote *Pardalotus striatus* and red wattle-bird *Anthochaera carunculata* - are very high (Shields).

Terrestrial mammals commonly recorded in the park are the eastern grey kangaroo *Macropus giganteus*, common wallaroo *Macropus robustus*, swamp wallaby *Wallabia bicolor*, red-necked wallaby *Macropus rufogriseus*, common wombat *Vombatus ursinus*, brown antechinus *Antechinus stuartii*, yellow-footed antechinus *Antechinus flavipes*, echidna *Tachyglossus aculeatus* and bush rat *Rattus fuscipes*. Records of arboreal mammals include the greater glider *Petauroides volans*, common ringtail possum *Pseudocheirus peregrinus*, pygmy possum, feathertail glider *Acrobates pygmaeus* and sugar glider *Petaurus breviceps*. Ten bat species have been recorded including the Gould's wattled bat *Chalinolobus gouldii*, large forest eptesicus *Vespadelus sagittula*, King River Eptesicus *Vespadelus regulus*, Tasmanian pippistrelle *Falsistrellus tasmaniensis*, Gould's long eared bat *Nyctophilus gouldii*, greater broad-nosed bat *Nycticeius rueppelli* and white-striped mastiff bat *Tadarida australis*. Further survey is needed for uncommon species such as the parma wallaby *Macropus parma* and native mice *Pseudomys* spp.

The park has a diverse and interesting reptile fauna. Reptile species recorded include the red-bellied black snake *Pseudechis porphyriacus*, eastern brown snake *Pseudonaja textilis* and the skink species listed in section 2.2.2. The tussock skink was the most common of these in the 1993/94 surveys. The lace monitor *Varanus varius* was found near Norfolk Falls. This is an unexpectedly high altitude record for the species (Shields).

Frog species recorded are the common eastern froglet *Crinia signifera*, eastern banjo frog *Limnodynastes dumerilii*, brown toadlet *Pseudophyrne bibronii*, Lesueur's frog *Litoria lesueuri* and Peron's tree frog *Litoria peronii*. These are widespread species. Further survey for frogs is needed.

All records of native animals (and plants) are collected and stored on the NSW Wildlife Atlas, a state-wide data base established by the Service. Information is built up about locality, habitat and breeding records and used to assist management of native wildlife.

As stated in section 2.2.2, seven threatened animal species are known to occur in the park – the regent honeyeater, masked owl, powerful owl, barking owl, large pied bat, common bent-wing bat, and glossy black-cockatoo. The park may be important for the masked owl as there were a relatively high number of recordings (Kavanagh, 1995). The high numbers of greater gliders in the park support the powerful owl population. The barking owl and glossy black cockatoo are likely to depend on lower slopes outside the park for foraging. Section 4.1.2 provides for encouraging establishment of voluntary conservation agreements on adjacent land.

It is possible that the spotted-tailed quoll *Dasyurus maculatus* is present in the park. Further survey is needed to establish this.

There are old records of the brush-tailed rock wallaby *Petrogale penicillata* and the koala *Phascolarctos cinereus* from Coolah Tops. It is possible that the koala is still present in the park in low numbers as it is known to occur in similar habitat on nearby private land. Further survey is needed to establish this. The brush-tailed rock wallaby, however, is likely to be locally extinct.

Recovery plans are progressively being prepared for species listed under the *Threatened Species Conservation Act 1995*.

Introduced species

Seven species of introduced mammals are found in the park - the rabbit, fox, cat, dog, pig, goat and black rat. Foxes and goats are common and it is possible that they have displaced spotted-tailed quolls and brush-tailed rock wallabies from the area (Shields et al). Pigs are mainly found close to the tea tree swamps and major drainage lines and are in large numbers in some areas. Fox baiting, pig trapping, aerial and field shooting of pigs are undertaken in the park. It is important that suitable control methods be used which avoid impact on non-target species such as the spotted-tailed quoll.

An introduced animal species control plan has been prepared for the park setting out techniques and programs, including monitoring of effectiveness.

A feral goat research program is being undertaken in the park in conjunction with the Department of Agriculture. At the conclusion of the program in 1999 a management plan will be prepared for control of feral goats in conjunction with neighbours.

Wild dogs occur infrequently in the park. Some wild dog control has been undertaken in response to stock loss problems on neighbouring properties, and will continue to be undertaken as necessary.

Policies

- * The diversity and high quality of habitats for native animals occurring in the park will be conserved.
- * Measures included in recovery plans for threatened species found in the park will be implemented.
- * Introduced animals will be controlled where they have a significant impact on native species. Priority will be given to fox, pig and goat control. Control programs will be undertaken in co-operation with the Merriwa/Mudgee, Coonabarabran and Tamworth Rural Lands Protection Boards and neighbouring land holders.
- * Wild dog control may be undertaken on the park boundaries to reduce the impact to livestock on adjoining land.
- * Pest control programs will use best practice methods to minimise impacts on non-target species such as the spotted-tailed quoll. No aerial baiting will be undertaken within the park.

Actions

- * On-going fauna observation, survey and recording will be undertaken. In particular survey will be undertaken for the spotted-tailed quoll, koala, parma wallaby, *Pseudomys* spp, amphibians and invertebrates.
- * On-going fox, goat and pig control programs will be undertaken and other measures in the pest animal control plan will be implemented.

4.1.4 Fire Management

Fire is a natural feature of the environment of Coolah Tops National Park and is essential to the survival of some plant communities. Frequent or regular fire, however, can cause loss of particular plant and animal species and communities. Fire can also damage some types of Aboriginal sites, historic sites and recreation facilities and threaten visitors and neighbouring land.

Management of fire in the park is an important and complex issue. Management must aim to achieve both long term conservation of natural communities and ongoing protection of life and property within and adjacent to the park.

Fire history

The pre-European fire history of the park is not known. Traditional fire practices of Aborigines in NSW have not been well researched and are therefore poorly understood. Aborigines are likely to have had burning regimes which encouraged grazing plants in areas in which they hunted game and kept corridors open in lands they travelled through. Fire was used for such purposes mainly in woodland and grassland areas, however, and there is little evidence of extensive use of fire in the forests of eastern NSW (Williams & Gill, 1995). It is considered unlikely that the Coolah Tops area was subject to frequent fire, whether natural or lit by humans, prior to European settlement.

It appears that there have been low intensity fires in the area lit by graziers since the middle of last century and by State Forests following logging. The frequency and location of these fires is not well recorded. The fires, combined with grazing and

logging may have affected the vegetation and native animals of the area. Wildfires are likely to have been infrequent. The last recorded wildfire was in 1984 and it burnt only a small proportion of the park area.

Ecological requirements

Fire frequency, intensity and season of occurrence are major factors influencing the distribution and composition of plant and animal communities. A variety of fire regimes is needed in order to conserve floristic diversity and provide diversity of habitat for animals. Fire management aims to maintain this diversity by restricting planned and, if possible, unplanned fires to only a part of the distribution of a vegetation type within the park at any one time. This approach will ultimately result in a mosaic of age classes for each of the vegetation types of the park.

Research elsewhere indicates that in order to provide for seed production by all plant species and suitable habitat for both arboreal and ground dwelling native animals, the eucalypt forests of the park should not be burnt more frequently than at least every 15 years, with some areas not burnt for much longer periods. Detailed ecological burning requirements for the various vegetation types found in the park will be determined in the fire management plan for the park.

Maintenance of the tall open forest structure and tree hollows are important requirements for conservation of the arboreal mammals and threatened owl species. Fire management strategies developed in recovery plans and in the fire management plan will take the needs of these species into account.

The fire response of the rare plants in the park is largely unknown. However, many rare plants tend to be fire sensitive and management should aim, as far as possible, to minimise the effects of fire in areas of rare species until their needs are better understood.

Strategies and co-operative arrangements

Coolah Tops has a low fire danger because of the cool climate, high rainfall and moist undergrowth. Perennial creeks on the plateau provide good fire breaks.

A variety of fire management strategies have been developed including fuel reduction, fire trails, detection and co-operative arrangements. Some, or at times all, of these are applied where appropriate to best protect life, property and natural and cultural assets within and adjacent to the park. In particular, close to boundary areas, fuel reduction programs and fire trail maintenance systems will be designed and implemented in co-operation with neighbours.

A fire management plan is being prepared for the park identifying the bushfire threat, requirements for the conservation of native plants and animals and management strategies and prescriptions. The plan will establish community protection measures in areas where it is identified that fire is a threat to life and property.

Under the *Rural Fires Act 1997* the Service is a fire authority and is responsible for controlling fires on the park and ensuring that they do not cause damage to other land or property. An important part of the Service's fire management is participation in local co-operative fire management arrangements. The Service is a member of the Coolah and Merriwa Bush Fire Management Committees which aim to co-ordinate fire management and fire control on a district basis.

The trails to be retained for management purposes, including fire management, are shown as management trails on the map (centre pages). No new permanent trails will be constructed, however, bushfire suppression operations may require the

construction of temporary trails, helipads and firelines. These will be closed and rehabilitated as part of post fire operations. Their location will be mapped and recorded for possible future use.

Policies

- * Fire will be managed in accordance with a fire management plan and the principles below to ensure:
 - protection of human life and property within and adjacent to the park;
 - conservation of rare, threatened and biogeographically significant plant and animal species and communities;
 - maintenance of plant and animal species and communities through the provision of fire regimes compatible with their conservation;
 - protection of Aboriginal sites, historic places, visitor facilities and management structures.
- * Prescribed burning may be used to achieve a variety of fire regimes in appropriate vegetation types, particularly the forests dominated by silvertop stringybark.
- * Prescribed burning may be undertaken to produce habitat suitable for species with specific requirements. Prior to any such burning an assessment of vegetation characteristics and the status of key species in the area will be undertaken to determine the need for fire and its likely ecological effects.
- * On-going review will be undertaken of the impact of prescribed burning on vegetation composition and structure. Programs will be modified where appropriate to minimise adverse impacts.
- * The use of heavy machinery for fire suppression will, where possible, avoid rare plants, Aboriginal sites, historic places, swamps and herbfields.
- * Areas disturbed by fire suppression operations will be rehabilitated as soon as practical after the fire.
- * Records and maps will be maintained of all fires as they occur.
- * Research will be encouraged into the ecological effects of fire in the park, particularly the fire response of rare plant species.
- * The Service will continue to actively participate in the Coolah and Merriwa Bush Fire Management Committees. Close contact and co-operation will be maintained with Council fire officers and volunteer bush fire brigades.
- * As far as possible fuel management will be carried out in co-operation with neighbours for mutual protection.
- * The park may be closed to public use during periods of extreme fire danger.

Actions

- * A draft fire management plan for Coolah Tops National Park will be exhibited in 2003. The plan will be finalised following consideration of any submissions received during the exhibition period.

- * Trail maintenance and fuel reduction programs will be prepared in accordance with the policies outlined above and the Fire Management Plan.

4.2 CULTURAL HERITAGE

Cultural heritage includes both Aboriginal and non-Aboriginal history and associated activities and works. It comprises important sites, structures and relics that may have aesthetic, historic, scientific and social significance to present and future generations.

4.2.1 Aboriginal History

The Coolah Tops area was part of the land of the Gamilaraay (or Kamilaroi) Aboriginal people whose territory stretched from Dunedoo and Merriwa northwards into Queensland. Today it is in the area of the Walhollow Local Aboriginal Land Council. The name Coolah is an Aboriginal word meaning Valley of the Winds.

Twenty five Aboriginal cultural sites have been recorded in the park plus a number of isolated artefact finds (Pearson, 1993). The sites indicate that Aboriginal people used the Coolah Tops area quite intensively for hunting and food gathering, either visiting it or living there for part or all of the year. Permanent water is available in most of the creeks and swamps and the variety of wildlife would have provided ample food.

Most of the sites are open camp sites on level ground adjacent to streams and swamps. The artefacts consist of flakes, backed blades, scrapers, cores, an axe fragment and a hammerstone. Most are made of quartz plus some of chert, basalt and quartzite. These materials would have been obtained on site from alluvial gravels. Almost all the artefacts were found along roads as ground visibility within the forest is very poor. It is probable that the sites extend off the roads and that many more sites exist in the park.

Oral history reports that a bora ring was located in the park near Norfolk Island Swamp but it appears to have been destroyed by agricultural activities. There is a possible shelter with art but this needs to be confirmed by further study. If it is an art site it is highly significant because of their rarity in the region.

The strong attachment of Aboriginal people to the land has been acknowledged. Archaeological sites are important to Aboriginal communities as they are a testament to their culture's great antiquity. Aboriginal people may also have traditional spiritual links with an area and hold knowledge which is important for nature conservation. Aboriginal sites are also important to non-Aboriginal people as they provide information about the past life of all humans.

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

Policies

- * The Walhollow Local Aboriginal Land Council and other relevant Aboriginal community organisations will be consulted and actively involved in all aspects of management of Aboriginal sites and values in the park.
- * Aboriginal sites will be protected from disturbance or damage by human activities.
- * All works with the potential to impact on Aboriginal sites will be preceded by an archaeological assessment.
- * The location of Aboriginal sites will not be publicised except where:
 - the agreement of the Walhollow Local Aboriginal Land Council and other relevant Aboriginal community organisations has been obtained;
 - a conservation study has been prepared and any management works necessary to protect the site from damage have been implemented; and
 - the Local Aboriginal Land Council has agreed that the site will be interpreted to promote public knowledge and appreciation of Aboriginal culture.

4.2.2 Non-Aboriginal Historic Places

Much of the information in this section is taken from Cameron, 1993.

European explorers Oxley, Lawson and Cunningham made expeditions in the vicinity of Coolah Tops in the early 1800s, looking for agricultural land. Allan Cunningham discovered a route across the range at Pandoras Pass just west of the park to the rich Liverpool Plains in 1823. In 1843 Ludwig Leichhardt travelled along the Great Divide through the basalt country of Coolah Tops. He commented upon the flatness of the tops and the presence of mineral salts in springs in the area.

Coolah Tops was part of the northern boundary of the 1829 'limits of location', outside of which settlement was not allowed. Even before the Government Order was issued, however, many settlers were already beyond the limits. Graziers took up land on the surrounding slopes and valleys during the 1830s and 1840s. Several of these runs included land on the Tops.

Prior to the 1860s few fences were erected on the runs and shepherds were employed to watch the flocks. It has been suggested (Cameron, 1993) that Chinamans Swamp is named for Chinese shepherds employed by Robert Fitzgerald on his property on the southern side of the Tops. Shepherds Peak, at the eastern end of the park, was probably a lookout for shepherds.

Following the Robertson Land Act of 1861 smaller blocks were selected. Records of applications for blocks at the western end of the plateau during the late 1860s and 1870s show fenced paddocks, cattle yards and a hut.

All of the blocks on the Tops were absorbed into state forest during the 1880s and the early 20th century, except for 40 acres on Hildegard Road which is still in freehold ownership. Grazing continued by way of leases of the forests, which were named Bundella and Warung State Forests. Former owners of the remaining freehold property, James Traill and his sons, held an occupational permit for grazing

in the forests for many years prior to 1972. They constructed a hut on an improvement lease (probably during the late 1930's) just outside their property. The hut was used by an employee, William Bracken, while grazing stock in the forest.

Logs were hauled out of the forest by bullock wagon prior to 1925 and later by truck. Sleeper cutting commenced on a small scale in 1931 and expanded in 1941. Logs, sleepers, poles, piles, props and fencing were cut, with sleepers hauled to the Coolah railway station.

The present access road was constructed in 1947 following Council pressure for government funding for upgrading of the forest road, owing to damage caused by sleeper hauling. The road was lengthened in 1954 through to Jemmys Creek. There are a number of other roads through the forest constructed for grazing and logging operations.

A small mobile sawmill operated in the Warung State Forest in the late 1930s and a timber mill was established in the town of Coolah in 1943 to take logs from the forest. In 1949 a permit was issued for construction by Coolah Sawmill Pty Ltd of a subsidiary mill in Bundella State Forest adjacent to Coxs Creek. It was known as the Bone Creek sawmill (later Coxs Creek Sawmill) and commenced operation in 1952. Timber cottages were constructed nearby for employees. The sawmill burnt down in 1959.

In 1949 a wooden hut for the forest supervisor and a men's barracks were located near the sawmill site. The foresters overnight hut was a three room timber and fibro building while the barracks was a relocated army building, modified on site. The buildings were typical of accommodation provided by the Forestry Commission in the late 1940s but were poorly sited and received little use. The barracks building was sold to Coolah Sawmill Pty Ltd in 1953 for employee accommodation and in the 1960s dismantled for use on an adjoining property. The foresters hut was sold to a nearby private property in 1971.

Trial pine plots were established in 1955 and during 1965 there was pressure for establishment of a pine plantation on Coolah Tops. This was not considered, however, to be economic. Pines remain in two locations - at The Barracks and The Pines.

As a result of requests by Coolah Shire Council a flora reserve - Norfolk Falls Flora Reserve - was gazetted in 1971. This was followed in 1987 by two more reserves - Warung Tops and Jemmys Creek. A local committee advised about management of the flora reserves. The recreational value of the forest was recognised and basic lookout, picnic and camping areas were established.

From the late 1960s there was community interest in permanent conservation of the Coolah Tops area. Proposals during the 1990s to establish a national park were controversial, however, because of the perceived effect on the economy of Coolah of the loss of jobs in the forestry industry. Following considerable public discussion of the issues the park was gazetted on 5th July, 1996.

Structures and other features remaining from former logging and grazing activities in the park area include:

- a boiler and mill footings from the former Bone Creek sawmill on Coxs Creek;
- site of the former forestry barracks at Coxs Creek - footing bases, some bricks and other material, a collapsed pit toilet, a stand of pine trees and several other exotic trees remain;

- site of Foresters overnight hut adjacent to barracks - footings and rubble remain;
- Brackens Hut- three rooms plus verandah filled in at one end, external chimney, shed, exotic trees - recently renovated;
- Snows Hut - built in 1963 by forest worker, Donald (Snow) Pengelly; located on Gemini Road, of weatherboard construction with a corrugated iron roof and internal fireplace; a small corrugated iron shed is adjacent;
- several dams;
- fencing;
- several sheep feeding troughs in various states of decay;
- vehicle tracks and former log dumps and ramps;
- clearings and tracks used for recreational activities; and
- pine trees within a large clearing at The Pines.

These features are of local historical and social interest. The sawmill and barracks sites have interpretive value (see section 4.3.1). It is intended to maintain Brackens Hut for ongoing accommodation of park visitors and Service staff (see sections 4.3.2 and 4.3.4). Snows Hut is in a stable condition but in need of repair to preserve the fabric of the hut.

As well as the above features there is a considerable amount of rubbish such as blown tyres, tin cans, broken glass and wire lying around on old log dumps and loading sites. This is not considered to have historic value and will be removed. An abandoned bus and rough shelter on Gemini Road and the old grazing lease fences will be removed.

Policies

- * The historic places of the park will be conserved in accordance with the Burra Charter of Australia ICOMOS.
- * Brackens Hut will be maintained in a stable and habitable condition.
- * Conservation works will be undertaken, if needed, on the sawmill ruins to maintain them in a stable condition.
- * Snows Hut will be maintained in a stable condition.
- * Other features will not be maintained except for clearings and tracks which will be used for recreation or management purposes.
- * The footings of the barracks and foresters hut will be retained and not disturbed by facility construction or management works.
- * Exotic trees at the Barracks, Cox's Creek Sawmill, the Pines, Brackens Hut and Snows Hut will be retained but will not be replaced as they die.

Actions

- * Historic places will be recorded.

- * A heritage assessment will be undertaken to guide work to be undertaken on Snows Hut.
- * Rubbish, fencing wire and temporary shelters will be removed.

4.3 USE OF THE AREA

Certain public and private uses may be appropriate in Service areas provided that they do not conflict with the primary purpose of conservation of natural and cultural heritage and are consistent with the objectives and strategy of the plan of management. The major categories of use that can be appropriate in Service areas are:

- education and promotion of the area, the Service and the conservation of natural and cultural resources;
- involvement of the public in aspects of management;
- certain types of recreation;
- research; and
- management operations by the Service and other authorities with statutory responsibilities in the area.

The extent to which these categories of use will be provided for in park is indicated in the following sections.

4.3.1 Promotion and Interpretation

The park has a large number of scenic, natural and cultural features of interest to visitors, all within a relatively small area. These include towering eucalypts, waterfalls, cliffs, extensive views, large grass trees, easily seen wildlife and historic features. Vehicle access is available to the main features and these sites will be able to sustain moderate levels of use with appropriate design. Provision of facilities such as picnic areas, camping areas and walking tracks is discussed in section 4.3.2 while this section discusses provision of information.

Directional and information signs are progressively being installed throughout the park as facilities are developed. Information bays are located near the park entrances giving an overview of the park and its visitor opportunities, and at The Barracks. Interpretive signs are progressively being installed at Coxs Creek Sawmill, The Grasstrees, Norfolk Falls, Bundella Lookout and the snow gums, and may be provided at other features.

There is occasional use of the park by schools and tertiary institutions. Provision of interpretive signs and development of The Pines for group camping (section 4.3.2) will facilitate educational use of the park.

Community and commercial operations such as guided tours which promote public understanding and appreciation of natural and cultural values are appropriate in the park. Any applications for tourism operations will be assessed in terms of their environmental impact, effects on other visitors, the interpretation programs offered and other relevant factors.

Because of the potential for large groups to have significant environmental impact, limits will be set on group sizes and frequency of use where necessary. It is very important for quality interpretive material and promotion of minimal impact use to be included in group programs.

Policies

- * Visitor enjoyment, understanding and appreciation of the natural and cultural features of the park will be promoted through provision of visitor facilities (see section 4.3.2), interpretive signs, brochures, media articles and Discovery programs. The degree and style of promotion of particular locations will be appropriate to the standard of access and the ability of the site to sustain use.
- * The following themes will be emphasised in interpretation programs:
 - the geology and geomorphology of the park and its position in relation to other basalt areas;
 - the biogeographic significance of the park as a western outlier of montane tall open forest and a large number of animal species;
 - the importance of the park's habitats for arboreal mammals and threatened species; and
 - the history of Aboriginal, grazing and timber industry use of the area.
- * Directional signs and information about visitor opportunities, road conditions and walking tracks will be provided where needed.
- * Visitors will be encouraged to undertake minimal impact bushwalking and camping practices. In particular, the need for responsible use of fire will be emphasised when providing information about minimal impact use.
- * Community and commercial tour operations which promote understanding and appreciation of natural and cultural values may be permitted subject to the following:
 - use will be confined to existing tracks and facilities which have been designed to cope with the level and type of use proposed;
 - use of minimal impact bushwalking and safe practices will be required;
 - provision of accurate and adequate interpretive information will be encouraged; and
 - limits will be placed on group sizes and frequency of use to minimise environmental impacts and conflicts with other users.

Actions

- * Additional interpretive/information signs will be installed at features of interest, including Bundella Lookout and Shepherds Peak.
- * Directional signs and signs advising about road standard (if 4WD or dry weather use only) will be progressively installed.
- * Provision of trackhead signs for walking tracks will be completed.

4.3.2 Visitor Facilities

Visitor opportunities provided in national parks are generally those at the low key end of the spectrum, in natural and undeveloped settings. Recreational uses which are ecologically sustainable and which directly contribute to the visitor's understanding and appreciation of the park are considered appropriate.

Management of visitor use to be ecologically sustainable requires placing limits on the number of access points, design of facilities to ensure that numbers of visitors and the style of use is appropriate for the site, and promotion of minimal impact use.

The Coolah Tops area has long been a visitor destination but facilities provided have been minimal. The lack of facilities and distance from major population centres has kept visitor numbers to low levels. Reservation of the area as a national park and progressive improvement of access and facilities have resulted in a steady increase in visitation. This is expected to continue but Coolah Tops is unlikely to ever receive very high numbers because of its isolation. Numbers are estimated to be currently about 8,000 people per year.

Visitor surveys were carried out by students of the University of Technology (School of Leisure and Tourism Studies, 1998) shortly after camping and day use facilities had been provided at several locations in the park. The survey showed that most people visit the park on day or weekend trips with family and/or friends. The average time taken to reach the park was just under 3 hours. Most people surveyed were visiting the park for the first time and the overwhelming majority intended to return. Respondents rated their experience in the park highly and saw the most appealing aspects as the quiet, natural and relaxing features of the park. The most popular activities undertaken were bushwalking, picnicking, camping and sightseeing.

Coolah Tops is some distance from other areas offering recreational opportunities in a natural setting. The closest area is Goulburn River National Park to the south, which has low key camping and picnic areas focussed on the river, and a very different landscape. Towarri National Park to the east lies primarily on the southern fall of the range and has limited public access and vehicle-based recreation opportunities.

Coolah Tops is a small, elevated and relatively level area of tall moist forest, with good vehicle access. It is likely to attract a wide variety of visitors including people seeking easy access, comfortable facilities and settings, and a variety of short walks at interesting locations. The park provides an alternative to the more rugged landscapes and longer walking opportunities available in other locations in the district, including Goulburn River, Wollemi, Warrumbungle and Barrington Tops National Parks.

Many of the features which draw visitors to the park, ie waterfalls and lookouts, are located at the western end and provision for visitor use will be concentrated in this part of the park. Camping areas, day use sites and walking tracks are being progressively developed at popular locations as outlined below. Facility development will be designed to retain low key natural settings which do not detract from the scenic value of the park. A variety of accommodation including hotels, motels, guest houses and caravan parks is available in Coolah and Merriwa.

Vehicle access

Access to the park is from near the town of Coolah. The last section is a good quality unsealed road. This road continues through the park to the Breeza Lookout

at the eastern end. Branch roads provide access to features of interest such as waterfalls.

The road from Coolah as far as Hildegard Road turnoff and the roads to Bundella Lookout, Norfolk Falls, The Pines and Brackens Hut have been upgraded to all weather 2WD standard. All other roads in the park (refer map, centre pages) are suitable for use by vehicles (both 2WD and 4WD) during dry weather only because of the slippery basalt soils. Signs will advise visitors not to use these roads during wet weather. The Talbragar River Road and Jemmys Creek Trail are recommended only for 4WD access because of their steep grades and rough surface.

Camping

Camping has been allowed in the past at a number of clearings at the western end of Coolah Tops. At peak times about 80-100 people per night camp in the park.

Camping has now been restricted to designated locations in order to manage environmental impacts and provide a satisfactory visitor experience at features of primary interest. These are The Barracks, Coxs Creek and The Pines. All are level areas with existing clearings. The Pines is a large open area suitable for individuals or for large groups such as schools and other institutions.

The area available at these locations is limited and they have been designed to provide low key, relatively small camping areas for families and small groups. The camping areas will not be extended beyond the current area, with natural vegetation, fencing and revegetation work defining the camping area boundaries.

More sophisticated camping and accommodation facilities are available outside the park in the town of Coolah and potential visitors will be made aware of these opportunities.

Accommodation

Brackens Hut is in good repair and has been used for visitor accommodation on an informal basis. It is intended that the hut continue to be available to park visitors but on a more formal basis than previously, with a booking system and maintenance/cleaning fee. Visitors booking the hut will also be permitted to camp near the hut.

Day use areas

Two main picnic areas will be provided in the park, at Norfolk Falls and Bundella Lookout. Each of these sites has good access, major features of interest and walking opportunities.

In addition minor facilities such as a car park, single table and barbecue will be provided at some other features and trackheads (Coxs Creek sawmill site, Rocky Creek Falls, Bald Hill Creek falls, Talbragar Falls, The Snow Gums and Breeza Lookout).

Facilities and signage are being progressively constructed and installed, in accordance with the policies below.

Walking

The park is particularly suitable for bushwalking because of the cool climate, extensive areas of tall forest with open understorey and numerous streams containing permanent water. However, because of its small size and high

accessibility by vehicle, the park is likely to be used mainly for day walks rather than overnight walks.

There are short walks from car parks to the various waterfalls and other features in the park and longer walking tracks as follows:

- The Falls Link Track (between Norfolk and Bald Hill Creek Falls);
- Bundella Track and Racecourse Track (east of the Pinnacle Lookout area) – these provide a round walk through a variety of vegetation including forest, swamp, woodland and herbfield;
- Pinnacle Track, from Bundella Lookout to Pinnacle Lookout;
- The Lava Cave Track, a rough unformed track from Pinnacle Lookout leading below the escarpment to a volcanic cave;
- The Mullian Track, linking Rocky Creek Falls with the Pinnacle Lookout;
- The Cox's Creek Walking Track from the park entrance to the Cox's Creek Falls Camping Area;
- a track linking The Barracks and the Cox's Creek Falls Camping Area;
- a track linking The Pines camping area and Brackens Hut;
- The Grasstrees Walking Track past a stand of grasstrees south of The Barracks;
- The Giant Snow Gums, a short loop walking track off Gemini Road through a stand of the tallest recorded snow gums; and
- Shepherds Peak track, from Breeza Lookout.

Some track work is needed in order to improve steep and rough sections on all tracks. The Pinnacle and Lava Cave tracks in particular will require major upgrading including step work, safety railings and signage.

Most of the tracks are suitable only for walkers because of steep sections or poorly drained soils.

Cycling and horse riding

The relatively level topography of the Forest Road, the road to the Pinnacles and a number of other tracks makes the park attractive for cyclists. Cycling will be permitted on roads and management tracks within the park but not on walking tracks (refer Summary Map).

Recreational horse riding in the park is mostly undertaken on the existing vehicle access system. The current level of use is low, with only two or three rides occurring in the last three to four years.

Use of horses along trails of certain soil types and slopes can have unacceptable impacts in terms of erosion and nutrient inputs and can create safety concerns. Horse camping can have additional vegetation destruction and pollution impacts. Horse riding will therefore be confined to public access roads. Overnight horse camping will be permitted only at Brackens Hut, where there is a small stable and horse yard. No support facilities will be provided apart from the existing stable and yard at Brackens Hut.

Policies

- * A variety of low key visitor opportunities will be provided based on the natural and cultural features of the park. These will be primarily at the western end of the park at existing locations.
- * Public vehicle use will be permitted only on the public access roads shown on the Summary Map. Roads from the western boundary of the park to near the Pinnacle Lookout, Norfolk Falls and The Pines will be maintained to 2WD all

weather standard. Others roads will be suitable for dry weather use only. The Talbragar River road and Jemmys Creek trail will be maintained to 4WD standard.

- * Vehicle-based camping will be permitted at The Pines, The Barracks and Coxs Creek Falls. The Pines will be designed for group and individual camping. Facilities will be provided at these locations as follows:
 - The Barracks - toilets, barbecues, information bay, shelter shed and rainwater tank;
 - Coxs Creek Falls - toilets, barbecues, tables;
 - The Pines - toilets, barbecues.
- * Commercial users will not be permitted to occupy more than half the campsites at The Barracks, Coxs Creek or The Pines at any one time.
- * Walk-in camping will be permitted throughout the park further than 500 m from roads, picnic and camping areas.
- * Day use facilities will be provided as follows:
 - Norfolk Falls picnic area – car park, picnic shelter, toilets, barbecues, tables, walking track to viewing platforms at the falls, walking track to Bald Hill Creek Falls;
 - Bundella Lookout picnic area - carpark, tables, barbecues, a toilet, lookout point, walking tracks to Bundella and Pinnacle Lookouts and the Lava Cave, Bundella and Racecourse tracks;
 - Coxs Creek Sawmill site - parking, viewing platform, walking track to Coxs Creek Falls Camping Area;
 - Breeza Lookout – viewing area, small carpark, table, barbecue, walking track to Shepherds Peak;
 - Rocky Creek Falls trackhead- small car park, walking track to clearing near falls with table and barbecue, walking track to a lookout on the southern side of the falls, walking track to Bundella Lookout;
 - Bald Hill Creek Falls trackhead– small car park, table, barbecue, walking track to Norfolk Falls;
 - Talbragar River Falls trackhead– small car park, table, barbecue;
 - The Snow Gums trackhead– small car park, table, barbecue, walking track through snow gums.
- * The walking tracks listed above will be maintained.
- * Brackens Hut and its surrounds will be available for visitor accommodation and camping on the basis of booking and payment of a fee to cover cleaning and maintenance costs.
- * Cycling will be permitted on roads and management tracks.

- * Horse riding will be permitted on roads within the park. Horse camping will be permitted at Brackens Hut, subject to prior consent and environmental impacts being minimal.
- * A horse riding minimal impact code will be promoted to riders using the park.
- * Prior approval from the Service will be required for orienteering, rock climbing and abseiling, and for any group of more than 20 people. Such activities will not be promoted and will only be permitted where impacts will be minimal. Conditions may be applied to minimise environmental impacts and conflicts with other park users.
- * Roads, tracks, trails and other facilities in the park may be temporarily closed to use because of track conditions, damage to sensitive vegetation or management programs.
- * The Service will participate in local and regional tourism planning and ensure that management of visitor use in the park is consistent with the park's role in the wider area.

Actions

- * Works will be progressively undertaken to complete installation of visitor facilities in accordance with the above and to upgrade walking tracks where needed.
- * A short boardwalk will be constructed through the edge of the grass tree stand near The Barracks. People will be encouraged to keep to the boardwalk so as not to spread phytophthora.
- * The need for a picnic shelter near Bundella Lookout will be investigated.
- * Restoration will be undertaken of the grassy bald near Bundella Lookout.
- * The use and impacts of the current roading in the park, which reflects the past history of the area, will be monitored. The need for all roads, and in particular the need for a through road and for the Talbragar River Road, will be assessed and reviewed when a new plan is prepared for the park.
- * The impact of recreational activities on the park will be monitored.

4.3.3 Research

The purpose of scientific study in the park is to improve understanding of its natural and cultural heritage and the processes that affect them. Research also establishes the requirements for management of particular species. There has been a considerable amount of plant, animal and Aboriginal site survey conducted in recent years in the park but further work is needed in all areas, particularly with regard to rare or threatened species and fire management.

Service research efforts must be directed towards the areas of greatest need. Research by other organisations and students may also provide valuable information for management. A prospectus will be prepared to encourage involvement of other organisations in priority research areas. Some important research topics have been mentioned in earlier sections of this plan.

Policies

- * Coolah Tops National Park will be available for appropriate research.
- * Service conducted research will aim to provide information about the natural and cultural heritage and human use in order to facilitate management of the park.
- * Researchers from other organisations will be encouraged to design programs to provide information that is directly useful for management purposes.
- * Liaison will be maintained with researchers to obtain as much mutual information and assistance as possible. The results of research will be required to be provided to the managers of the area.
- * Research structures and long term markers must be placed in locations which will minimise their visual impact and be removed upon completion of the research.

Action

- * A prospectus will be prepared as a guide to preferred research projects in the park. Preferred topics will be those of direct relevance to management and will include:
 - native animal survey, in particular for the koala, brush-tailed rock wallaby, spotted-tailed quoll, parma wallaby, *Pseudomys* spp, amphibians and invertebrates;
 - non-vascular plant survey;
 - identification of the plants and animals of the park's creeks and wetlands;
 - the fire management needs of the tall open forests and uncommon plant species; and
 - Aboriginal and non-Aboriginal historic site survey.

4.3.4 Management Facilities and Alien Uses

Apart from the roads for public access within the park there are several short sections of management track which provide access for fire management, pest control and other essential management functions. Management tracks are shown on the Summary Map. There are also a number of former logging trails not needed for vehicle or walking access. These will be allowed to regenerate.

The Bundar Trail (see map) provides access to private property through the park at the junction of Hildegard and Bald Hill Creek Roads.

A road reserve along Hildegard Road and extending to the park boundary is excluded from the park. This is an anomalous situation and limits the Service's ability to control damaging activities such as illegal pig hunting in this area. Addition of the road reserve to the park will be sought.

Brackens Hut is used for temporary accommodation of Service staff when needed for intensive management programs in the park. Accommodation is warranted

because of the savings in travel time and because of the cold temperatures which prevail for much of the year.

A telephone line providing service to private property passes through the southwestern section of the park.

State Forests of NSW maintains several permanent plots in the park for measuring tree growth.

There are a large number of licensed bee keeping sites in the park dating from when it was state forest. Access to some of these is via tracks not needed for park management purposes and it will be necessary to progressively negotiate relocation.

Policies

- * Management tracks shown on the Summary Map will be maintained to a good standard of stability and access. The need for these management tracks will be kept under review and tracks no longer needed will be closed.
- * Vehicle tracks not needed for management will be allowed to regenerate.
- * Brackens Hut will continue to be used for temporary staff accommodation as needed.
- * Access to tree growth measuring sites by State Forests will continue to be permitted.
- * Access via Hildegard Road to the neighbouring property will continue to be permitted subject to impacts being acceptable.
- * Existing licensed bee keeping operations will continue to be permitted in accordance with the Service's policy.
- * Access for maintenance of the existing telephone line through the park to private property will continue to be permitted. The need for this facility will be kept under review and it will be relocated outside the park if possible.
- * New works, facilities or operations proposed by any organisation or individual will not be permitted unless they are consistent with the purposes of reservation of the area and this plan of management.
- * Close liaison will be maintained with park neighbours to deal with matters of mutual concern.

Actions

- * Access and maintenance agreements will be arranged for the existing telephone line through the park and for vehicle access to private property.
- * Relocation of bee keeping sites will be negotiated where they are located along vehicle tracks not needed for public access or management purposes.
- * The Service will seek addition to the park of the road reserve along Hildegard Road and east from the Bald Hills Road intersection to the park boundary.

5. PLAN IMPLEMENTATION

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

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

Regional programs are subject to ongoing review, within which, works and other activities carried out in Coolah Tops National Park are evaluated in relation to the objectives laid out in this plan.

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

Section 81 of the Act requires that this plan shall be carried out and given effect to, and that no operations shall be undertaken in relation to the national park unless they are in accordance with the plan.

No term is proposed for this plan of management. If after adequate investigation, operations not included in the plan are found to be justified, this plan may be amended in accordance with section 73B of the Act.

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

ACTIVITY	PLAN REF
High Priority	
* Monitor <i>Teucrium</i> species D	4.1.2
* Treat blackberry, St John's Wort and other noxious weeds	4.1.2
* Implement pest plant control plan	4.1.2
* Implement pest animal species control plan	4.1.3
* Control foxes, goats and pigs	4.1.3
* Install remaining directional and track head signs and signs about road condition	4.3.1
* Complete provision of day use areas and camping facilities and upgrading of walking tracks	4.3.2
* Restore the grassy bald near Bundella Lookout	4.3.2
* Seek addition of Hildegard Road reserve to the park	4.3.4
Medium Priority	
* Monitor impacts of use of tracks that cross swamps	4.1.1

*	Monitor changes in park's vegetation as it recovers from logging	4.1.2
*	Encourage voluntary conservation agreements	4.1.2
*	Finalise fire management plan	4.1.4
*	Prepare and implement trail maintenance and fuel reduction programs	4.1.4
*	Undertaken heritage assessment of Snows Hut	4.2.2
*	Remove rubbish, fencing and temporary shelters	4.2.2
*	Provide additional interpretive signs at features of interest	4.3.1
*	Construct a short boardwalk through the edge of the grass tree stand near The Barracks and encourage keeping to the boardwalk	4.3.2
*	Monitor the use and impacts of the current roading in the park	4.3.2
*	Negotiate relocation of bee keeping sites where necessary	4.3.4
*	Arrange access and maintenance agreements for telephone line and private property access	4.3.4

Low Priority

*	Undertake further fauna survey	4.1.3
*	Record historic places	4.2.2
*	Investigate need for a picnic shelter near Bundella Lookout	4.3.2
*	Monitor impact of recreational activities	4.3.2
*	Prepare research prospectus	4.3.3

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COOLAH TOPS NATIONAL PARK

