



NSW
NATIONAL
PARKS AND
WILDLIFE
SERVICE

BALD ROCK

AND

BOONOO BOONOO

NATIONAL PARKS

PLAN OF MANAGEMENT

**BALD ROCK AND BOONOO BOONOO NATIONAL PARKS
PLAN OF MANAGEMENT**

February 2002

This plan of management was adopted by the Minister for the Environment on 22nd January 2002.

Acknowledgments: The principal author of this plan of management is Kevin Parker, Ranger, Northern Tablelands Region. Special thanks to Gina Hart, Stuart Boyd-Law, Peter Croft, Jamie Shaw, Stephen Wolter and Bruce Olson for their valuable assistance. The input of the members of the Steering Committee, the Northern Directorate Planning Group, and Head Office Planning Unit is gratefully acknowledged.

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FOREWORD

Bald Rock and Boonoo Boonoo National Parks are situated approximately 30 km north-east of Tenterfield on the far northern tablelands of New South Wales. Both parks form part of a system of conservation areas representing environs of the northern granite belt of the New England Tablelands.

The two parks and the adjoining Girraween National Park in Queensland are of regional conservation significance as they provide protection for the most diverse range of plant and animal communities found in the granite belt, as well as several species and communities endemic to the area.

They also contain spectacular landscape features such as Bald Rock, a huge granite dome, and the magnificent Boonoo Boonoo Falls, both of which are major visitor attractions to the area. The parks provide a range of nature-based recreational opportunities including vehicle based camping and bush walking.

This plan of management aims to conserve the natural and cultural values of Bald Rock and Boonoo Boonoo National Parks while providing for a level of recreational use which does not threaten those values or the existing recreational setting. This will be achieved through improving existing NPWS knowledge of the values of the area, management of fire, control of introduced species, and the provision of a limited number of quality low-key facilities.

This plan of management establishes the scheme of operations for Bald Rock and Boonoo Boonoo National Parks. In accordance with the provisions of 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. THE PLANNING PROCESS

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

The procedures for the adoption of a plan of management for a national park as specified in the NPW Act include:

- 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.
- The plan and copies of all representations are referred to the National Parks and Wildlife Service Advisory Council for its consideration.
- The Director-General submits the plan of management to the Minister together with any comments or suggestions from the Council.

The Minister may adopt the plan after considering the comments of the Advisory Council, or may refer the plan back to the Director-General for further consideration before adoption.

Once a plan has been adopted by the Minister, all operations undertaken within Bald Rock and Boonoo Boonoo National Parks must be in accordance with the plan.

This plan also applies to any future additions to Bald Rock and Boonoo Boonoo National Parks. Where management strategies or works are proposed for the additions that are not consistent with this plan, an amendment to the plan will be prepared and exhibited in accordance with the above procedures.

This plan of management is based on available scientific and management information and is prepared in accordance with the NPWS management policies and priorities. For simplicity, much background information has been omitted. Further information on the plan may be obtained from the NPWS's Glen Innes Office, 68 Church Street, Glen Innes, or by telephone on (02) 6732 5133.

2. BASIS FOR MANAGEMENT

2.1 NATIONAL PARKS IN NEW SOUTH WALES

The national park concept was first introduced to Australia by way of the establishment of Royal National Park in 1879.

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

“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 purpose 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. The management of a national park aims to protect the natural and cultural resources, whereas other land uses such as mining and agriculture are distinguished by their modification of the environment. Specific legislation has been implemented to protect national parks from interference, other than essential management operations, to ensure that their natural state is preserved.

As outlined in the NPW Act, management of national parks in New South Wales will be in accordance with the following objectives:

- protection and preservation of the scenic and natural features;
- conservation of wildlife (including the conservation of critical habitat and threatened species, populations and ecological communities and their habitat) and the maintenance of natural processes;
- preservation of Aboriginal sites and historic features;
- provision of appropriate recreational opportunities; and
- encouragement of scientific and educational inquiry into environmental features and processes, prehistoric and historic features, and park use patterns.

2.2 VALUES OF BALD ROCK AND BOONOO BOONOO NATIONAL PARKS

2.2.1 Location, dedication and regional setting

Bald Rock and Boonoo Boonoo National Parks (referred to as the “planning area” in this document) are part of the granite uplands of the far Northern Tablelands of New South Wales and are within Tenterfield Shire. The planning area is located 780 km north of Sydney, 245 km south-west of Brisbane and encompasses a total area of 12,083 hectares.

Bald Rock National Park has an area of 8,046 hectares, is located 29 km north-east of Tenterfield and is accessed via the Woodenbong Road (previously known as the Mount Lindesay Road). To the west, it borders the larger Girraween National Park (11,399 hectares) in Queensland, which shares similar geomorphological characteristics to that of the planning area. To the south and north-east, Bald Rock National Park adjoins private grazing lands, while the eastern boundary adjoins the Woodenbong Road and a stock route managed by Tenterfield Rural Lands Protection Board.

A reserve of 250 hectares was initially declared for public recreation around Bald Rock in 1906, and after various additions early in the 1970s, the area was gazetted as Bald Rock National Park. Since then, several other additions have been made, including one of 1,500 hectares in 1987, which linked the area to Girraween National Park (see figure 1).

In accordance with the *Wilderness Act 1987*, wilderness has been identified over more than half of Bald Rock National Park, however, there is no current proposal for declaration because the size of the identified area does not meet the minimum size criteria (NPWS, 2001).

Boonoo Boonoo National Park is located east of Bald Rock National Park (see figure 1). It forms part of a high plateau on the eastern escarpment of the Great Dividing Range, which is dissected by the Boonoo Boonoo River, part of the Clarence River catchment.

Gazettal of the park's initial nucleus was made in 1982, when it comprised two separate parcels of land, with a total area of 1,345 hectares. Since then, various additions have been made, and its current area is 4,037 hectares (see figure 1).

Boonoo Boonoo National Park adjoins Boorook State Forest (to the east) and the Boonoo State Forest (to the south-east). Grazing properties adjoin the park on the western and southern boundaries. It is also accessed from the Woodenbong Road.

South east of the planning area is Basket Swamp National Park (2,820 hectares) which has similar geology and forest communities to Boonoo Boonoo National Park, but unlike Boonoo Boonoo, it also has extensive sedge swamplands surrounded by heath. Basket Swamp National Park has not been included in the planning area.

2.2.2 Geology and landform

The planning area encompasses a small part of the New England Tableland's granite belt. This belt covers 2,500 square km extending from Tamworth to southern Queensland. It was created by a large extrusion of molten rock which penetrated upwards through the older sedimentary and volcanic rocks more than 225 million years ago as part of the New England Batholith (Leigh, 1968).

This complex geological history has created spectacular granite domes, tors and balancing rocks giving the area an "inselberg landscape" comprised mainly of a type of granite known as Stanthorpe Adamellite (Fairley, 1978). Bald Rock itself is approximately 750 m long and 500 m wide, rising 260 m above the surrounding plateau to a height of 1,277 m above sea level. Granite domes are characteristic of the planning area.

2.2.3 Catchment protection

The upper catchment of the Boonoo Boonoo River is located in the remote south-west reaches of Bald Rock National Park. The river winds through granite plateau country until it approaches the edge of the escarpment, where, as the Boonoo Boonoo Falls, it drops 210 m from the plateau into a rainforest gorge below.

Extensive agricultural development and land clearing on the New England and Northern Tablelands has resulted in most easterly flowing rivers or streams being either devoid of riparian vegetation or in a modified state.

2.2.4 Native plants

The planning area and the adjacent Girraween National Park contain species from both the western plains and the coastal region, resulting in a very diverse range of plant communities found in the granite belt region, including heathland, woodland, rainforest and tall open forest communities. The distribution of rare and threatened plant species illustrates close affinities with other protected areas on the New England Tableland such as Torrington State Recreation Area and Gibraltar Range National Park, while nine plant species have been identified as endemic to the tablelands (McDonald *et al.*, 1995).

A total of 400 species of vascular plants have been recorded in the southern section of Boonoo Boonoo National Park (Clarke, 1994). Of these, two species are listed in the *Threatened Species Conservation Act, 1995* (TSC Act), under the provisions of which the NPWS has a legislative obligation to ensure that threatening processes are controlled, managed or prohibited. Thirteen species are regarded as regionally significant (Sheringham and Westaway, 1995) and a further 12 species are classified as Rare or Threatened Australian Plants (ROTAP) under the national listing (Briggs and Leigh, 1995). Although there are no legislative obligations associated with this classification, the NPWS recognises ROTAP species have particular conservation significance and warrant protection.

Eight vegetation communities have been identified in Boonoo Boonoo National Park by Clarke (1994) (see Table 1). Plant species of conservation significance listed under the TSC Act and ROTAP classification are also included in Table 1.

The flora of Girraween and Bald Rock National Parks is also exceptionally rich with a total of 709 species of vascular plants recorded in both parks (McDonald *et al.*, 1995). One species, the slender vine *Tylophora woollsii* (recently located at the base of Bald Rock) is listed as Endangered under the TSC Act. Forty-two ROTAP species have been recorded in Girraween and Bald Rock National Parks, of which approximately three species occur within Bald Rock National Park. Five vegetation communities have been identified in Bald Rock National Park by McDonald *et al.* (1995) which are summarised in Table 2.

Table 1: Vegetation communities of Boonoo Boonoo National Park

| Vegetation community | Dominant species/associations | Species of conservation significance occurring in each community |
|--|---|--|
| Open forest (plateau and escarpment - comprising 80% of the park) | <i>Eucalyptus calignosa</i> - <i>E. campanulata</i> <i>E. radiata</i> - <i>E. calignosa</i> - <i>E. campanulata</i> | <i>Acacia macnuttiana</i> , (Endangered), <i>Prostanthera</i> sp. B, <i>Daviesia elliptica</i> (ROTAP) |
| Tall open forest (steep sided gullies) | <i>E. campanulata</i> - <i>E. brunnea</i> | |
| Shrubby open forest (well drained slopes, ridges and plateaux >1000m often on rocky outcrops) | <i>Allocasuarina littoralis</i> , <i>E. campanulata</i> , <i>E. cameronii</i> . | <i>Daviesia elliptica</i> , <i>Persoonia daphnoides</i> , <i>Callistemon flavovirens</i> (ROTAP), <i>Acacia macnuttiana</i> (Endangered and ROTAP) |
| Layered open forest (well drained slopes and ridges <1000m) | <i>Allocasuarina littoralis</i> , <i>E. campanulata</i> , <i>E. calignosa</i> , <i>Banksia integrifolia</i> . | <i>Daviesia elliptica</i> (ROTAP) |
| Closed forest (rainforest) (confined to NE gullies and near base of Falls, eastern side of Mt Prentice) | | <i>Acronychia laevis</i> (southern limit) <i>Acacia macnuttiana</i> (Endangered) |
| Grassy open forest/woodland (Well drained valley slopes and alluvial flats <1000m) | <i>Banksia integrifolia</i> , <i>E. acaciiformis</i> <i>E. dalrympleana</i> , <i>E. pauciflora</i> | <i>Mirbelia confertifolia</i> , <i>Euphrasia orthocheila</i> , <i>Dodonaea hirsuta</i> , <i>Cryptandra lanosiflora</i> , <i>Allocasuarina rupicola</i> (ROTAP) |
| Heath-sedgeland complex Waterlogged drainage lines | <i>Lepidosperma limicola.</i> , <i>Baeckea</i> sp. C, <i>Callistemon pityoides</i> | <i>Pultenaea dentata</i> , <i>Allocasuarina rupicola</i> (ROTAP), <i>Homoranthus lunatus</i> (Vulnerable) |
| Rocky complex | <i>Eriostemon myoporoides</i> ssp. <i>epilosus</i> , <i>Boronia anemonifolia</i> , <i>Acacia viscidula</i> , <i>Calytrix tetragona</i> , <i>Leucopogon</i> spp. | <i>Callitris monticola</i> , <i>Prostanthera</i> sp. B, <i>Kunzea bracteolata</i> , <i>Dodonaea hirsuta</i> , <i>Acacia latisejala</i> , <i>Eriostemon myoporoides</i> ssp. <i>epilosus</i> , <i>Cryptandra lanosiflora</i> , <i>Phebalium ambiens</i> , <i>Plectranthus suaveolens</i> , <i>Thelionemia grande</i> (ROTAP) <i>Homoranthus lunatus</i> (Vulnerable) |

Source: Clarke (1994); MacDonald et al. (1995)

Table 2: Vegetation communities of Bald Rock National Park

| Vegetation communities | Dominant species/associations | Conservation significance |
|--|---|--|
| Grassy open forest (predominant throughout park) | <i>E. calignosa</i> - <i>E. campanulata</i> (higher slopes) <i>E. campanulata</i> - <i>E. brunnea</i> - <i>E. dalrympleana</i> subsp. <i>heptantha</i> (along drainage lines) | <i>Persoonia daphnoides</i> (ROTAP) |
| Woodlands (low ridges and slopes in swampy valleys) | <i>E. dalrympleana</i> subsp. <i>heptantha</i> , <i>E. pauciflora</i> and <i>E. acaciiformis</i> | <i>Persoonia daphnoides</i> , <i>Prostanthera</i> sp. B., <i>Acacia adunca</i> (ROTAP) |
| Tall moist forest (confined to the base of the northern face of Bald Rock) | <i>E. obliqua</i> - <i>E. dalrympleana</i> subsp. <i>heptantha</i> | Restricted in its distribution in the park |
| Gully open forest (southern slopes of high ridges and deeper gullies) | <i>E. campanulata</i> | |
| Wet heath and sedgeland (valleys and headwaters of Bookookoorara Ck, Carroll's Ck, Boonoo Boonoo River) | Wet heath (<i>Hakea microcarpa</i> , <i>Callistemon ptyoides</i> and <i>Baeckea</i> sp.) Sedgeland (<i>Lepidosperma limicola</i> , <i>Baumea rubignosa</i> , <i>Carex gaudichaudiana</i>) | |

Source: McDonald *et al.* (1995)

2.2.5 Native animals

No systematic fauna survey has been undertaken in the planning area, however 27 mammals, 73 birds, 22 reptiles and seven amphibians were recorded during the North-East Forests Biodiversity Study (1994) and opportunistic sightings by staff. Those fauna species of conservation significance are listed in Appendix A.

Native animals occurring in the planning area, listed as Vulnerable under the TSC Act, include the glossy black-cockatoo, yellow bellied glider, brush-tailed rock-wallaby, tiger quoll, greater broad-nosed bat, koala and the border thick-tailed gecko.

Several species at the limit of their geographical range have also been recorded in the planning area. These include the common wombat (northern extremity), the satin bower bird, and the superb lyrebird (western extremity).

2.2.6 Landscape

The processes of weathering and erosion of the granitic substrate have produced a striking landscape of granite domes and boulders. Boonoo Boonoo Falls and the associated deep gorge scenery, is a visually spectacular feature of the planning area, and from the summit of Bald Rock, outstanding views of Girraween National Park to the west and Main Range and the Border Ranges to the north-east can be enjoyed.

2.2.7 Indigenous cultural heritage

Although there is no documented chronology of Aboriginal occupation in the Region, it is known that the area to the north of Tenterfield was significant to the Jukambal people who inhabited the area. The words "Boonoo Boonoo" from which the name Boonoo

Boonoo National Park owes its origin, are part of the language of the Jukambal Aboriginal nation and mean “big rock”.

Eric Walker, an elder from the Bundjalung Nation described Bald Rock as an important meeting place for the three Aboriginal nations in the area: the Jukambal, Bundjalung and Kamilleroi. Bald Rock was a neutral place as it formed a boundary marker between nations. This enabled the nations to meet without having to pass through each other’s territory.

Following European settlement of the Northern Tablelands in the 1840s, Aboriginal people were displaced from their traditional tribal lands.

2.2.8 Non-indigenous cultural heritage

After Tenterfield and its surrounds were first settled in the 1840s, the Woodenbong Road became the main route between Sydney and Brisbane. This was the first overland route between Sydney and Brisbane.

Morgans Gully and Ropers Gully in the south-west part of Boonoo Boonoo National Park are two sites where alluvial gold was discovered in the latter part of the nineteenth century. Mining attracted a large influx of both European and Asian prospectors, whose presence contributed significantly to the early economic growth of the town of Tenterfield. A period of intense prospecting followed but yielded little gold. The two sites were considered to be unpayable by 1905. Relics of the gold mining era can still be seen in and around Morgans Gully where a tributary of the Boonoo Boonoo River was diverted for sluicing.

2.2.9 Recreation and tourism

The planning area is readily accessible from Brisbane, south-east Queensland, and the north-east New South Wales. It is becoming increasingly popular, attracting over 70,000 visitors per year (based on electronic vehicle counter statistics, 1997). Walking tracks, picnic and camping facilities have been established so that visitors may enjoy the natural and cultural features of the planning area. Three commercial tour operators also utilise the area.

Through nature-based recreation, the planning area makes a significant contribution to the local economy by attracting visitors to the region and thereby generating economic benefits which may otherwise not be realised.

2.3 MANAGEMENT DIRECTION

The planning area can be described as a discontinuous parcel of land that includes a diverse range of natural and cultural values of which there is limited knowledge. Frequent fire regimes and increasing pressures from visitation may have an adverse impact on the natural and cultural values of the planning area.

Conservation of the natural and cultural values is the primary focus of management. To achieve this aim, a more comprehensive knowledge base will need to be obtained, and continually updated, to enable more informed management decisions to be made. Priorities will include systematic vegetation, fauna and cultural heritage surveys of the planning area. Research will also focus on gaining knowledge about the distribution and ecology of plants and animals of conservation significance and their responses to threats such as fire and introduced species.

The planning area is discontinuous, comprising three parcels of land surrounded by private holdings, national park and state forest. The fragmented character of the planning area may potentially threaten the natural and cultural values through the invasion of pest species, fire and interrupted wildlife corridors. In order to provide protection for its diverse values, it is important that the planning area is not managed in isolation from the adjoining Girraween National Park and other surrounding forested lands. Management will include extensive liaison and cooperation with neighbouring land managers, particularly in relation to fire and pest species management.

Providing opportunities for the public to enjoy and appreciate these values without affecting their integrity is also a management priority. Visitation to the planning area is increasing at a rate of five percent per annum (based on electronic vehicle counter statistics, 1997). This is likely to be the result of rapid tourism growth to the Tenterfield and Stanthorpe region, due to its proximity to Brisbane and the Gold Coast and 'spin-off' from Girraween National Park. There is concern that increasing public usage may compromise the natural and cultural values and recreational experiences the planning area offers.

To balance visitor use and conservation, a quality low-key nature-based experience which complements other recreational opportunities in the region will be provided. The integrity of values in the planning area will be maintained by setting limits on the number and size of recreational facilities provided, formalising these sites, and separating camping and picnic areas to improve the quality of visitor experiences.

Public awareness and appreciation of the values of the planning area will be enhanced through on-site interpretation and, in conjunction with regional tourist authorities, will emphasise the importance of its natural and cultural values, including the management role of the NPWS.

In summary, the main focus for management is to protect the natural and cultural values of the planning area while providing quality, nature-based recreational opportunities for visitors to the area. This will be achieved by means of the following objectives:

- to establish a fire regime consistent with maintaining native plant and animal diversity and cultural values in the planning area as well as providing protection to the life and property of neighbouring landholders;
- to control, and where possible eradicate, introduced species with particular emphasis on those which threaten the viability of native plants and animals;
- to provide opportunities for low-key recreational use which cause minimal environmental impact and promote the appreciation and enjoyment of nature;
- to provide opportunities for Aboriginal communities to participate in the identification, protection and management of Aboriginal sites within the planning area, consistent with the objectives and strategies of this plan;
- to ensure that no activities are undertaken which would reduce wilderness opportunities and values;
- to liaise and cooperate with Queensland Parks and Wildlife Service (NPWS) with respect to visitor, fire and pest species management in the planning area and Girraween National Park; and
- to encourage research into the distribution and ecology of threatened plants and animals and their response to fire.

3. MANAGEMENT FRAMEWORK

The mission statement of the NSW National Parks and Wildlife Service is:

“Working with people and communities to protect and conserve natural and cultural heritage in the New South Wales landscape.”

The NPWS aims to observe this mission statement by meeting the management objectives outlined in this plan. In order to meet these objectives, existing and potential processes or activities which may compromise the natural and/or cultural values of the planning area need to be identified, and appropriate management strategies devised to mitigate impacts.

The following section provides a framework for the management of the planning area. This framework comprises a brief description of the implications for management, current uses of the planning area and proposed objectives and actions.

The actions outlined in this plan of management are based on management issues raised through the community consultation process, NPWS legislative responsibilities, and anticipated availability of resources for management of the planning area over the next five to ten years. Where not specifically provided for in this plan, management will be in accordance with the NPW Act and the NPWS policies. Management objectives (in bold type) and associated actions (indicated by diamond symbols) relating to the management of resources and uses of the planning area are outlined in the following subsections.

3.1 MANAGEMENT FOR NATURAL RESOURCE CONSERVATION

3.1.1 Landform, soils and water quality

Soils derived from granitic rock tend to be infertile, poorly structured and highly susceptible to erosion. The creation and/or upgrading of fire trails, walking tracks, recreation sites and access roads has the potential to cause accelerated erosion and siltation unless appropriate erosion abatement measures are put in place.

Water quality may be adversely affected by stock which occasionally access waterways in the planning area (refer to section 3.3.2). Only one of the existing toilets, at the Boonoo Boonoo Falls, is of the open pit type. This type of toilet has the potential to pollute the ground water and will be replaced during the term of this plan. All other toilets are sealed so effluent cannot escape into the watertable. Visitors using the Boonoo Boonoo River may impact on its water quality by swimming, and through informal access can cause siltation.

Management Objectives and Actions

To design facilities and manage activities in the planning area in a manner which minimises erosion, siltation and water pollution.

- ◆ The water quality of Boonoo Boonoo River and Bald Rock Gully Creek will be monitored to determine their immediate water quality status and long term water quality trends.

- ◆ Neighbours will be encouraged to prevent stock from straying into Boonoo Boonoo National Park by the NPWS providing fencing assistance along the south-west boundary of the park (refer to section 3.6).
- ◆ Visitors will be encouraged to adopt minimal-impact bushwalking and camping practices to reduce pollution of waterways. This will be achieved through the use of on-site and written interpretive material.
- ◆ The open pit toilet at Boonoo Boonoo Falls will be replaced with a sealed tank or composting system to eliminate watertable contamination.
- ◆ Erosion control and soil stabilisation works will be undertaken on access tracks, other sites disturbed by human activity, and where erosion threatens the natural or cultural values of the planning area.

3.1.2 Native plants

At present, information on the ecology of native plant species and communities within the planning area is limited. A systematic vegetation survey has not been undertaken in the planning area, however opportunistic surveys have been conducted in Boonoo Boonoo National Park (Clarke, 1994; Sheringham and Westaway, 1995) and in Bald Rock National Park (McDonald *et al.*, 1995; Hunter *et al.*, 1998).

The planning area has been affected by frequent fires which is likely to have a significant impact on the structure and diversity of vegetation communities (refer to section 3.4.2).

Two ROTAP species, *Muehlenbeckia costata* and *Acacia latisepala*, occur on high altitude rocky outcrops within Bald Rock National Park. *M. costata* has been described as a short lived fire ephemeral (Hunter *et al.*, 1998). Both species are thought to require fires of high intensity in order to germinate. The University of New England is currently undertaking research into the fire ecology of rocky outcrop vegetation in association with the NPWS. Results from this research will be used to develop a fire regime to ensure the viability of these ROTAP species (refer to section 3.4.2).

The grassy open forest vegetation community is also restricted to sheltered areas with deep soils within Bald Rock National Park. This community, dominated by New England blackbutt (*Eucalyptus campanulata*), mountain gum (*E. dalrympleana* ssp. *heptantha*) and round leaved gum (*E. brunnea*), is dissected by the access road leading into the park and the Bungoona and Summit walking tracks.

The tall moist forest community dominated by messmate stringy bark (*Eucalyptus obliqua*), mountain gum and round leaved gum is confined to an area at the base of the northern face of Bald Rock. There has been encroachment by campers using the adjacent Bald Rock camping area. Pigs have also caused extensive damage to the understorey in this community.

The ROTAP species, bitter pea (*Daviesia elliptica*) occurs throughout the Boonoo Boonoo National Park, including the Falls picnic area. This species is currently under threat from human encroachment.

Tylophora woollsii is listed as Endangered under the TSC Act and has recently been recorded in two locations within Bald Rock National Park. One site is at the base of Bald Rock where it may be disturbed by trampling while the other site is along a fire trail which is periodically slashed. A recovery plan has been prepared for this species and management recommendations will be implemented accordingly. In the meantime,

populations will be fenced and monitored as little is known about the ecology of *T. woollsi*.

Homoranthus lunatus is listed as Vulnerable under the TSC Act and occurs in Morgans Gully and around Mount Prentice in Boonoo Boonoo National Park. The population at Morgans Gully is under threat from human disturbance in the carpark and picnic area. The only other known population occurs in the Torrington State Recreation Area.

The endangered *Acacia macnuttiana* (refer to table 1) is a narrow-leaved wattle found in isolated patches on granite country along the escarpment edge and riverbanks above Boonoo Boonoo Falls. It is threatened by high frequency fire regimes. Further assessment of the major watercourses and the escarpment within the park will be needed to determine other likely occurrences and populations of the species.

The ROTAP species *Callitris monticola* is restricted to rocky outcrops on Mt Prentice. This species is killed by fire.

The TSC Act requires that a recovery plan be prepared and implemented for all species listed as Endangered or Vulnerable under the Act. The purpose of a recovery plan is to promote the recovery of the Endangered or Vulnerable species to a position of viability in nature. Where a plan exists or is developed for plant species occurring in the planning area, any actions from those plans relevant to the management of the planning will be implemented under this plan.

The Northern Tablelands Region of NPWS is a member of the Northern Tablelands Regional Vegetation Committee. There should be continued involvement with this committee.

Management Objectives and Actions

To enhance the knowledge of the structure and diversity of vegetation communities in the planning area.

- ◆ A systematic vegetation survey of the planning area will be undertaken.
- ◆ Research into the distribution, ecology and management of plant communities with emphasis on rare and endangered species will be encouraged.
- ◆ Information on native plants recorded within the planning area will be entered into the NPWS Wildlife Atlas database.

To protect populations of significant plants/communities from disturbance.

- ◆ Provide protection for the threatened species *Tylophora woollsi* in Bald Rock National Park, *Homoranthus lunatus* in Morgans Gully and the ROTAP *Daviesia elliptica* at the Falls picnic area by mapping their distribution, and making changes to the Falls picnic area and carpark.
- ◆ Provide on-site interpretation to emphasise the importance of minimal impact bushwalking practices to provide protection of native plant communities.
- ◆ Results from research on the fire ecology of rocky outcrop ROTAP species will be used for their subsequent management.
- ◆ The Bald Rock camping and picnic areas will be formalised to reduce encroachment into the adjacent tall moist forest community.
- ◆ Pig control programs will continue in conjunction with neighbours and the managers of Girraween National Park.

- ◆ Populations of the ROTAP species *Callitris monticola* will be monitored for impact from fire and/or goats and appropriate actions taken where necessary to protect the species from further decline.
- ◆ Recovery plans prepared for species listed under the TSC Act occurring within the planning area will be implemented.

3.1.3 Native animals

Fauna surveys have been undertaken in the planning area (Gilmore and Parnaby, 1994). No surveys, however, have been conducted in the environs below the escarpment and therefore species lists are considered incomplete.

The threatened glossy black-cockatoo which feeds almost entirely on the seeds of naturally occurring forest oak trees (*Allocasuarina torulosa* and *A. littoralis*) is regularly sighted in the planning area and is known to breed in Boonoo Boonoo National Park. The population of glossy black-cockatoo in the area is not known. Increased mortality of *Allocasuarina* communities as a result of frequent fires and feral animals may threaten local populations.

The brush-tailed rock-wallaby has been reported around rocky escarpment habitats near the Boonoo Boonoo Falls. The impact of feral animals through predation and habitat displacement, and fire on rock wallaby populations is not known and will require research and monitoring.

The common wombat has also been recorded in Boonoo Boonoo National Park, which represents the northern limit of its distribution (Gilmore and Parnaby, 1994). Knowledge on its distribution in both the planning area and Girraween National Park is unknown. However there has been a rapid decline in wombat sightings in the planning area and the Northern Tablelands, generally, over the last 15 years.

A formerly unknown species of leaf-tailed gecko (*Saltuarius wyberba*) has been recorded in the planning area (Couper *et al.*, 1997). This gecko, along with the border thick-tailed gecko (*Underwoodisaurus sphyrurus*, listed as Vulnerable under the TSC Act), have been the target of collectors who destroy critical habitat while attempting to collect native species. Such activities are illegal under the TSC Act and the NPW Act.

A boundary fence (originally erected as a tick fence) follows the border trail between Bald Rock and Girraween National Parks. This fence serves no management purpose, is in poor repair and may be a hazard to native fauna (see section 3.6).

Management Objectives and Actions

To enhance the level of knowledge about populations, threats to, and management of, native animal communities occurring within the planning area.

- ◆ A systematic fauna survey will be undertaken in the planning area.
- ◆ Populations of wombats, glossy black-cockatoos and brush-tailed rock-wallabies will be surveyed and monitored in conjunction with managers of Girraween National Park.
- ◆ Feral animals within the planning area will be controlled, with emphasis on fox, pig and goat control programs.

To protect the habitat of native animals with priority given to species of conservation significance.

- ◆ Recovery plans prepared for species listed under the TSC Act occurring within the planning area will be implemented.
- ◆ Regular surveillance will be undertaken in the planning area to deter collectors of native fauna.

3.2 MANAGEMENT FOR CULTURAL RESOURCE CONSERVATION

3.2.1 Indigenous and non-indigenous cultural heritage

The planning area lies within the geographic range of both the Moombahlene and Muli Muli Aboriginal Land Councils. It is imperative that both Land Councils are involved in Aboriginal cultural heritage surveys conducted within the planning area and subsequent management of identified sites and places. No such surveys have yet been undertaken.

A circular/elliptical stone arrangement in the northern sector of the Boonoo Boonoo National Park and the adjacent Boorook State Forest is listed on the Aboriginal sites register. However the significance of this site to Aboriginal people is not known and requires further investigation.

No protection works are required at Morgans Gully at present, but it will be monitored. An interpretive display will be developed for the site which is currently easily overlooked by visitors.

Management Objectives and Actions

To enhance the level of knowledge on cultural values associated with the planning area.

- ◆ A cultural heritage study will be conducted in the planning area.
- ◆ The Moombahlene and Muli Muli Aboriginal Land Councils and other relevant Aboriginal organisations will be invited to be involved in all aspects of identification, management and interpretation of Aboriginal cultural values in the planning area.
- ◆ All historic and Aboriginal sites will be entered into the NPWS Historic Sites and Aboriginal Sites Database.
- ◆ Sites of cultural significance identified within the planning area will be conserved in accordance with the Burra Charter of Australia (ICOMOS, 1998).
- ◆ Interpretive signs will be erected at Morgans Gully as a means of protecting the historic values of the site. Site monitoring will be undertaken and protective measures implemented if necessary.

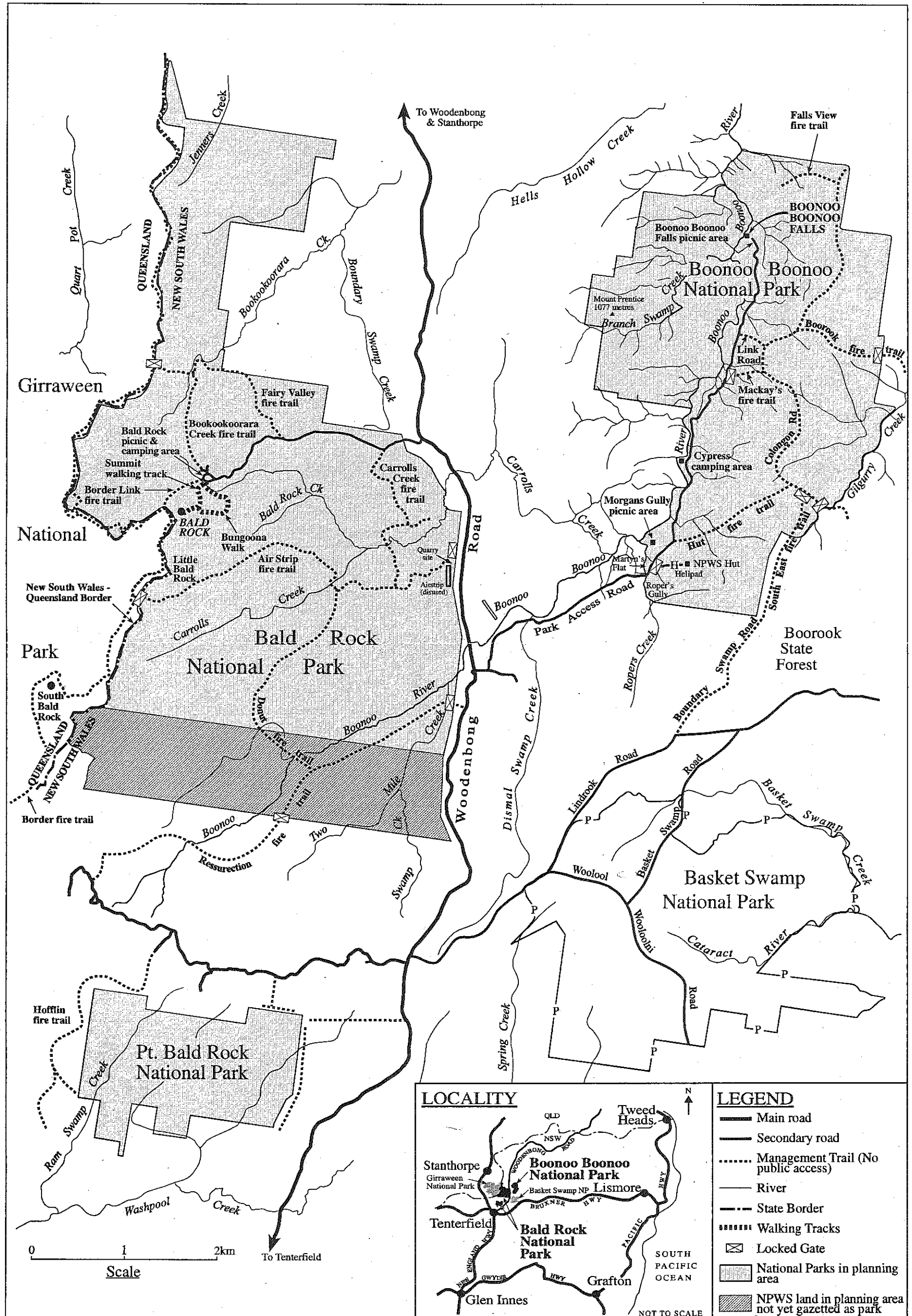
3.3 MANAGEMENT OF INTRODUCED SPECIES

3.3.1 Introduced plants

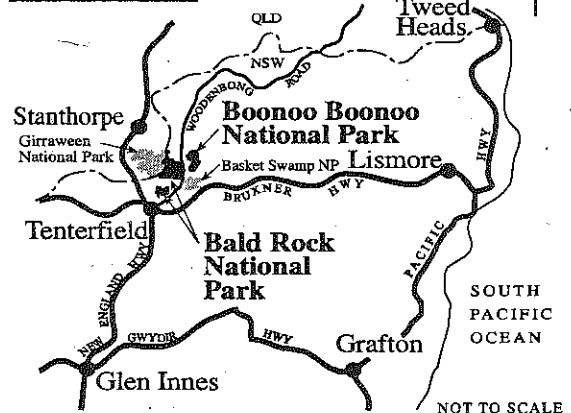
Introduced plants within the planning area are the result of disturbance to natural ecosystems from past agricultural land uses. They have the potential to adversely affect the viability and biodiversity of native vegetation communities.

Forty-two introduced plant species are recorded as naturalised in Girraween and Bald Rock National Parks (McDonald *et al.*, 1995). However, information on the distribution and abundance of introduced plant species in the planning area is limited and a weed control program is yet to be prepared.

Figure 1: Bald Rock and Boonoo Boonoo National Parks



LOCALITY



LEGEND

- Main road
- Secondary road
- Management Trail (No public access)
- River
- State Border
- Walking Tracks
- Locked Gate
- National Parks in planning area
- NPWS land in planning area not yet gazetted as park

Clearing of land for grazing and horticulture, particularly in Carrolls Creek, Two Mile Creek, Fairy Valley, the disused airstrip and the southern sector of Bald Rock National Park has resulted in encroachment by several introduced plants such as blackberry (*Rubus fruticosus*), whisky grass (*Andropogon virginicus*) and African lovegrass (*Eragrostis curvula*).

Blackberry is particularly prominent in cleared areas around Carrolls Creek and Two Mile Creek in Bald Rock National Park and is currently controlled by an annual spraying program. Blackberry is listed under the *Noxious Weeds Act, 1993*. This places an obligation upon public authorities to control blackberry and other noxious weeds on land that they occupy, to the extent necessary to prevent such weeds spreading to adjoining lands. The Tenterfield Shire Council is the agency responsible for weed control in the district surrounding the planning area.

Whisky grass and African lovegrass occur along access trails and cleared areas, including Martyns Flat in the southern sector of Boonoo Boonoo National Park. Increased usage of the planning area may also exacerbate the spread of introduced species. The NPWS, in conjunction with Southern Cross University in Lismore, is currently trialling control methods for whisky grass and lovegrass. Results from these trials will direct future management of those species.

Management Objectives and Actions

To control, and where practicable, eradicate introduced plants from the planning area.

- ◆ A pest species management strategy will be prepared for the planning area.
- ◆ Pending the preparation of a pest species management strategy, priority for weed control will be given to the following areas:
 - blackberry around Carrolls Creek, Two Mile Creek and Fairy Valley;
 - African lovegrass and whisky grass along access roads and fire trails;
 - whisky grass on Martyns Flat; and
 - weeds on disused airstrip in Bald Rock National Park.
- ◆ Finalise whisky grass/lovegrass control trials on Martyns Flat and make results available to landholders and managers of Girraween National Park.

3.3.2 Introduced animals

Detailed information on the distribution and abundance of introduced animal species in the planning area is limited and a pest species control program is yet to be prepared. Introduced animals known to occur in the planning area include feral pigs, foxes, rabbits and wild dogs (feral dogs and dingo – domestic dog hybrids). Pigs are controlled by trapping and aerial shooting.

Cattle from adjacent pastoral lands occasionally stray into Boonoo Boonoo National Park from the south, indicating that existing fencing may require maintenance in cooperation with neighbouring land holders.

Management Objectives and Actions

To control, and where possible, eradicate introduced animals in conjunction with neighbouring landholders. Priority will be given to those species likely to threaten native fauna of conservation significance.

- ◆ A pest species management strategy will be prepared for the planning area. In the meantime, appropriate management strategies will be implemented.
- ◆ Boundary fencing will be maintained to a stock-proof condition in conjunction with neighbours.
- ◆ A fox and wild dog monitoring and biannual baiting program will be established in association with the managers of Girraween National Park.

3.4 FIRE MANAGEMENT

The NPWS recognises that fire is a natural phenomenon of the planning area. The frequency of fire, its intensity, and the season in which it occurs are some of the major factors influencing the distribution of flora and fauna species and communities. These interactive processes are complex and not fully understood, however inappropriate fire management practices have the potential to cause localised extinction of many flora and fauna species as well as to detrimentally affect the cultural heritage and recreational values of the planning area.

The planning area has been subject to frequent wildfires, as well as hazard reduction burning over the last century as a result of past land uses. A high proportion of fires occurring within the planning area over the last 20 years have been caused by arson or hazard reduction burn escapes from neighbouring lands. Wildfires in Bald Rock National Park have predominantly originated from Girraween National Park.

Four major fires have occurred in the planning area since 1989. The most recent wildfire in October 1997 burnt more than 50 percent of Boonoo Boonoo National Park.

3.4.1 Fire management responsibilities and obligations

The NPWS must fulfil its obligations under the *Rural Fires Act, 1997* and take all practical steps to prevent the occurrence of bush fires and to minimise the danger of the spread of a bush fire onto or from its estate. The NPWS is a recognised fire authority under the *Rural Fires Act* and will carry out works for the preservation, conservation and protection of national parks, nature reserves, and wildlife and natural habitat as required under the NPW Act.

The NPWS primary fire management responsibilities are:

- to reduce the fire threat to life and property both within and immediately adjacent to areas where the NPWS has a statutory responsibility;
- to effectively manage bushfires for the protection and conservation of the natural, cultural and recreational values within NPWS areas; and
- to cooperate and work with other organisations in fire management planning and implementation within the area.

The NPWS is committed to preparing fire management plans for each of its reserves. As part of this process, a fire management plan for the planning area will be prepared as a high priority.

Management practices within the planning area should attempt to achieve a mosaic of differing fire frequencies and intensities within the different vegetation communities in order to maintain natural biodiversity.

Fire management planning and operations must also include the protection of the planning area's threatened species. Burning prescriptions and other management

actions must take into account the effects of proposed actions on significant plant and animal species identified in the TSC Act. This means that a review of environmental factors (REF) must be completed for prescribed burning programs within the planning area.

3.4.2 Maintenance of natural values

Research in fire prone ecosystems has led to the establishment of broad fire regime guidelines needed to avoid the extinction of species and subsequently conserve biodiversity. Fire threshold predictions for communities similar to those represented in the planning area are summarised in Table 3. These are, however, only broad guidelines and local or regional variations may see differing needs identified for vegetation communities specific to the planning area.

Table 3: Fire threshold predictions for vegetation communities similar to the planning area

| Vegetation Community | Fire Threshold |
|-----------------------------|--|
| Closed forest / rainforest | No fires, any fires will have adverse impacts. |
| Tall moist eucalypt forest | Fire frequency should not exceed two fires within 20 years or two or more high intensity fires with complete canopy scorch within 100 years. |
| Open forest or woodland | Fire frequency should not exceed two fires in quick succession each five years, or more than 30 years without fire. |
| Rocky outcrop communities | Unknown at present. Topographic features suggest that fire frequency may be low. |
| Heathland and sedgeland | Fire frequency should not exceed two fires in quick succession each eight years, three fires in quick succession each 15 to 30 years. |

Research is currently being conducted into the fire ecology of *Muehlenbeckia costata* and *Acacia latiseptala*, both ROTAP species occurring on rocky outcrops in Bald Rock National Park. Results from this research will be applied to fire management in the planning area.

Scientific understanding of the fire requirements for plant communities is generally more advanced than for animal communities. Research demonstrates that the conservation of many animal species also depends upon a mix of fire regimes including occasional high intensity fires, as the use of regular and low intensity fires has an unacceptable impact on critical habitat requirements for native animals, particularly on ground flora and undergrowth.

3.4.3 Life and property protection

Information on the fire history of both parks over the last 20 years has been recorded in the NPWS Geographical Information Systems (GIS) database. Past fire management strategies have mainly focused on wildfire suppression. This has mainly been a symptom of the frequent unplanned fire breakouts within both parks.

Wildfire presents a threat to surrounding land uses such as forestry, agriculture and grazing. Fire therefore will need to be managed in terms of its potential impact on life and property both inside and outside the planning area, as well as providing protection for the planning area's natural and cultural values.

Currently, Bald Rock and Girraween National Parks are managed as separate land units, even though they form a contiguous area of national park. No formal strategy between NPWS and QPWS for the management of fire has been established. In order for fire management to be effective in achieving both protection of life and property as well conservation objectives, management strategies need to be developed in conjunction with QPWS.

Management Objectives and Actions

To effectively manage bushfire for the protection of life, property and conservation of the natural, cultural, scenic and recreational values of the planning area.

- ◆ A fire management plan for the planning area will be prepared.
- ◆ Results from research on the fire ecology of the ROTAP species *M. costata* and *A. latisejala* will be used in the fire management of these species.
- ◆ Research will continue into fire behaviour, hazard and risk assessment and vegetation dynamics for input into the fire management plan.
- ◆ Data on fire occurrence, frequency, season and intensity will be recorded to maintain an up to date GIS database.
- ◆ A fire trail strategy will be developed for the planning area in conjunction with managers of Girraween National Park. This will include assessment of all existing trails in the planning area and Girraween National Park for their fire protection value, the closure and rehabilitation of trails no longer required, and a maintenance program for those trails considered necessary for fire protection.

To develop fire management programs with other authorities including QPWS, the Rural Fire Service, Rural Lands Protection Board and State Forests of NSW as the basis for improving fire management practices and operations.

- ◆ Cooperative fire management strategies will be developed and implemented with the managers of Girraween National Park. These strategies will be discussed at an annual meeting between both agencies and other fire authorities prior to the fire season.
- ◆ Prescribed burning and other fuel management programs will be reviewed annually in conjunction with managers of Girraween National Park and in accordance with the objectives and actions outlined in this plan of management and the proposed fire management plan.

To facilitate cooperative fire management practices with neighbours of the planning area to reduce the risk of fire spreading into and out of NPWS estate.

- ◆ Encourage the involvement of the planning area's neighbours in cooperative fuel management programs.

3.5 MANAGEMENT FOR VISITOR USE AND SERVICES

3.5.1 Information, interpretation and education

The planning area is an important component of the outdoor recreational opportunities available on the far Northern Tablelands of New South Wales. The area is becoming an

increasingly popular destination for regional, interstate and international visitors who are seeking nature-based recreational activities.

It is envisaged that the planning area will be managed to cater for visitors who are seeking a natural setting which offers different recreation settings to those provided in the neighbouring Girraween National Park. This can be achieved by providing limited low key camping and picnic facilities as distinct to the more developed facilities offered at Girraween. In order to ensure that the planning area is promoted in a manner that embraces the conservation objectives of the NPWS, effective communication links with local and regional tourist agencies will need to be developed.

An important aspect of the NPWS public awareness program is to keep members of the local community, particularly neighbours and stakeholders of the planning area, local councils and other authorities informed of park management programs such as fire management and pest species control.

Promoting public awareness of the NPWS conservation responsibilities, the values of the area and its recreational opportunities is a major aspect of management for visitor use. The development of effective visitor interpretation and education programs will greatly enhance the public perception and enjoyment of the planning area and such programs will be designed to promote nature conservation and the understanding of national parks both generally and specifically. Existing facilities and programs in the planning area which promote public awareness and appreciation include:

- brochures which offer general information on the planning area;
- the NPWS Discovery program; and
- on-site interpretive displays and signage at Bald Rock and Boonoo Boonoo Falls.

Management Objectives and Actions

To provide visitors to the planning area with information that promotes appreciation and enjoyment of the natural and cultural values of the area and the role of the NPWS in managing these values.

- ◆ Interpretive displays will be provided for the Bald Rock summit walking track and the Bungoona walking track.
- ◆ Signage at Boonoo Boonoo Falls will be upgraded.
- ◆ An orientation and interpretive display will be installed within the precincts of Morgans Gully and Cypress camping areas.
- ◆ The interpretive display at the Tenterfield visitor centre will be reviewed and upgraded if necessary.
- ◆ A display, which includes information on Girraween National Park and the planning area, will be developed in cooperation with QPWS for the Stanthorpe Visitor Information Centre.
- ◆ Brochures for the planning area will be reviewed and reformatted where necessary.
- ◆ The feasibility of designing a brochure which identifies recreational opportunities both in the planning area and Girraween National Park will be investigated.
- ◆ The NPWS Discovery program will continue and the feasibility of promoting the program in conjunction with Girraween National Park will be investigated.

To promote minimal impact recreation practices.

- ◆ Signage will be erected and interpretive displays designed to inform visitors of the need to remove their own rubbish from the parks.
- ◆ Minimal impact bushwalking practices will be promoted in brochure material.

To liaise with regional tourism authorities in the promotion of the planning area.

- ◆ The cooperation of local tourist authorities, managers of Girraween National Park and other land management authorities will be sought to promote information about the planning area and the role of the NPWS.

3.5.2 Commercial tour operations

At present, there are three commercial tour operators licensed to conduct tours within the planning area. Woolloomoolool Aboriginal Culture Tours operate out of Tenterfield and conduct cultural interpretive walks in both parks. The other two companies operate from Lismore. Commercial tour operators are required to be licensed under the NPW Regulations and are subject to NPWS licensing requirements.

The NPWS will provide appropriate information and training for commercial tour operators to ensure activities are conducted in accordance with the objectives outlined in this plan.

Management Objectives and Actions

To encourage commercial tour operators to promote an appreciation and understanding of the natural and cultural values of the planning area.

- ◆ Commercial operators using the parks will be monitored, and information and training will be provided as necessary to ensure that their programs are accurate, well presented and consistent with the NPWS's conservation objectives.
- ◆ Prospective tour operators will be required to submit an annual business plan outlining their activities and programs.
- ◆ Tour operators will be required to regularly submit passenger figures to supplement information on visitation to the planning area.
- ◆ Any publicity and interpretation undertaken by commercial operators will be required to be consistent with the conservation objectives of the planning area.
- ◆ Limits may be placed on the number of operators and passengers and frequency of tours to avoid unacceptable environmental impacts and interference to other park users.

3.5.3 Recreational opportunities

The planning area offers a broad scope of recreational activities including picnicking, car based camping and bushwalking along constructed walking tracks and fire trails. Visitor use is monitored by electronic vehicle counters installed on the access roads to both parks, camping ground registrations and participation in the NPWS Discovery programs.

Peak visitation to the planning area occurs during holiday periods and is often associated with overcrowding and subsequent degradation of camping areas.

Horse riding and cycling activities are occasionally undertaken along the main access roads in the planning area.

Conservation areas are becoming an important focus for a range of adventure activities such as rock climbing, abseiling and hang-gliding. Although such activities are uncommon in the planning area at present, it is likely that the landforms of the planning area may be an attraction in the future. Such activities have the potential to conflict with the natural, cultural and landscape values of the planning area, as well as presenting a significant public risk because the areas preferred for adventure activities (eg. cliff faces at Bald Rock and Boonoo Boonoo Falls) are also those most frequented by visitors to the parks.

Scenic flights over the planning area currently occur a couple of times a week. Frequent low flying aircraft are likely to have an adverse effect on wildlife and visitors' experiences of the planning area.

Existing facilities in the planning area do not cater for disabled visitors. Therefore access for disabled persons will be provided in the construction of future facilities where practicable.

Management Objectives and Actions

To provide a range of low-key recreation opportunities which will meet the conservation objectives of the planning area and complement facilities provided by natural areas in the surrounding district.

- ◆ Adventure activities such as rock climbing, abseiling and hang-gliding are prohibited in the planning area.
- ◆ Where possible, visitor facilities will be designed to cater for physically disabled visitors.
- ◆ Self-reliant back-pack camping is permitted in the planning area except within 300 metres from any road, walking track, recreation area, the base of Bald Rock and the Boonoo Boonoo Falls.
- ◆ Commercial operators seeking to conduct aerial tours over the planning area will be requested to conduct their operations in a manner which does not significantly threaten the quiet enjoyment of visitors on the ground.
- ◆ Cycling is permitted on public access roads and management trails in the planning area unless otherwise indicated by signage, however, cycling is prohibited on walking tracks.
- ◆ Horse riding is prohibited within the planning area.

3.5.4 Visitor facilities and access

In Boonoo Boonoo National Park, vehicle based camping and picnic facilities are provided at the Cypress and the Boonoo Boonoo Falls areas and basic picnic facilities at Morgans Gully. Camping and picnic facilities have also been established near the base of Bald Rock (see figure 1). A self-registering camping fee system was introduced to all three camping areas in November 1997.

(i) Camping and picnic facilities

Carparks, camping areas and picnic sites, especially at Boonoo Boonoo National Park, are progressively being formalised. This prevents encroachment and the degradation of the surrounding bushland and reduces the network of informal tracks leading to adjacent

waterways. Vehicle parking and camping areas will be limited to present carrying capacities and sites and carparking facilities will be formalised.

Visitors to the Falls camping and picnic area are predominantly day users, with many visitors simply wishing to view the falls without utilising camping facilities. The combination of picnic and camping has led to campers monopolising facilities, leaving limited room for day users. It is proposed that the Falls area caters exclusively for day visitor use. Vehicle sites will also be limited and formalised to reduce encroachment on the surrounding landscape.

The Cypress camping and picnic area, located near the Boonoo Boonoo River is approximately 6 km west of the Falls. It is proposed that this site will be managed exclusively as a camping area. Limited vehicle parking will be provided near the water hole, just north of Cypress camping area for day picnickers but no facilities will be provided at the parking area.

There has been an attempt to separate camping and day use facilities at Bald Rock camping area, but there has been little formalising of sites resulting in encroachment on the surrounding vegetation. It is proposed that camping and vehicle sites will be limited and formalised.

Basic facilities including wood BBQs, picnic tables, pit toilets and rubbish pits are provided in all camping areas and picnic sites within the planning area. Water is only supplied at Bald Rock camping area, where it is reticulated from Bald Rock Gully Creek, while water is collected from Boonoo Boonoo River by visitors using Cypress camping area. The water quality of tributaries in the planning area is not known. As the Boonoo Boonoo River is used for swimming, visitors should be encouraged to take precautionary measures by boiling drinking water or bringing water with them.

Water holes are located above the Falls and just north of the Cypress camping area. Both water holes, currently signposted as 'swimming holes', are shallow and deemed unsafe for diving. This signage will be altered to read 'water hole' and swimmers cautioned that the water hole is unsuitable for diving. The platform at the Cypress water hole is considerably higher than the water level and may encourage people to jump/dive into the shallow water. A risk assessment will be undertaken on both water holes.

The unsealed pit toilets currently used in the planning area will be progressively replaced with sealed tanks or composting systems in order to protect water quality in nearby streams, with the highest priority being where there is the highest pollution potential.

Numerous wood BBQs are provided throughout existing camping and picnic sites. Firewood is supplied, however, there is still evidence of bark and branch removal from nearby trees. It is proposed that wood BBQs will be progressively replaced by gas BBQs to obviate this problem.

Requesting visitors to remove their own rubbish has been successfully adopted in Girraween National Park. It is proposed that rubbish pits be removed from picnic and camping areas and visitors encouraged to take their rubbish with them. This action will be preceded by an awareness program where visitors and the Tenterfield Shire Council are informed of the change through on-site signage and contact with NPWS personnel.

Generators are considered inappropriate in the picnic and camping areas of the planning area because of their noisy operation and potential disturbance to other campers and park users.

It is also proposed that the name 'rest area' at each site be changed to either 'camping area' or 'picnic area' to more clearly direct the public to the facilities they seek.

(ii) Walking tracks

Two walking tracks lead to the summit of Bald Rock in Bald Rock National Park. The Bungoona walk, 2.5 km in length, rises from the picnic/camping complex to the eastern side of Bald Rock, passing through a series of granite tors, which in places form archways and canyons. This track is currently being upgraded. Alternatively, a more direct track leads to the base of Bald Rock rising steeply via the north eastern face. A wooden foot bridge links the picnic and camping areas to the two walking tracks referred to above.

A short walking track leads from the Boonoo Boonoo Falls picnic area to a viewing platform overlooking the falls. This track was upgraded in 1997 and now includes interpretive panels on the platform. Some visitors proceed beyond the viewing platform to the base of the falls. This section of track beyond the Boonoo Boonoo Falls viewing platform is in a poor state of repair and is without any safety railing. A risk assessment is required to determine how this track should be managed to minimise public risk.

Informal tracks accessing the swimming hole at Cypress picnic area has led to substantial riverbank erosion. A formalised and signposted track leading from the Cypress camping area to the swimming hole platform may be required to abate erosion.

Several management trails are also used by visitors to the planning area for remote area bushwalking. Examples include the NSW /QLD State Border trail, the Fairy Valley trail in Bald Rock National Park, and the Hut trail in Boonoo Boonoo National Park (see figure 1).

(iii) Public vehicular access

Vehicular access to the planning area for all visitors is via the Woodenbong Road, which links the towns of Tenterfield and Woodenbong and continues to Brisbane via Beaudesert. An arterial road from Stanthorpe in Queensland links to the Woodenbong Road at Amosfield (see figure 1).

Public access to Bald Rock National Park is along a 6 km gravel road which leads to a picnic and camping area near the base of Bald Rock. Public access to Boonoo Boonoo National Park is along a 13 km gravel road which leads to a camping/picnic area above the Boonoo Boonoo Falls.

The existing 6 km gravel access road into Bald Rock National Park, including the turning circle at the camping and day use area, will be sealed, and realigned only where absolutely necessary, to improve safety and provide better access for visitors. The existing two wheel drive, 13km access road into Boonoo Boonoo National Park will be maintained as a gravel road, however, the turning circle at Boonoo Boonoo Falls will be sealed to suppress dust. The proposed road sealing works will be subject to environmental assessment approval.

Tenterfield Shire Council plans to complete the sealing of the Woodenbong Road to Bald Rock within two years. The NPWS will continue to maintain the Boonoo Boonoo National Park access road to two-wheel drive standard.

In Boonoo Boonoo National Park there are several informal tracks leading from the park access road to the river. It is proposed to prohibit vehicular access along these tracks and allow natural regeneration to occur.

Management Objectives and Actions

To provide a range of low-key formalised visitor facilities which provide a quality nature-based experience with minimal impact on the surrounding landscape.

- ◆ The Falls picnic area will be formalised to provide parking for up to 24 cars.
- ◆ The vehicle turning bay at Boonoo Boonoo Falls will be sealed to aid in dust suppression.
- ◆ A feasibility assessment to develop a wheel chair accessible track to above the falls will be undertaken.
- ◆ Cypress camping area will be limited to 15 formalised camping sites, with the perimeter delineated with timber bollards.
- ◆ Parking for up to four cars will be provided immediately north of Cypress camping area for access to the water hole. No visitor facilities will be provided.
- ◆ Rubbish pits will be removed from picnic and camping areas and signs erected informing people to take their rubbish with them. A visitor awareness program will precede the removal of rubbish pits.
- ◆ The NPWS will liaise with Tenterfield Shire Council prior to the removal of rubbish pits to ensure that adequate facilities are provided in Tenterfield township for the appropriate disposal of rubbish from visitors to the planning area.
- ◆ Picnic facilities at Morgans Gully will be formalised with parking for six cars and an interpretive display will be installed nearby.
- ◆ Bald Rock camping area and picnic area will be formalised (with a maximum of 15 camping sites in total). Perimeters will be delineated with timber bollards.
- ◆ Wood BBQs will be progressively replaced with gas BBQs.
- ◆ The name 'rest area' will be changed to either 'camping area' or 'picnic area' depending on the purpose of the site.
- ◆ The walking track to the water hole from Cypress camping area will be formalised and sign posted.
- ◆ The walking track from the junction of the Bungoona Walk and the "steep ascent" will be upgraded.
- ◆ Generators will be prohibited in the planning area.
- ◆ Informal tracks will be closed and left to naturally regenerate.
- ◆ Public vehicular access will not be permitted on management tracks. Locked gates will be erected at locations shown in figure 1 and on other management tracks where unauthorised public vehicle access is deemed to be a problem by the Regional Manager (refer to section 3.6(i)).
- ◆ The 6km gravel access road into Bald Rock National Park, and the turning circle at the end of the road through the camping and day use area, will be sealed to improve safety, amenity, and improved access for visitors, subject to the following requirements:
 - road works maintain the existing road alignment and width as far as possible;
 - traffic calming devices (such as flat-topped speed humps) be constructed at the park entrance and just before the turning circle to warn motorists that they are entering a park and then a pedestrian zone; and

- the NPWS monitor the effect of the road sealing to determine whether it does or does not minimise erosion and sedimentation, affect wildlife road kills and visitor safety, and affect the level and type of use of the park. (This information will be useful in the consideration of similar future proposals).

To minimise the risk of injury to visitors utilising the planning area

- ◆ A risk assessment will be undertaken on the Falls and Cypress water holes and on that section of track beyond the Boonoo Boonoo Falls viewing platform. In light of the risk assessment, appropriate measures will be undertaken to ensure minimal risk to visitors.
- ◆ 'Swimming hole' signage at Cypress camping area and the Falls picnic area will be changed to 'water hole' and swimmers cautioned that the water hole is shallow and unsuitable for diving and may contain submerged objects.
- ◆ Signs will be erected at all sites advising users to boil water collected from local waterways before drinking.
- ◆ A water monitoring program will be established to measure the water quality at both Bald Rock and Cypress camping areas (refer to section 3.1.1).

3.5.5 Research and education

The planning area is used regularly by universities, schools and community groups as a valuable environmental and educational resource. There has been little scientific research conducted in the planning area. Areas for further research identified in this plan include:

- Aboriginal and European cultural heritage surveys;
- population studies on species of State and regional significance such as,
 - common wombat,
 - brush-tailed rock-wallaby,
 - glossy black-cockatoo;
- fire ecology of vegetation communities; and
- systematic flora and fauna surveys.

Management Objectives and Actions

To encourage appropriate research within the planning area

- ◆ A prospectus will be prepared for universities and interested researchers outlining research priorities identified in this plan of management and guidelines for conducting research in the planning area.
- ◆ All researchers will be required to liaise closely with regional staff to ensure that relevant information is readily available for park management purposes.
- ◆ NPWS will exchange information on research projects conducted within the planning area or region which may be applicable to the management of natural resources in Girraween National Park. Where relevant, research projects will be coordinated to encompass both the planning area and Girraween National Park.

3.6 MANAGEMENT OPERATIONS

A works depot and an accommodation hut are located on land previously cleared for grazing, in the southern section of Boonoo Boonoo National Park. The works depot

services both Bald Rock and Boonoo Boonoo National Parks, and with increasing NPWS responsibilities in the Tenterfield area, the parks serviced by the depot is expected to expand. The hut is used by NPWS staff, Discovery Rangers and research personnel. A helicopter landing area is also located 200 m west of the works depot.

(i) Management trails

Management trails currently maintained within Bald Rock National Park include:

- The Airstrip Trail traverses the park from east to west and serves as both a fire control line and as an access to water. The northern end of the disused airstrip is suitable as a helipad for fire management. Adjacent to the airstrip is a quarry which has been used in the past for gravel extraction. The quarry is no longer required and it is proposed that the area be rehabilitated.
- Carrolls Creek, Resurrection Creek, and Fairy Valley trails also serve as access to water as well as boundaries for hazard reduction burning programs.
- Perimeter trails surround the northern, eastern and western boundaries of the southern block of Bald Rock National Park and pass through private land.
- The Border trail follows the Queensland/New South Wales border separating Bald Rock and Girraween National Parks. This management trail is used in conjunction with QPWS and plays an important role during fire suppression. It is also used as a walking track linking Bald Rock to South Bald Rock in Queensland. In the past, slashing of the border trail was supposed to alternate between management agencies on a bi-annual basis. However QPWS has undertaken this task over the last few years. It is proposed that slashing of the trail be discussed at an annual cross border meeting where working arrangements can be established.

Three management trails are currently maintained in and adjoining Boonoo Boonoo National Park.

- The Hut Trail passes across a side tributary of the Boonoo Boonoo River and as such serves as an access to water as well as a boundary for hazard reduction burning programs.
- The Link Road joins the park (via Colongon Road) to Boorook and Boonoo State Forests, and is utilised mainly during fire suppression operations by both NPWS and State Forest personnel.
- The third trail crosses the north-eastern side of the park and originates from the northern end of Colongon Road, near Gilgurry Trig.

Public vehicles have been occasionally observed using management trails. Public vehicles will be restricted to public access roads while management trails will be gated or sign posted to prevent unauthorised access (refer to section 3.5.4(iii)).

(ii) Fencing

A number of redundant boundary fences exist within the planning area, including the border fence (refer to section 3.1.3). These fences present a hazard to native fauna and should be removed. Other boundary fencing requires regular maintenance in conjunction with neighbouring landholders to prevent stock incursion.

(iii) Acquisitions

A portion of land adjoining the southern edge of the northern block of Bald Rock National Park (see figure 1) was acquired by the NPWS in 1986 but was not been gazetted due

to an existing mining interest. The exploration licence issued by the Department of Mineral Resources expired in 1999. The NPWS is seeking approval to dedicate the land as national park. Meanwhile the land will be managed as though it were national park.

Management Objectives and Actions

To maintain the current system of management trails to a standard consistent with the need to protect the natural resources of the park, manage fire and ensure public safety.

- ◆ Any further expansion of the works depot will be confined to existing disturbed areas.
- ◆ The northern end of the Airstrip trail will be maintained as a helipad for emergency use only.
- ◆ The quarry at the northern end of the airstrip will be rehabilitated in accordance with a rehabilitation plan that will be prepared.
- ◆ The existing helipad will be used for management and emergency use only.
- ◆ All management tracks will be gated or sign posted to prevent unauthorised vehicle access (refer to section 3.5.4(iii)).
- ◆ The border boundary fence will be removed in conjunction with managers of Girraween National Park.
- ◆ Other boundary fences will be maintained to a stock proof condition in association with neighbours.
- ◆ Arrangements for the maintenance of the border trail will be established at the annual cross border meeting.
- ◆ The NPWS will continue to pursue the gazettal of the parcel of NPWS estate adjoining the southern edge of the northern block of Bald Rock National Park (see map and refer to section 3.6).

- ◆ Any future management facilities developed in the planning area will be subject to the normal environmental assessment procedures.
- ◆ Non-service infrastructure, such as communications towers, will be prohibited in the planning area.

4. PLAN IMPLEMENTATION

The orderly implementation of this plan will be undertaken within the annual programs of the NPWS's Northern Tablelands Region. Priorities determined in the context of regional and Directorate strategic planning will be subjected to the availability of the necessary staff and funds and to any special requirements of the Director-General or the Minister.

Regional programs are subject to on-going review, within which works and other activities carried out in the planning area 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 their development and any necessary investigations undertaken in accordance with established environmental assessment procedures.

In accordance with section 81 of the NPW Act, this Plan shall be implemented by the NPWS and operations which do not comply with the Plan will not be permitted in the Reserve. This Plan can be amended in accordance with Section 75 of the Act.

As a guide to the implementation of this Plan, priorities for identified strategies are provided below. Priorities are based on:

High Those strategies which are imperative to the achievement of the management objectives set out in this Plan and/or which need to be implemented in the near future on the basis that to not undertake the work will result in:

- unacceptable degradation of the natural and cultural values or physical resources of the planning area;
- contribute significant additional cost associated with rehabilitation at a later date, or
- present an unacceptable risk to public safety.

Medium Those strategies that are necessary to achieve the management objectives set out in this Plan, but will be undertaken as resources become available since the time frame for their implementation is not so critical.

Low Those strategies which are desirable to achieving the management objectives set out in this Plan, but can wait until resources are available.

Table 4: Summary of key management actions

| HIGH PRIORITY | Plan Ref. |
|--|------------------|
| Undertake a systematic vegetation survey in the planning area. | 3.1.2 |
| Undertake a water quality monitoring program (Boonoo Boonoo River and Bald Rock Gully Creek). | 3.1.1 |
| Replace pit toilets with sealed or composting systems. | 3.1.1 |
| Undertake a fauna survey in the planning area. | 3.1.3 |
| Prepare a pest species management strategy | 3.3.2, 3.3.1 |
| Prepare a fire management plan. | 3.4 |
| Prepare a fire trail strategy for the planning area in conjunction with managers of Girraween National Park. | 3.4 |

| HIGH PRIORITY (cont.) | Plan Ref. |
|---|-------------------|
| Maintain boundary fencing where necessary in cooperation with neighbouring landholders. | 3.6, 3.3.2, 3.1.1 |
| Provide interpretive material on minimal-impact bushwalking practices. | 3.1.1, 3.5.1 |
| Establish a fox monitoring and baiting program. | 3.3.2 |
| Replace wood BBQs with gas BBQs. | 3.5.4 |
| Formalise carparks and picnic facilities in Cypress, Boonoo Boonoo Falls, Morgans Gully and Bald Rock camping and picnic areas and delineate perimeters with timber bollarding. | 3.5.4 |
| Undertake pig control programs in conjunction with Girraween National Park and neighbours. | 3.1.3, 3.5.5, |
| Monitor and provide protection for populations of <i>Callitris monticola</i> . | 3.1.2 |
| Undertake bi-annual fox and wild dog/dingo baiting programs in conjunction with managers of Girraween National Park. | 3.3.2 |
| Map and fence populations of <i>H. lunatus</i> and <i>D. elliptica</i> | 3.1.2 |
| Establish population monitoring programs for threatened species such as the brush-tailed rock-wallaby, common wombat and glossy black-cockatoo. | 3.1.1, 3.1.2 |
| Finalise Whisky grass control trials and make results available to neighbours and managers of Girraween National Park. | 3.3.1 |
| Construct interpretive displays for the Bald Rock Summit and Bungoona Walks, Cypress camping area and Morgans Gully. | 3.5.1 |
| Upgrade signage at Boonoo Boonoo Falls. | 3.5.1 |
| Construct signage encouraging the public to take their rubbish with them. | 3.5.4 |
| Remove rubbish pits from picnic areas. | 3.5.4 |
| Change signage from rest area to either 'camping area' or 'picnic area.' | 3.5.4 |
| Change signage from 'swimming hole' to 'water hole' and caution swimmers against diving into the shallow water. | 3.5.4, 3.6. |
| Seal vehicle turning bays at Boonoo Boonoo Falls and Bald Rock picnic areas. | 3.5.4 |
| Undertake a risk assessment for the Falls and Cypress swimming areas. | 3.5.4 |
| Prepare a prospectus for potential research projects in the planning area. | 3.5.5 |
| Construct a walking track from Cypress camping area to the swimming area and appropriate signage. | 3.5.4 |
| In association with Girraween National Park establish an interpretive display at the Stanthorpe Visitor Centre. | 3.5.1. |
| Close informal vehicle tracks. | 3.5.4 |
| MEDIUM PRIORITY | |
| Review and re-format brochures on the parks. | 3.5.1 |
| Rehabilitate the disused quarry site. | 3.6 |
| Signpost or gate all management tracks to prevent unauthorised vehicle use. | 3.5.4 |
| Upgrade the walking track from the junction of the Bungoona Walk and the "steep ascent". | 3.5.4 |
| Assess the feasibility of developing a wheel chair accessible track to above the falls. | 3.5.4 |
| Undertake a cultural heritage survey, with priority given to areas of high use or where disturbance is most likely. | 3.2.1 |

| | |
|---|--------------|
| LOW PRIORITY | |
| Implement any management strategies arising from research findings on the fire requirements of ROTAP species <i>M. costata</i> and <i>A. latisepala</i> . | 3.1.2, 3.4 |
| Upgrade the interpretive display at Tenterfield visitor centre. | 3.5.1 |
| Prepare a training program and information package for commercial tour operators. | 3.5.2 |
| Remove the border fence in conjunction with Girraween National Park. | 3.6 |
| ONGOING | |
| Data on fire occurrence, frequency, season and intensity will be recorded on the NPWS GIS database. | 3.4 |
| Continue to provide financial and expertise support to the Discovery program. | 3.5.2 |
| Review prescribed burning and other fuel management programs annually in conjunction with managers of Girraween National Park and neighbouring landholders. | 3.4 |
| Undertake regular surveillance of the planning area to deter collectors of native fauna. | 3.1.3 |
| Undertake soil stabilisation works on access tracks where necessary. | 3.1.1 |
| Enter information on native plants and animals into NPWS Wildlife Atlas. | 3.1.2, 3.1.3 |
| Implement recovery plans for species within the planning area. | 3.1.2, 3.1.3 |
| Invite both Aboriginal Land Councils and other relevant Aboriginal organisations to be involved in identification, management and interpretation. | 3.2.1 |
| All cultural and historic sites will be entered into the NPWS database. | 3.2.1 |
| Undertake weed management in priority areas. | 3.3.1 |
| Maintain boundary fences in a stock-proof condition. | 3.3.2 |

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APPENDIX A

Table 1: Fauna species of State and regional significance in the planning area

| Common Name | Scientific Name | Conservation Status |
|---------------------------|--|---|
| Glossy black-cockatoo | <i>Clayptorhyncus lathami</i> | Vulnerable |
| Yellow-bellied glider | <i>Petaurus australis</i> | Vulnerable |
| Brush-tailed rock-wallaby | <i>Petrogale penicillata</i> | Vulnerable |
| Greater broad-nosed bat | <i>Scoteanax rueppellii</i> | Vulnerable |
| Spotted-tailed quoll | <i>Dasyurus maculatus</i> | Vulnerable |
| Koala | <i>Phascolarctos cinereus</i> | Vulnerable |
| Border thick-tailed gecko | <i>Underwoodisaurus sphyrurus</i> | Vulnerable |
| | <i>Calyptotis scrutirostrum</i> | Endemic to north-east NSW and south-east Queensland |
| | <i>Ctenotus eurydice</i> | Endemic to north-east NSW and south-east Queensland |
| | <i>Ergenia mcphreei</i> | Endemic to north-east NSW and south-east Queensland |
| | <i>Saproscincus challengerii sensu stricto</i> | Endemic to north-east NSW and south-east Queensland |

Source: North East Forests Biodiversity Study, (1994); TSC Act (1995)