

Department for Environment and Heritage  
Management Plan



Mount Remarkable National Park  
2006



Government  
of South Australia

This plan of management was adopted on 23 July 2006 and was prepared pursuant to section 38 of the *National Parks and Wildlife Act 1972* and/or section 31 *Wilderness Protection Act 1992*.



Government of South Australia

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## FOREWORD

Mount Remarkable National Park is considered a major conservation asset and has long been cherished by South Australians. The park is renowned for its rugged ranges, quartzite ridges and gorges, dense vegetation and diverse habitats supporting several species of conservation significance.

The spectacular beauty of the reserve makes it a popular attraction for overnight and day visitors, who frequent the park to enjoy bushwalking, camping, picnicking and sightseeing.

The plan defines a series of objectives and actions for the future management and use of this significant reserve, and facilitates the development and implementation of high quality conservation programs and visitor facility improvements.

Many people have contributed to the development of this plan of management. Their interest and helpful suggestions are gratefully acknowledged.

I now formally adopt the plan of management for Mount Remarkable National Park under the provisions of section 38 of the *National Parks and Wildlife Act 1972*. I encourage you to read the plan and enjoy this exceptional park.



**HON GAIL GAGO MLC**

**MINISTER FOR ENVIRONMENT AND CONSERVATION**



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## 1 PARK LOCATION AND FEATURES

Mount Remarkable National Park was proclaimed in 1972 under the *National Parks and Wildlife Act 1972* to conserve natural features and wildlife considered to be of national significance.

The park is situated in the Southern Flinders Ranges, with the main 16,583 hectare block immediately west of Melrose and approximately 250km north of Adelaide stretching from the coastal plain on the western side near Mambray Creek to the foothills above Wilmington in the north (Figure 1). Two smaller blocks to the south make up the 18,290 hectare reserve.

Mount Remarkable is characterised by high quartzite ridges, spurs and gorges and incorporates Alligator and Mambray Creeks to the west and the summit of Mount Remarkable to the east. The park conserves an important biogeographic area of the Southern Flinders Ranges with diverse flora and fauna representing the northern arid areas and the wetter southern areas of South Australia.

Since proclamation, several land additions have been made to the park, including the Black Range, the Mount Remarkable Range and the 'Battery'. A separate non-contiguous land parcel known as the 'Napperby Block' was added to the park in 1993. The Napperby Block has an area of 1,672 hectares and lies east of the Napperby township, approximately 4km south of Telowie Conservation Park. It incorporates the ridge and steep western slopes of the Southern Flinders Ranges and adjoins the Wirrabara Forest Reserve, the Beetaloo Catchment area and the Nelshaby Reservoir. The Napperby Block is largely undeveloped for visitors and has significant constraints for such developments.

A further 995.75 hectares of land known as the Warren Bonython Link was purchased in 1998 and dedicated in 2000 to join the formerly separated Mambray Creek and Mount Remarkable portions of the reserve. The land was formerly grazed by domestic stock up until its purchase, which was funded by the State Government and the Australian Government Natural Heritage Trust and by a donation from the Nature Foundation SA Inc. The Warren Bonython Link (so-named to commemorate the role of Mr C. Warren Bonython OAM in the original establishment of the park) comprises hilly slopes at the top of the Mount Remarkable and Spring Creek catchments and conserves grassy woodland communities, including the rare White Box (*Eucalyptus albens*) woodland.

The reserve also includes the 35 hectare Telowie block, which adjoins Telowie Conservation Park, located approximately 7.5km east of Port Germein and 24km south of Mambray Creek. The block follows the Telowie Creek line, through a landscape characterised by a woodland of eucalypt associations.

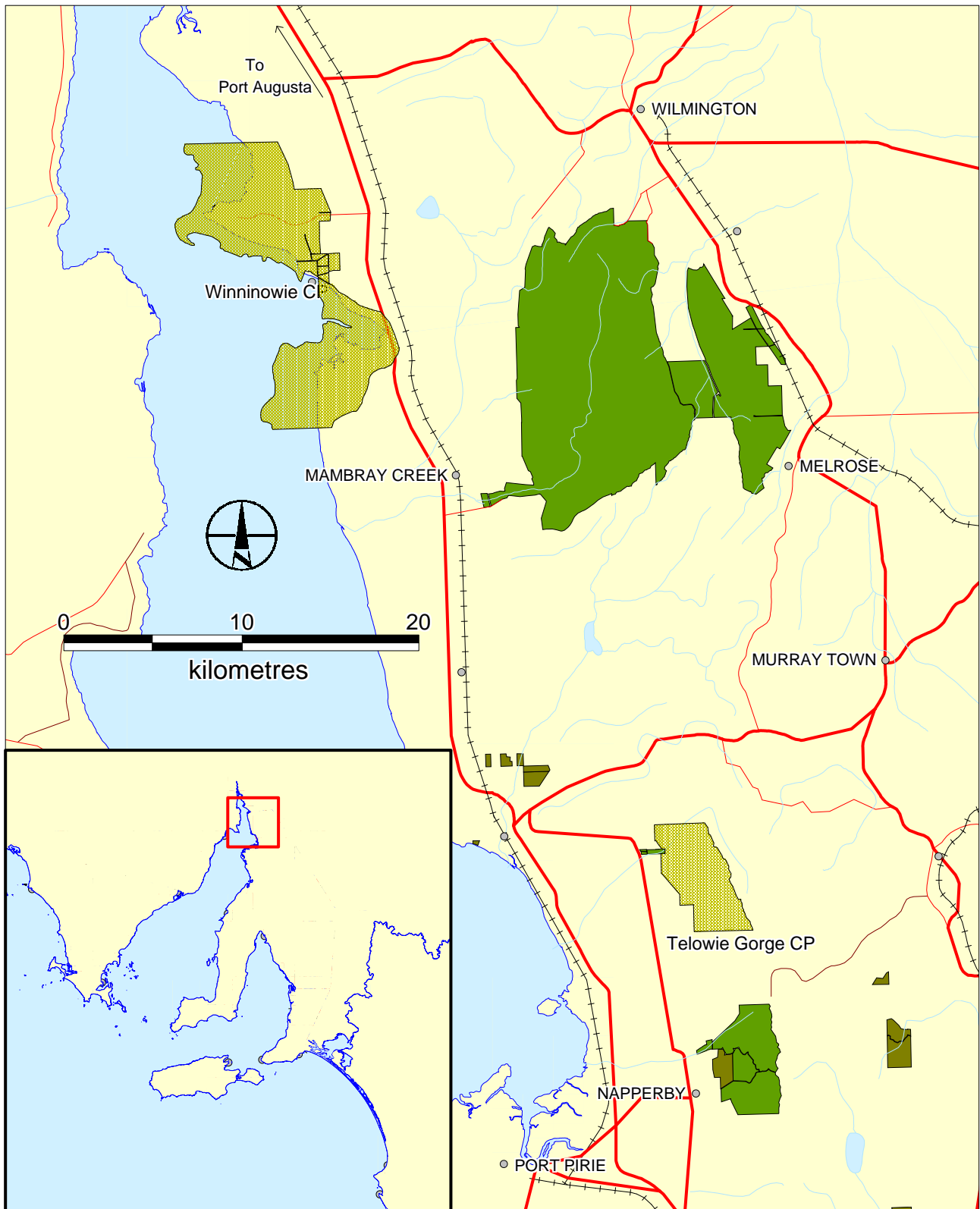
A list of land parcels incorporating the park is included in Appendix A.

Over 90% of Mount Remarkable National Park conserves woodland associations comprising eucalypt, northern cypress pine and acacia. The park also preserves significant Aboriginal sites and historical remnants from pastoralism, agriculture and forestry.

The sense of remoteness and spectacular beauty make Mount Remarkable a popular attraction for day and overnight visitors. With much of the park only accessible by foot, it has been developed sensitively with walking trails, camping grounds and picnic areas (Figure 2) to accommodate visitor requirements, while maintaining the wilderness appeal which makes Mount Remarkable unique.

The region experiences hot dry summers and cool wet winters, with average daily summer temperatures between 20 and 30°C. During the months of November to March, temperatures over 35°C are reasonably common and can exceed 40°C. Average daily winter temperatures range between 8 and 18°C, with overnight temperatures as low as 1°C. Most rain falls from April to October, however, due to the influence of topography and altitude, different locations within the reserve experience great variation in rainfall and temperature.

Major land uses in the region include agriculture, pastoralism and tourism. Mount Remarkable is the largest and most visited park in the Southern Flinders Ranges and plays a major role in regional recreation and tourism attracting local, interstate and overseas visitors. Other National Parks and Wildlife Act reserves in the vicinity of the park include Black Rock, Clements Gap, The Dutchmans Stern, Mount Brown, Telowie Gorge, Winninowie, Whyalla and Yalpara Conservation Parks.



**LEGEND**

- Mount Remarkable National Park
- Surrounding Parks
- Heritage Agreements
- Drainage
- Roads
- Rail

**Figure 1**

Mount Remarkable National Park

**Location**

Map designed and created by  
Reserve Planning using PAMS  
Date: March 2006  
Projection: GDA94 (Zone 53)

## 2 LEGISLATIVE FRAMEWORK

### 2.1 National Parks and Wildlife Act 1972

Reserves are managed by the Director of National Parks and Wildlife subject to any direction by the Minister for Environment and Conservation or the Chief Executive of the Department for Environment and Heritage (DEH). When managing reserves, the Director is required under section 37 of the *National Parks and Wildlife Act 1972* to have regard to, and provide actions that are consistent with the following objectives of management stated in the Act:

- preservation and management of wildlife;
- preservation of historic sites, objects and structures of historic or scientific interest within reserves;
- preservation of features of geographical, natural or scenic interest;
- destruction of dangerous weeds and the eradication or control of noxious weeds and exotic plants;
- control of vermin and exotic animals;
- control and eradication of disease of animals and vegetation;
- prevention and suppression of bush fires and other hazards;
- encouragement of public use and enjoyment of reserves and education in, and a proper understanding and recognition of, their purpose and significance;
- generally, the promotion of the public interest; and
- preservation and protection of Aboriginal sites, features, objects and structures of spiritual or cultural significance within reserves.

Section 38 of the Act states that a management plan is required for each reserve. A management plan should set forth proposals in relation to the management and improvement of the reserve and the methods by which it is intended to accomplish the objectives of the Act in relation to that reserve.

DEH is responsible for preparing management plans and undertaking the prescribed community consultation process for the park. A standard management planning process is mandated, to ensure that all statutory obligations are met. Help and guidance with plan preparation is sought and obtained from individuals, community groups or relevant advisory committees, although ultimately the decision on whether or not to adopt a management plan remains a ministerial prerogative.

A draft plan for Mount Remarkable was released for public exhibition in 1986 and although never formally adopted, guided park management for the intervening years and all the actions were implemented to a greater or lesser extent.

A revised draft plan for Mount Remarkable National Park was released for public exhibition in May 2001. At the close of the comment period, nine submissions had been received. Issues raised in submissions included access for horses, bike riding opportunities and the development of appropriate trails, fire management programs, implementing procedures to minimise the risk of infection with *Phytophthora cinnamomi*, including reference to orchid recovery programs and suggestions for sensitive management, general comments and corrections.

All comments and concerns were considered by The Ranges Consultative Committee and forwarded to the South Australian National Parks and Wildlife Council for review and endorsement before being presented to the Minister for adoption.

In accordance with the Act, the provisions of this management plan must be carried out and no actions undertaken unless they are in accordance with this plan. In order to achieve this, each year park managers, taking regional and district priorities into account, draw up work programs to implement the strategies proposed in management plans. Implementation of these projects is determined by, and subject to, the availability of resources (eg staffing and funding).

## 2.2 Native Title Act 1993

Native Title describes the rights and interests Aboriginal and Torres Strait Islander People have in land and waters according to their traditional laws and customs. Commonwealth legislation, in the form of the *Native Title Act 1993* was enacted to:

- provide for the recognition and protection of native title;
- establish ways in which future dealings affecting native title may proceed and to set standards for those dealings;
- establish a mechanism for determining claims to native title; and
- provide for, or permit, the validation of past acts, and intermediate period acts, invalidated because of the existence of native title.

This management plan is released and will be adopted subject to any native title rights and interests that may continue to exist in relation to the land and/or waters. Before undertaking any acts that might affect native title, DEH will follow the relevant provisions of the *Native Title Act 1993*.

## 2.3 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) establishes a Commonwealth approval process for assessment of proposed actions that are likely to have a significant impact on matters of national environmental significance.

With regard to Mount Remarkable National Park, Bayonet Spider-orchid (*Caladenia gladiolata*), Woolcock's Spider-orchid (*Caladenia woolcockiorum*), Flinders Ranges White Caladenia (*Caladenia xantholeuca*), Clover Glycine (*Glycine latrobeana*), Pale Leek-orchid (*Prasophyllum pallidum*), Robust Leek-orchid (*Prasophyllum validum*), Flinders Worm Lizard (*Aprasia pseudopulchella*), and Tiger Snake (*Notechis ater*) are all nationally threatened species that have been recorded within the park.

Commonwealth approval is required for any action that has, will have or is likely to have a significant impact on matters of national environmental significance in addition to any State approval that may be required.

Furthermore, in consultation with relevant State authorities, the Commonwealth Minister for the Environment and Heritage may develop and implement recovery plans and threat abatement plans for threatened species and ecological communities listed under the EPBC Act. Where applicable, DEH should contribute to and incorporate these plans into park management regimes and operational procedures.

## 2.4 Natural Resources Management Act 2004

The *Natural Resources Management Act 2004* integrates previously separate legislation managing water, soil conservation and pest plant and animal control. The Act establishes eight regional Natural Resources Management Boards. The Northern and Yorke Natural Resources Management Board has overarching responsibility for operations formerly undertaken by the regional Soil Conservation Board, Catchment Water Management Board and the Animal and Plant Control Board.



### 3 VISION

The vision for Mount Remarkable National Park is for a reserve of outstanding natural beauty that provides for ecologically sustainable recreational activities while protecting biodiversity and cultural values.

### 4 ZONING

Section 39 of the *National Parks and Wildlife Act 1972* provides for the designation of zones in a reserve. Zoning aims to ensure that public use and management actions remain compatible with the protection of park values and constrains the use of land in zones to the conditions specified in an adopted management plan.

Mount Remarkable National Park comprises both an important conservation area and a valuable educational and recreational resource. A zoning strategy is necessary to accommodate high quality visitor amenities and recreational experiences, while protecting park values. Within these zones, there may still be sites or localities where access is temporarily or permanently prohibited or restricted and activities regulated for environmental or cultural reasons.

The management zones described below and shown in Figure 2, establish a framework for the sustainable use of the reserve.

#### Visitor Use Zones

The Visitor Use Zones comprise two separate areas identified through historical use and vegetation clearance as the most appropriate for high-level visitor use and the development of visitor facilities.

The Alligator Gorge Visitor Use Zone includes an area for day visitors and the former Ranger's residence, which is now used for visitor rental accommodation.

The Mambray Creek Visitor Use Zone includes the Mambray Creek Campground and the Old Baroota Campground. A self-serve camping permit/entrance fee station is operating successfully for these areas.

The Mambray Creek Campground includes vehicle-based camping, group camping, a cabin, park headquarters and the ranger's residence. Vehicle based camping provides 53 camp sites, while the group camping is separate and predominantly used by school groups. There is sometimes a conflict of interest between users of the group camping site and the vehicle-based camping area. Realignment of the walking trail and the use of indigenous vegetation for screening is proposed to overcome issues and facilitate user requirements.

The Old Baroota Campground, north of the Baroota Ruins, is primarily used as an overflow area, particularly for long weekends and during school holidays.

Public access to park headquarters/depot and the ranger's residence will be discouraged except in cases of an emergency. Expanding this area would also allow for the expansion and/or relocation of the park headquarters if necessary.

#### *Prescription*

- Allow for the sensitive upgrade, replacement and addition of facilities within this zone if required.
- Realign the walking trail around the Mambray Creek Campground and screen campsites using indigenous vegetation.
- Only allow public access to park headquarters/depot and the ranger's residence for emergency purposes.

## Conservation Zone

The Conservation Zone incorporates the majority of the park and development is restricted to essential park management requirements, including but not exclusively, the maintenance of existing facilities, walking trails, signs, fire access tracks and communication towers.

Public access is by foot only. Vehicle access is prohibited, except for vehicles used for reserve management and emergency purposes. Visitor facilities are restricted to low impact developments including walking trails, track markers, information and interpretive signs, toilets (to limit impacts), bush camping sites and water tanks. Bush-walker camping is by permit and only at designated bush camping sites (refer to Section 8.3). Any further development or facilities required within this zone will be subject to a biological assessment.

Within the Conservation Zone certain areas of the reserve are less resilient or highly vulnerable to disturbance and/or of very high biological conservation value. These 'biologically sensitive' areas include habitat within the immediate vicinity of Yellow-footed Rock-wallaby colonies, populations of threatened orchids, and areas of unstable rock face or highly erodible soils. Similarly, certain areas are considered to be 'culturally sensitive' because they contain either sites of Aboriginal significance and/or non-Aboriginal heritage that may be damaged, or their significance diminished, if subject to unrestricted visitor access.

### *Prescription*

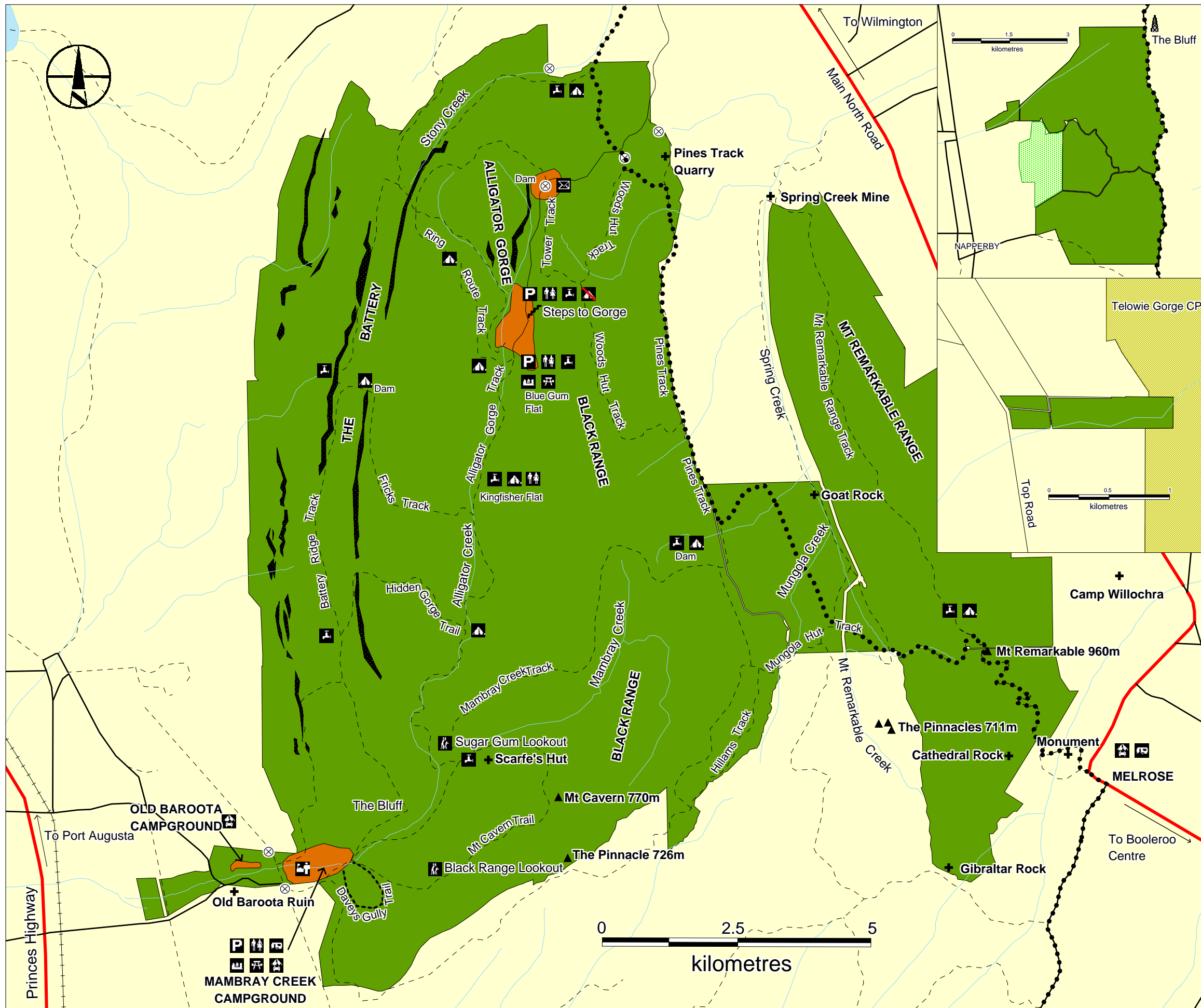
- Regularly assess sensitive areas within the Conservation Zone and where visitor activities impact negatively, apply restrictions, as necessary.
- Avoid biologically and culturally sensitive areas when undertaking all maintenance and management activities.

### *Objective*

Zone Mount Remarkable National Park to ensure sustainable and appropriate public use, landscape protection, the conservation of wildlife habitats, cultural and historic features.

### *Strategy*

- Manage the park in accordance with the zoning prescription outlined in this management plan and as shown on Figure 2.



- LEGEND**
- Caravan Camping
  - Camping
  - Bush Camping
  - Camping Prohibited
  - Water
  - Fires Prohibited
  - Self Registration
  - Toilet
  - Parking
  - Picnic Area
  - BBQ
  - Lookout
  - Park Headquarters
  - Spot Height
  - Places of Interest
  - TV Tower
  - Gate
  - Cliffs
  - Drainage
  - Mount Remarkable National Park
  - Surrounding Parks
  - Heritage Agreement
  - Visitor Use Zones
  - Railway
  - Major Road
  - Minor Road
  - Walking Trail / Fire Track
  - Heysen Trail

**Figure 2**  
 Mount Remarkable National Park  
**Zoning and Visitor Facilities**

Map designed and created by  
 Reserve Planning using PAMS  
 Date: March 2006  
 Projection: GDA94 (Zone 53)

## 5 MANAGING NATURAL HERITAGE

### 5.1 Geology, Soils and Hydrology

The geomorphology of Mount Remarkable National Park comprises inclined mountain slopes of folded, ancient quartzite (Bonython, 1996). Mount Remarkable Range and the Alligator Syncline on the reserve's eastern and western side, respectively, dominate the reserve.

The Mount Remarkable Range runs north-west and is composed of steeply-dipping, 800 million year old sandstone which forms a massive hogback ridge. Due to the heavily jointed sandstone, the range is weathering into countless angular fragments which form extensive scree slopes (Bonython 1996). Large outcrops on the side of the mountain such as Cathedral Rock feature sheer rock faces of considerable height. The Mount Remarkable Summit (960m), which is located near the reserve's southern boundary, overlooks the township of Melrose and the ancient Willochra Plain to the east.

The Alligator Syncline is a pound structure featuring the spectacular Alligator Gorge. The long western rim is called The Battery, while the high south-east rim is called the Black Range, featuring two summits, The Pinnacle and Mount Cavern. The Alligator Syncline and Mount Remarkable Range are separated by undulating hills and the long narrow Spring Creek valley (Bonython, 1996).

The Napperby Block occupies the ridge and western scarp of the South Flinders Range which continues southwards from Mambray Creek.

Much of the reserve's landscape is scenically spectacular and the underlying geology is of potential interest and educational value to many reserve visitors. At suitable locations (notably, Alligator Gorge, Cathedral Rock, Gibraltar Rock and Mount Remarkable Creek) the geology and geomorphology offers opportunities for interpretation through appropriate signage.

The soils of the reserve's ranges and steeper slopes are generally reddish, dense loams. These soils are shallow, alkaline and well-drained, and with a high silica content. Soils of the valley floors and footslopes are generally similar, but deeper.

The main drainage systems within the reserve are Alligator Creek, Mambray Creek and Spring Creek. The southern boundary of the Mount Remarkable Range largely follows the course of Mount Remarkable Creek. Spring Creek flows along the western boundary of the Mount Remarkable Range and is the major water supply for the township of Wilmington. The Napperby Block contains both Napperby and Nelshaby Gorges within which are the westerly flowing Napperby and Nelshaby Creeks, respectively.

#### *Objectives*

Protect soils, geological, geomorphological and hydrological features of the park from adverse impacts and where applicable provide appropriate information for visitors.

#### *Strategies*

- Provide information signs for significant geological and landscape features.
- Assess soil type and properties, including erosion potential, when planning for visitor access or undertaking management activities and development works.
- Improve, repair and maintain walking trails to minimise soil erosion as required.
- Identify existing areas of erosion and undertake remedial work that includes natural regeneration, revegetation and pest plant removal as required.
- Participate in integrated catchment management programs with relevant local authorities and surrounding landowners to minimise negative impacts to hydrology.

## 5.2 Native Vegetation

The flora of the reserve is biogeographically significant as it contains species representative of the arid north and the higher rainfall areas to the south. The great variation in rainfall, topography and soil type within the reserve is reflected in the high diversity of native plant species. There are 533 native plant species recorded for the park (see Appendix B).

Historically, areas of the reserve were grazed. In particular, the Warren Bonython link land was grazed by cattle until 1998 resulting in the replacement of the native understorey by introduced grasses. This area retained sufficient native understorey for seeding and recruitment of native species, and significant regeneration of endemic trees, shrubs and grasses is already occurring.

### Vegetation Associations

The reserve is dominated by woodlands, in particular, South Australian Blue Gum (*Eucalyptus leucoxylon* ssp. *pruinosa*) woodland with Porcupine Grass (*Triodia irritans*) and low heath as understorey. Sugar Gum (*E. cladocalyx*) woodland often associated with Long-leaved Box (*E. goniocalyx* ssp. *goniocalyx*) are also prevalent within the reserve and considered important because they are not well represented in the South Australian reserve system.

The reserve's watercourses are lined with River Red Gums (*E. camaldulensis*), while mallee and other shrub associations occur predominantly on the lower south-western slopes of the reserve. Stands of Northern Cypress Pine (*Callitris glaucophylla*) occur along Mambray Creek, and despite being previously cut for timber, are one of the few remaining stands of Northern Cypress Pine along the western slopes of the Southern Flinders Ranges.

Grassy woodlands are considered a poorly conserved threatened ecological community in South Australia (Neagle 1995, Bonython 1996, Robertson 1998) and consequently of high conservation significance. Within Mount Remarkable National Park, grassy woodlands are primarily those containing Peppermint Box (*Eucalyptus odorata*), Grey Box (*E. microcarpa*) and/or White Box (*E. albens*) as dominant overstorey species. The understorey is dominated by native grasses, particularly spear grasses (*Stipa* sp.), wallaby grasses (*Danthonia* sp.) and other low-growing herbaceous plants.

Peppermint Box woodland and Grey Box woodland are not well represented in the South Australian reserve system, and have been accorded a high priority for conservation (Neagle 1995).

White Box grassy woodlands have a limited distribution in South Australia, being confined to the Melrose - Wirrabara region, where it grows on hillsides and in creeklines (Rast 1988). White Box is more common in the wetter environments of Victoria, New South Wales and far South Eastern Queensland (Nicolle 1997). In New South Wales, White Box grassy woodlands are recognised under the *Environment Protection and Biodiversity Conservation Act 1999* as an endangered ecological community. The occurrence of White Box within Mount Remarkable National Park allows for the conservation of this association in South Australia, where it is listed as rare under the *National Parks and Wildlife Act 1972*.

### Species of Conservation Significance

Mount Remarkable National Park conserves vegetation associations and individual plant species of high conservation value. There are 219 plant species of conservation significance recorded, including six species recognised at a national level under the *Environment Protection and Biodiversity Conservation Act 1999*, 42 species recognised at a State level under the *National Parks and Wildlife Act 1972*. Additional species of conservation significance are regionally significant for the Flinders Ranges and Northern Lofty herbarium regions.

In particular, Mount Remarkable National Park is notable for conserving several orchids listed under the *Environment Protection and Biodiversity Conservation Act 1999*. The Bayonet Spider-orchid (*Caladenia gladiolata*) and Flinders Ranges White Caladenia (*C. xantholeuca*) are confined to only a few localities in the Mount Lofty and Southern Flinders Ranges, both are nationally endangered. Woolcock's Spider-orchid (*C. woolcockiorum*), Pale Leek-orchid (*Prasophyllum pallidum*) and the Robust Leek-orchid (*P. validum*) are nationally vulnerable and restricted to the Southern Flinders Ranges. Furthermore, Mount Remarkable National Park conserves the largest known populations of Pale and Robust Leek-orchid.

The Bayonet Spider-orchid and the Woolcock's Spider-orchid are being studied in the reserve to monitor their distribution and abundance and to assess management requirements for long-term survival.

### Phytophthora

Cinnamon Fungus (*Phytophthora cinnamomi*) is an introduced soil-borne pathogen that kills a wide range of native Australian plant species by attacking their root system and reducing or stopping the movement of water and nutrients within the plant.

The pathogen spreads quickly downhill with the movement of water through the soil. It can also spread slowly in any direction through root to root contact. The spread of Phytophthora has been dramatically increased by human activities, particularly by moving soil, gravel and plant material on vehicles, footwear and camping equipment.

Phytophthora has not been identified within Mount Remarkable National Park, however there is the potential for its establishment within the reserve as environmental conditions including climate, slightly acid and infertile soils, and the presence of susceptible host species are present.

### **Objectives**

Conserve native vegetation, reducing threats to biodiversity, particularly to plants and communities of conservation significance.

Prevent the introduction and spread of Phytophthora in the park.

### **Strategies**

- Prepare and implement a vegetation management plan to protect, enhance and monitor native vegetation communities, species of conservation significance and to identify and coordinate integrated threat management.
- Record the location and distribution of existing and newly discovered plants or habitats of conservation significance, monitor their populations and implement species management programs if necessary.
- Continue to contribute to biodiversity conservation programs designed to enhance and restore ecosystems, particularly for species of conservation significance.
- Monitor the park for the presence of introduced pathogens and implement control measures as necessary.
- Increase awareness among DEH staff, park volunteers and contractors of the potential for introduction and establishment of *Phytophthora cinnamomi*, the plant species susceptible to it and indicators of its presence.
- Ensure that all soil is removed from all earth-moving and construction equipment entering the park, to reduce the risk of *Phytophthora* introduction.

## **5.3 Native Fauna**

Mount Remarkable National Park plays a key role in conserving biodiversity at a regional, state and national level. The relatively large size of the reserve, variety of habitats and variation in topography has contributed to a high diversity of vertebrates, predominantly reptile and bird species, including many species of conservation and biogeographic interest.

The ranges of the reserve create an area of relatively high rainfall surrounded by more arid regions, resulting in fauna representative of the southern wetter areas of the state as well as the more arid north. Several species occurring in the reserve are at the limits of their natural distribution. These factors have also contributed to an overlap of species that are normally separated by different habitat requirements. Management must care for these habitats and ensure that natural systems can operate free from disturbance. This requires effective introduced plant and animal control, directing human pressure away from sensitive sites and maintaining watercourse quality to conserve native fauna and their habitat requirements.

## Mammals

In 1999, a comprehensive mammal survey was undertaken in the Southern Flinders, incorporating Mount Remarkable National Park. From this survey and other records, 20 native mammal species have been recorded in the reserve.

The status of bats in the park is inconclusive, but bats are commonly recorded and it is likely that approximately 13 species would occur at some stage during the year. The Yellow-bellied Sheath-tail Bat (*Saccolaimus flaviventris*) is listed as rare under the *National Parks and Wildlife Act 1972*, and may seasonally visit the park during March–July (Reardon 2002).

The Euro (*Macropus robustus*) is the most abundant species of kangaroo in the reserve, occurring in all habitats. The Western Grey Kangaroo (*Macropus fuliginosus*) is seen throughout the reserve and the Red Kangaroo (*Macropus rufus*) is occasionally seen on the plains and western foothills of the Mambray Creek section of the reserve.

The Short-beaked Echidna (*Tachyglossus aculeatus*) and Narrow-nosed Planigale (*Planigale tenuirostris*) have also been recorded in the reserve, however the last recorded sighting of the Narrow-nosed Planigale in the reserve was over 20 years ago. The Narrow-nosed Planigale is considered rare in the Flinders Ranges and its occurrence in Mount Remarkable National Park represents its most southerly distribution in South Australia. Active management to determine species requirements and population numbers in the reserve is required.

The Yellow-footed Rock-wallaby (*Petrogale xanthopus*) is the park's most significant mammal, listed as vulnerable under the *National Parks and Wildlife Act 1972*. There are two Yellow-footed Rock-wallaby colonies in the park. Monitoring of these populations, along with Fox baiting, has been undertaken at least quarterly since 1994. The Yellow-footed Rock-wallaby has specific habitat requirements including steep, rocky areas either as refuges and/or breeding sites and may be susceptible to disturbance by human interference. Visitor activity should be discouraged from these areas and subject to ongoing monitoring by reserve staff. The Yellow-footed Rock-wallaby does not occur in the Napperby Block.

The Common Brush-tailed Possum was once recorded throughout the Flinders Ranges, although very few have been sighted in the last 10 years. Occasionally they are seen in the Mambray campground and recently (2005) scats were recorded near Alligator Gorge.

Several species that previously occurred in Mount Remarkable National Park are now locally extinct. Mammal species that are likely to have become extinct from the reserve since colonial settlement include the Western Quoll (*Dasyurus geoffroyi*), Common Ringtail Possum (*Pseudocheirus peregrinus*), Tamar Wallaby (*Macropus eugenii*) and Dingo (*Canis lupus dingo*). Some species disappeared before their habitats were known in detail, thus the precise causes of extinction remain unclear although their extinction probably resulted from a combination of habitat destruction, predation by the Red Fox (*Vulpes vulpes*) and Feral Cat (*Felis catus*), competition from and grazing by introduced grazers (rabbits, cattle and sheep) and hunting. Several of these species, although extinct in Mount Remarkable National Park, currently survive elsewhere.

Where appropriate, reintroducing species could have substantial conservation and educational benefits to other conservation and habitat rehabilitation programs, making the conservation status of threatened species more secure. There have been a number of successful reintroductions of native animals to South Australia including; Greater Bilbies to Thistle Island; Brush-tailed Bettongs and Greater Bilbies to Venus Bay Conservation Park; Malleefowl and Brush-tailed Bettongs to Lincoln National Park; and Burrowing Bettongs, Western Barred Bandicoots and Greater Bilbies to the Arid Zone Recovery Program near Roxby Downs.

Reintroductions will only be considered by DEH as part of a recovery plan for species which are threatened and only after the appropriate risk assessments are conducted against the values of the area through the preparation of a full translocation planning proposal involving community consultation.

## Reptiles and Amphibians

Fifty-eight native reptile species have been recorded for the park. This compares with 86 reptile species recorded for the whole of the Flinders Ranges region (Hutchinson and Tyler, 1996). Species of conservation significance include Carpet Python (*Morelia spilota*), considered vulnerable at a state level because of its wide but sparsely scattered distribution, and Tree Goanna (*Varanus varius*) and Common Bandy-bandy (*Vermicella annulata*), both listed at rare at a state level.

In addition, the Tiger Snake (*Notechis ater*) and the Flinders Ranges Worm-lizard (*Apracia pseudopulchella*) are listed as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*. The Tiger Snake is confined to high rainfall riparian habitats in the Southern Flinders Ranges and is threatened by loss of habitat through clearance, fire and grazing. The Flinders Ranges Worm-lizard is known to be conserved only in Mount Remarkable National Park.

Nine frog species (representing two frog families) have been recorded for the park. This compares favourably with the 10 species of amphibians recorded for the whole of the Flinders Ranges region (Hutchinson and Tyler, 1996). Of biogeographic interest are the records of Brown Froglet (*Crinia riparia*) and Common Froglet (*Crinia signifera*). The Brown Froglet is known only from the Flinders Ranges and is South Australia's only endemic frog. The records of the Brown Froglet from Mount Remarkable National Park are approaching its southern limit. Conversely, the reserve's records of the Common Froglet represent the northerly limits of this species in South Australia. Hence, their zone of overlap is small and occurs in the Mount Remarkable area.

### Birds

There have been 124 native bird species recorded for the reserve, including nine species rated at a state level and 38 species considered significant for the Mid-North region. The Painted Button-quail (*Turnix varia*), Black-chinned Honeyeater (*Melithreptus gularis*), Diamond Firetail (*Stagonopleura guttata*), Blue-winged Parrot (*Neophema chrysostoma*), Chestnut-rumped Heathwren (*Calamanthus pyrrhopygius*) and Crested Shrike-tit (*Falcunculus frontatus*) are considered vulnerable in South Australia, while the Peregrine Falcon (*Falco peregrinus*), Redthroat (*Pyrrholaemus brunneus*) and the Shining Bronze-cuckoo (*Chrysococcyx lucidus*) are considered rare.

The Peregrine Falcon has specific habitat requirements for breeding and refuge. Other species, including the Diamond Firetail and the Black-chinned honeyeater are also dependent on the quality of grassy woodlands within the reserve. These areas need to be identified and monitored, with visitors discouraged from these areas to minimise interference.

### Insects

The insect fauna of Mount Remarkable National Park is poorly documented, as no comprehensive invertebrate survey has been conducted in the reserve. However, suitable habitat exists in the reserve for three skipper butterflies: White-veined Skipper (*Herimosa albovenata albovenata*), White-spot Rush Skipper (*Trapezites lutea lutea*), and the Dingy four-spot Sedge-skipper (*Motasingha trimaculata trimaculata*). All three species are small and inconspicuous, but as they have been recorded from the Southern Flinders Ranges (Austin *et. al*, 1996) it is likely that they occur in Mount Remarkable National Park.

### **Objectives**

Maintain the integrity of habitat for native fauna within the park by reducing threatening processes and conserving viable populations of fauna species, especially those of conservation significance.

Undertake recovery of threatened species and ecological communities within the park where practicable.

### **Strategies**

- Record animal species and habitats, including opportunistic sightings of rare, vulnerable and endangered fauna, and monitor these populations to ensure their conservation.
- Co-ordinate and work with the Australian Government, Threatened Species Network and other non-government organisations to formulate and implement management plans for species of significance.
- Continue fox control programs and monitoring of Yellow-footed Rock-wallabies in Mount Remarkable National Park.
- Investigate the potential for reintroducing locally extinct flora and fauna species into the park if this is identified as a priority for species recovery efforts.

## **5.4 Introduced Plants**

Weeds are regarded as one of the major threats to indigenous plant communities and although Mount Remarkable National Park is relatively free of weeds, moderate to high infestations occur in areas that have been subject to disturbance such as stock grazing, vegetation clearance, road



development, and flooding along watercourses. The Mambray Creek campground is a source of ongoing introduction and spread of weeds, which are transported into the reserve on car wheels, clothing and footwear.

The Alligator Gorge section of the reserve has relatively few weeds. The main weed species, Soursob (*Oxalis pes-caprae*), Horehound (*Marrubium vulgare*), Saffron Thistle (*Carthamus lanatus*), Capeweed (*Arctotheca calendula*), Pimpernel (*Anagallis arvensis*) and Salvation Jane (*Echium plantagineum*), are mainly confined to tracks and picnic areas.

The Warren Bonython Link land has a predominantly introduced understorey of pasture grasses including wild oats. Now that stock grazing pressure has been removed it is anticipated that the density of native ground cover will increase, reducing the dominance of introduced species.

Mount Remarkable National Park contains the following introduced plant species which require control under the *Natural Resources Management Act 2004*.

Common Name	Species
African Boxthorn	<i>Lycium ferocissimum</i>
Bathurst Burr	<i>Xanthium spinosum</i>
Caltrop	<i>Tribulus terrestris</i>
Horehound	<i>Marrubium vulgare</i>
Olive	<i>Olea europaea</i>
Onion weed	<i>Asphodelus fistulosus</i>
Salvation jane	<i>Echium plantagineum</i>
Three-corner Jack	<i>Emex australis</i>

Control measures for the majority of introduced species are not practical or desirable. However, control methods adopted will cause minimal disturbance to native plants and animals.

The following species are considered to pose a significant threat to the integrity of native vegetation and need to be controlled.

African Boxthorn (*Lycium ferocissimum*) is localised throughout much of the reserve, but is most concentrated around Mambray Creek, particularly under the large *Eucalyptus* trees. A chemical control program involving "cut and swab" techniques in which volunteers assist is conducted annually.

Bridal Creeper (*Myrsiphyllum asparagoides*), although not presently occurring within the reserve, occurs close to the reserve boundary on the eastern footslopes of Mount Remarkable Range. Bridal Creeper has the potential to seriously diminish the conservation value of native plant associations. Should Bridal Creeper spread into the reserve, immediate action needs to be taken to eradicate it as it is a serious pest elsewhere.

Dog Rose (*Rosa canina*) occurs near Mount Remarkable Creek in the vicinity of Gibraltar Rock.

Horehound (*Marrubium vulgare*) is scattered in various locations throughout the reserve, and occurs at high densities in localised areas. DEH staff conduct an annual chemical spraying program around boundaries, fire access tracks and disturbed areas around Mambray Creek.

Olives (*Olea europaea*) are spreading into the reserve, particularly via Mount Remarkable Creek. Olives are a potential major problem at Napperby Block where birds are spreading seed into the reserve from old horticultural plantings. Olive control is conducted annually.

Soursob (*Oxalis pes caprae*) is particularly prevalent in the lower areas of Mambray Creek. Soursobs are sprayed annually.

Three-corner Jack (*Emex australis*). As with the African Boxthorn, the incidence of Three-corner Jack is likely to persist as the surrounding land is infested with the weed whose spiny seed facilitates spread and invasion. At present the main areas of infestation are roadsides.

### **Objectives**

Pest and introduced plants that pose the greatest threat to native species and natural processes are controlled and where possible eradicated.

### **Strategies**

- Develop and implement a threat abatement plan for the park that allows for the preparation of an annual action plan for pest and introduced species. The action plan should include performance indicators to measure the success of weed control measures and determine annual weed control priorities.
- Fulfil the obligations of the *Natural Resources Management Act 2004* and undertake weed control programs, with the priority on scheduled weeds of regional concern and those threatening park values, specifically weeds in the vicinity of threatened species.
- Maintain liaison and work cooperatively with local authorities and adjoining landholders to achieve integrated pest plant management.
- Ensure correct procedures and precautions are undertaken when using chemicals to prevent the spread of weeds, especially at locations of threatened species.

### **5.5 Introduced Animals**

Fox control is the highest pest animal management priority in the reserve as foxes pose a threat to the reserve's colonies of the Yellow-footed Rock-wallaby. Fox baiting is conducted at least four times a year along 60km of tracks in the reserve, mostly in the vicinity of Yellow-footed Rock-wallaby colonies. Sandy pads are used at fox baiting stations to gather information on any 'off target' bait uptake.

Rabbits and hares, although not generally present in high numbers in the reserve, compete directly with native fauna for plant resources and also cause significant damage to native vegetation even at low population densities. These species mainly occur along the lower part of Mambray Creek west of the day visitor area.

Significantly, goats are absent from the main part of the reserve, although they are present in Napperby Block. Goats cause considerable damage to the vegetation of the reserve. Since 1991 aerial and ground-based shooting programs have been conducted to control the goat population. It is important that goat control is undertaken in an integrated way on a landscape scale in the area of the Napperby Block. DEH staff have been instrumental in co-ordinating these activities.

Feral Cat control is limited in scale, but undertaken opportunistically by means of trapping within the Visitor Use Zone (Figure 2: Zoning and Visitor Facilities). Other pest animals which may pose a threat to the reserve's natural systems are House Mice, Black Rats and Honeybees.

### **Objectives**

Introduced animals that pose the greatest threat to native species and ecological communities are controlled.

### **Strategies**

- Maintain liaison and work cooperatively with local authorities and adjoining landholders to develop integrated pest animal management and fulfil the obligations of the *Natural Resources Management Act 2004* within allocated resources.
- Prepare a threat abatement plan that provides an assessment of numbers and status of pest animals and an eradication strategy for those of significant concern.
- Continue to undertake effective introduced animal control programs until a threat abatement plan is developed and implemented.
- Continue the goat control program within the Napperby Block and surrounding land.

## 6 MANAGING FIRE

### Wildfire

Hot, dry summers and high fuel loads make Mount Remarkable National Park prone to wildfire. Lightning induced fires occur within the Southern Flinders annually and are very difficult to control due to the steep terrain and dense sclerophyllous vegetation, especially during extreme wind and temperature conditions.

In the context of a region with a history of major wildfire events, to ensure the protection of human life and property, fire prevention and suppression is one of the highest reserve management priorities.

Several fires have occurred in the main section of Mount Remarkable National Park; 1983/84 Alligator Gorge 2000ha; 1988 Mount Remarkable Range 8,300ha (the entire park, at the time, in part of a fire that burnt 17,000ha in total); 1996 western slopes below The Battery 30ha. Prior to the 1983 fires, the previous major fire in the reserve was in 1927. Since 1996 there have only been small fires on park, all of which have started as a result of lightning: 15ha was burnt on 27 January 2001 in two separate fires (12ha near Fricks Dam and 3ha on Mount Cavern); 0.1ha was burnt on 7 April 2002 (Mambray Creek); 1 hectare at Alligator Gorge and 0.5ha on Sles Track burnt on 14 October 2004; and 0.5ha at Black Range burnt on 6 December 2004.

In the Napperby Block, the Wirrabara fire in 1960 burnt the northern section and in 1995 an area above Napperby Gorge and the adjacent Baines track burned as a result of a lightning strike.

Within the reserve, fire management activities include maintaining fire water supplies (including dams, tanks, overhead fillers), provision and maintenance of fire suppression equipment, and training of staff and volunteer fire fighters. Two fire towers are located in the reserve, one on The Battery and one near the former office at Alligator Gorge. A system of internal and boundary fire access tracks is maintained to protect the reserve's natural and cultural assets, infrastructure and adjoining land.

The main section of Mount Remarkable National Park falls in the area of the Mount Remarkable CFS Group, while the Napperby Block is within the Spencer CFS Group. DEH maintains an authorised CFS Brigade at the Mambray Creek headquarters, which combines CFS and DEH resources, staff and local volunteers.

DEH staff liaise extensively with neighbours and regularly attend CFS group meetings to discuss issues, participate in joint training programs and ensure the dissemination of information regarding fire prevention and suppression requirements.

DEH staff also represent DEH on various Bushfire Prevention Committees, which meet yearly to discuss and review Bushfire Prevention Plans. Mount Remarkable National Park is included in the Bushfire Prevention Plans for the District Council of Mount Remarkable and the Port Pirie Regional Council.

A fire management plan for the Southern Flinders Ranges is currently being prepared for the park. This document will form the basis of ongoing fire management. Fire management planning will:

- identify natural and cultural heritage values and built assets;
- provide a framework for the management of wildfire suppression, including identification of strategic access and control lines;
- provide a framework for prescribed burning for ecological management and/or fuel reduction purposes; and
- identify performance indicators.

### Ecological and Prescribed Burning

Prescribed burning in Mount Remarkable National Park was undertaken for the first time in April 2005. This will be a useful tool in the management of the park, both for the creation of diversity in the landscape through a more realistic fire regime, and for the protection of life and assets. Following the large bushfire in the reserve in 1984, photopoints and vegetation monitoring quadrats were established at 18 sites to record post-fire regeneration. DEH staff have periodically surveyed these sites and more research is required to understand the impacts of burning in the

park (Nicholls and Prescott, 1998). Data collected will be used to develop best management practice for the park.

Where appropriate and ecologically sustainable, prescribed burning will be used to reduce fuel loads with the aim of protecting life and property.

#### Campfires and Firewood

Campfires are prohibited during fire danger season and when fire restrictions are enforced. At other times, campfires are only permitted in designated sites at the Mambray Creek Campground. While it is acknowledged that campfires form an important part of the recreational experience, collecting wood in the reserve is not permitted. Fallen timber is an important habitat and the use of this resource for firewood depletes the biodiversity values of the park. Campers may bring their own firewood with them, or plantation pine firewood is available in the campground for a small fee.

Campfires are prohibited all year at bush-walker camping sites and the use of fuel stoves is mandatory. Monitoring of bush camping sites has demonstrated significant degradation due to firewood collection, supporting the decision to ban wood fires in 2000. Gas fires are permitted all year round in the day visitor areas.

#### ***Objective***

Manage fire to ensure the protection of life and property, the maintenance of biodiversity and the protection of natural, cultural and built values.

#### ***Strategies***

- Continue to develop, implement and review fire management and response plans in association with CFS and other stakeholders.
- Continue to liaise and work cooperatively with the local community, relevant District Bushfire Prevention Committees and CFS groups to minimise risk to life and property within and surrounding the reserve.
- Undertake seasonal fire preparation works, including the maintenance of fire suppression equipment, water supplies and fire access tracks to support any necessary fire management or suppression activities.
- Ensure visitors comply with the fire ban season and any fire restrictions by providing information and monitoring visitor use.
- Permit campfires in designated sites only and prohibit the collection of local firewood, encouraging the use of alternative fuel sources.
- Continue the use of fire as a management tool, where appropriate.

## 7 MANAGING CULTURAL HERITAGE

### 7.1 Indigenous Heritage

The land comprising Mount Remarkable National Park forms part of the 'Country' of the Nukunu people (Tindale 1974), who referred to Mount Remarkable as Wangyarra, "arra" meaning running water. For Nukunu people, land and waters have many interconnected complex meanings and values. The significance of land and waters is central to their lives: at birth, death, ceremonies and socially, whilst hunting, gathering camping, and travelling. The term 'story lines' is used to describe the combination of these aspects of life, religion, mythology, law and history which includes the past, the present and the future.

Following colonial settlement, the Nukunu population was substantially reduced as a result of introduced diseases, dispersal, dispossession of their land and water supplies, and sometimes through violent conflict.

Today, Nukunu people live on their country and practise their culture and language. Some of the language and traditional stories have been recorded. However, the full extent of Aboriginal heritage at Mount Remarkable National Park has not been comprehensively researched. Furthermore, due to historical or cultural reasons, any knowledge of the cultural heritage of the region may be privileged to selected Nukunu people and therefore unable to be recorded. It is considered important that further research be undertaken in order to gain a better understanding of the Aboriginal occupancy and use of the area.

#### Aboriginal Heritage Act 1988

The purpose of the *Aboriginal Heritage Act 1988* is the protection and preservation of Aboriginal sites, objects and remains. The Department of Aboriginal Affairs and Reconciliation (DAARE) maintains a Central Archive, including the Register of Aboriginal Sites and Objects. Aboriginal site is defined under the Act as "An area of land that is of significance according to Aboriginal tradition; or that is of significance to Aboriginal archaeology, anthropology or history."

Currently 22 sites are listed on the Central Archive for Mount Remarkable National Park. These sites are mostly archaeological, including evidence collected on an archaeological survey of the park conducted by Snoek during July and August 1982. This survey identified approximately 20 camp sites and suggests that different Aboriginal groups occupied the reserve at different periods, each showing individual preferences for stone materials. However, these recordings do not reflect a comprehensive survey of the current park as the reserve has doubled in size since the 1982 archaeological survey was conducted, and the new additions are yet to be surveyed. To promote better cultural heritage management at Mount Remarkable National Park further research needs to be undertaken to identify and record sites of significance in the park.

To ensure the protection of sites, DEH shall consult with DAARE and the relevant Aboriginal Heritage Committee before commencement of significant development works.

#### **Objective**

Aboriginal cultural heritage is respected and any significant sites, objects and remains are protected and preserved in accordance with the *Aboriginal Heritage Act 1988*.

#### **Strategies**

- Consult with Aboriginal people with a traditional association with the land, Native Title claimants and relevant Aboriginal heritage authorities, in decisions regarding the management of Aboriginal cultural heritage and before proceeding with any significant on-ground works within the park.
- Identify and protect any Aboriginal sites, objects and remains of cultural significance in cooperation with the traditional owners, DAARE and relevant authorities.
- In consultation with the traditional owners, submit cultural sites and stories that relate to the park for inclusion on the DAARE Central Archive.

## 7.2 Non-Indigenous Heritage

In 1840, Edward John Eyre named Mount Remarkable. In 1844 and 1845, the Baroota, Stony Creek and Beautiful Valley pastoral runs were established and the majority of land now comprising the park was used for grazing sheep and to a lesser extent cattle and goats.

Within and surrounding the reserve are remnants of pastoral homesteads and huts, former lease boundary fence lines, dams and a dingo-proof fence constructed in the Mambray Creek area. The Old Baroota Station at Mambray Creek is an important historic site, as is the Spring Creek Mine. Just outside the park boundary, a small cemetery associated with the station is managed by the District Council of Mount Remarkable. Other important cultural heritage sites include the shepherds' huts: Scarfe's Hut, Hidden Gorge Hut and Gray's Hut. Although none of these sites are currently on the State Heritage Register, these historic remains of early occupation are culturally significant especially in a regional context and should be protected and managed.

With the addition of the Warren Bonython Link in 2000, Hillam Reserve, which commemorates the Hillam family's pastoral association in this area, is now part of Mount Remarkable National Park. The Hillam family once held a considerable area of land in the ranges between Melrose and Mambray Creek. Hillam Reserve was once subject to a land management agreement between the District Council of Mount Remarkable and Eric Hillam. In recognition of this agreement, this plan will provide for cultural heritage and biodiversity conservation management consistent with Eric Hillam's vision for the area. An information sign recognising the historical significance of the area will be erected on the land recognised as Hillam Reserve.

Evidence of other previous land use such as market gardening (near Mambray Creek), mining and timber cutting also remain. Most of the timber cut from the reserve was River Red Gum (*Eucalyptus camaldulensis*) and Blue Gum (*E. leucoxylon*) from Mambray Creek, Stony Creek and Alligator Gorge. Timber was mainly used for railway sleepers and for the construction of the Port Germein Jetty. Northern Cypress Pine (*Callitris glaucophylla*) was also cut for building and was used in the construction of pug and pine huts. Wattle bark stripping also occurred for use in the leather tanning industry.

The land comprising the Napperby Block is important to the Port Pirie community, with many local buildings constructed from Napperby stone quarried in the foothills. The foothills were also a popular picnic and recreation area, with a rotunda built by BHP at the mouth of Nelshaby Gorge in the 1950's (DENR, 1986). A reservoir was also established just outside the north-western corner of the reserve to supply water to Port Pirie.

### **Objective**

Cultural and built heritage sites are conserved and protected. Where appropriate, heritage assets are made available to visitors and suitable interpretive material is provided.

### **Strategies**

- Protect and where applicable restore cultural and historical items of significance located in the park in cooperation with the Heritage branch of DEH and other relevant authorities.
- As resources permit, research and inventory, cultural and historic sites and stories that relate to the park and where appropriate, develop interpretive material for visitors (including Hillam Reserve).
- Encourage and support historic studies within the park, supporting and encouraging the local community and volunteer organisations to participate in the collection of historic information and the conservation of cultural heritage sites.
- Stabilise ruins of huts, homes and mine sites to reduce deterioration and risk to the public.

## 8 MANAGING TOURISM AND RECREATION

### 8.1 Visitor Use

Mount Remarkable National Park is an important tourism asset for the Southern Flinders Ranges. It is estimated to attract over 50,000 visitors per year, who engage in bushwalking, camping, sightseeing, picnicking, nature study and relaxation in a natural environment.

Reserve visitors include both day visitors and campers, including individuals, small informal groups and larger organised groups such as schools and clubs. Visitor numbers are greatest from April to October, with peak periods during Easter, long weekends and school holidays. From November to March, visitor numbers are much lower, with a higher proportion of overseas and interstate visitors. The reserve's facilities and services are therefore required to satisfy a high, varied and often concentrated level of demand.

Visitor surveys and statistics, including details of visitor numbers, profiles and satisfaction, determine the level and type of facilities required to meet current and expected visitor demand. Visitor surveys have been carried out since the park was established. This information has been important for park management to provide recreational opportunities for a broad cross-section of the public while conserving the reserve's natural values.

To coordinate this, a Visitor Facilities Plan has been prepared to ensure that park management continues to provide appropriate facilities, services and recreation opportunities which are compatible with maintaining the conservation values of the park. The provision of additional visitor facilities for any increase in visitation will also be assessed according to the zoning provisions outlined in this plan (see 4.1 Zoning) and the recommendations of the Visitor Facilities Plan.

While it is important that the reserve be available for recreation, it is equally important that inappropriate or excessive human impact or use does not compromise the conservation of natural systems. The following activities are considered inappropriate in the reserve.

#### Fossicking

The Spring Creek mine was mined for copper during the late 1800s. It is located just within the north-eastern boundary of the reserve, 2.5km west of the main Melrose to Wilmington Road. This land was on Forestry Reserve prior to it being incorporated into the reserve in 1990.

For some years the mine site has been visited by fossickers seeking mineral specimens found in the scree and deposited in spoil left as a result of mining activity. The mixture of spoil and natural rock contains micro mineral samples keenly sought by gem collectors.

However, fossicking for mineral specimens is prohibited in the reserve, including the Spring Creek mine site. No permit has ever been issued for fossicking either when the mine site was part of a Forestry Reserve, or since becoming part of Mount Remarkable National Park.

The SAICORP *Risk Audit Report* (1998) identified that the natural topography of the Spring Creek mine site, coupled with built structures and detritus of the mining process, make much of the site particularly hazardous. SAICORP's priority recommendations were that fossicking for mineral specimens from the site be prohibited in view of the public risk exposures.

#### Rock Climbing and Hang Gliding

Under the *National Parks and Wildlife Act 1972*, rock climbing and hang gliding are prohibited in reserves without prior permission.

There is little demand for rock climbing within the reserve due to the unsuitability of the rock type for this activity. Rock faces that may be attractive for climbing are also habitat for the endangered Yellow-footed Rock-wallaby and Peregrine Falcon. For these reasons it is not appropriate to allow rock climbing in the reserve. A rock climbing site is available in the nearby Flinders Ranges National Park. State Emergency Service rescue workers, however, carry out emergency training in the reserve with the permission of the park manager.

Similarly, hang gliding is not permitted in Mount Remarkable National Park.

### Horse Riding and Camel Treks

Horse riding and camel trekking are not considered appropriate activities in Mount Remarkable National Park. Bringing domestic animals into a reserve increases the risk of threatening processes such as soil erosion, introduction and spread of weeds, vegetation trampling and browsing.

However, permission for special events may be approved by the Director of National Parks and Wildlife for camel or horse treks, with conditions of entry negotiated. Travelling routes and stopping points will be specified in the agreement. No overnight camping will be permitted.

### 4WD Tours

Due to the fragile nature of the fire tracks throughout the park, the potential conflict with bushwalkers and the risk of fire during summer, it is not considered appropriate for 4WD tours to be conducted through the park.

### ***Objective***

Provide for public enjoyment of the park in a way that is compatible with the conservation of natural and cultural resources and public safety.

### ***Strategies***

- Continue to review, update and progressively implement the Visitor Facilities Plan where feasible.
- Periodically conduct visitor surveys to assist in planning visitor facilities, with visitor numbers and opinions being regularly monitored to better understand visitor needs.
- Provide appropriate information material regarding safety, inappropriate activities and monitor visitor compliance.

## **8.2 Visitor Access**

### Vehicle Access

Mount Remarkable National Park is within an hour's drive of several major population centres and a three hour drive from Adelaide. Visitors can enter the reserve by vehicle at the following access points:

- The road to Mambray Creek - 45km north of Port Pirie on the Princes Highway. The reserve entrance is approximately 2.5km along a sealed council road with the reserve offices located a further 2km along a sealed road inside the reserve entrance.
- The road to Alligator Gorge and Blue Gum Flat - 6km sealed road commencing 1km south of Wilmington on Main North Road. The District Council of Mount Remarkable has sealed this road to the park boundary. To improve visitor access and safety, the 7km road inside the park boundary has been widened and upgraded.

Existing general management access tracks within the reserve are considered adequate to meet management requirements for fire control and emergency purposes. There are no proposals to expand the network of tracks within the Conservation Zone (Figure 2).



## Walking Trails

Mount Remarkable National Park is one of the most popular areas for bushwalking in the Southern Flinders Ranges. There are extensive walking trails throughout the reserve (including the Heysen Trail), with a number of trails also used as fire access tracks (Figure 2). The existing walking trail network provides access through all of the reserves major habitats and provides walks of varying duration and degrees of difficulty, providing short relatively easy walks to steep and/or long overnight walks.

While the development of major new trails is unlikely, there is scope for linkages between existing tracks and in some places track extensions. Improvement of existing walking tracks is envisaged to adjust routes and grades, reduce erosion, decrease ongoing maintenance requirements and create a more enjoyable walking experience for a wide range of visitors. The provision of a network of walking trails requires consideration of impacts like habitat fragmentation, weed introduction, erosion and change to the wilderness qualities of the reserve.

The Heysen Trail enters the reserve in the north near Stony Creek and north-east of Alligator Gorge. The trail traverses undulating land in the Warren Bonython Link before reaching Mt Remarkable summit and descending to leave the reserve in its south-east section. In 2001, the Heysen Trail was re-routed to follow the sustainable Summit Trail from the Melrose monument to the summit. The re-route through the Warren Bonython Link and the Pines track was implemented in 2005.

DEH provide accommodation huts and shelters for hikers using the Heysen Trail. If appropriate, existing shepherds' huts may be upgraded to provide overnight walkers basic facilities including sheltered sleeping and rainwater. Any additional shelters or upgrades will be sensitive to the surrounding environment and will not compromise the natural and cultural values of the park.

## Cycling

With the increasing popularity of mountain bike riding there has been an increasing demand for opportunities to ride bicycles on public lands and reserves. Mount Remarkable National Park is one location where there is some demand from visitors to ride bicycles on tracks within the reserve.

In Mount Remarkable National Park cycling is only permitted on public roads, vehicle-based camping areas and day visitor areas. Cycling is prohibited on walking trails and management access roads. There is potential for significant risk and conflict when walking tracks are shared by mountain bikers. Short sighting distances, steep slopes, narrow tracks and speed can create a situation of danger for riders, walkers and staff undertaking management tasks in vehicles.

To address these problems DEH will consult with the cycling community and the Office for Recreation and Sport to identify opportunities for recreational cycling through the park. This will also facilitate the creation of appropriate links to regional cycling trails.

## ***Objectives***

Safe, appropriate and environmentally sustainable access is maintained for park visitors and management purposes.

## ***Strategies***

- Maintain existing vehicle access for park visitors, management and emergency purposes.
- Provide walking trails that cater for a range of interest and fitness levels, allowing visitors to explore the natural and cultural assets of the park, without adversely impacting sensitive areas.
- Maintain and upgrade the network of walking trails with the aim to improve visitor safety, soil erosion and maintenance requirements. Where necessary, re-route or extend walking trails and where feasible integrate with regional trail networks to improve visitor access and enjoyment.
- Where appropriate, provide basic accommodation facilities for users of the Heysen Trail.
- Allow cycling on public access roads, vehicle based camping and day visitor areas only.
- In consultation with relevant stakeholders, continue to assess the demand for cycling in the park and where visitor demand and policy permit, identify opportunities for cycling in the park and investigate options for links where regional cycling trails occur.

- Provide appropriate information signage to assist with safety and navigation consistent with agency standards.

### **8.3 Visitor Facilities**

Visitor use of Mount Remarkable National Park centres upon Mambray Creek, Alligator Gorge and Mount Remarkable. Vehicle based camping occurs at Mambray Creek, with bush camping at selected locations throughout the reserve. The two developed day visitor areas are at Mambray Creek and Alligator Gorge.

Reserve management relies on the honesty of visitors to purchase entry and camping permits, with random checks undertaken by DEH staff to ensure visitor compliance with conditions.

#### Mambray Creek and Old Baroota Campground

The Mambray Creek Campground is a large established campground with defined numbered campsites for individuals and organised groups. Although formal in layout with a sealed road, facility development has been kept to the minimum necessary to provide for the needs of visitors without adversely impacting the natural values of the area or camping experience.

Facilities include water, flush toilets, solar powered lighting, solar shower block, a refuse disposal point and communal fireplaces. Cold water showers are provided in the group camping area. A wooden cabin is available for up to four persons per night, with solar-powered lighting and a gas-operated cooker.

Wood fires are only permitted outside the specified Fire Danger Season in designated fireplaces. Firewood (plantation pine) is available for a small fee.

At present, campground bookings do not generally exceed campsite availability, however, demand at peak periods fills all available campsites. The Old Baroota Campground, a second camping area with limited facilities, is opened when the main campground is full. Visitor demand will be monitored and consideration given to upgrading facilities if required.

As discussed in Section 4 Zoning, the walking trail through the Mambray Creek campground will be realigned, and screening using indigenous plants may be used to reduce user conflicts.

#### Bush Camping

Designated bushcamping sites are available at several places within the reserve. These sites are only accessible by foot and are utilised by bushwalkers. Bush camping sites include: Kingfisher Flat, Hidden Camp, Longhill Camp, Eaglehawk Dam, Fricks Dam, Sugar Gum Dam, Summit Camp, Stony Creek Camp and Goat Rock. Camping in other areas of the reserve is permitted only with approval from park managers. Additional bushcamping sites will be designated according to increasing demand.

Bush camping is not permitted in Hidden Gorge, Alligator Gorge, within the vicinity of the Alligator/Mambray Creek junction.

The maximum group size for bush camping is 15 people, thereby limiting environmental impacts and increasing the quality of experience for other visitors. To reduce damage to native vegetation and decrease the fire risk in the reserve, wood fires are prohibited all year at bush camp sites. The use of fuel stoves is required (refer Section 6 Managing Fire).

### Mambray Creek Day Visitor Area

The Mambray Creek day visitor area is adjacent to, but separated from the campground at Mambray Creek. The day visitor area is popular with visitors. Parking, toilets, seating, picnic tables and sites suitable for portable barbecues have been installed. Several marked walking trails originate from this area and extend throughout the reserve.

### Alligator Gorge Day Visitor Area

Alligator Gorge is used almost exclusively by day visitors. Facilities include a parking area, toilets, steps into the gorge, lookouts and drinking water. Blue Gum Flat, just beyond Alligator Gorge visitor area, has a large picnic and barbecue area, and walking trails radiate from this area to other sections of the reserve.

The former ranger's residence at Alligator Gorge is available for visitor accommodation.

### Day Visitors at Mount Remarkable

The Mount Remarkable section of the reserve, including the former Willowie Forest Reserve, has not been developed for visitor use, apart from a walking trail to the summit. The Heysen trail traverses the reserve in this section.

### Day Visit Areas of Scenic and Cultural Interest

Throughout the reserve there are several geological and cultural features of interest to visitors. These include Alligator and Hidden Gorges, Gibraltar Rock and Cathedral Rock at the base of Mount Remarkable. In the Warren Bonython Link land, places of interest include Goat Rock and the historic remains in Hillam Reserve. Other historic sites in the park include Spring Creek Mine, and Baroota Ruin.

### **Objective**

Provide a range of visitor facilities and camping opportunities that offer an enjoyable experience without disturbing other users or compromising the conservation of natural values.

### **Strategies**

- Maintain camping and day visitor areas to an acceptable standard.
- Provide and maintain existing bush camping sites within designated areas in the reserve.
- Continue the photopoint monitoring of bush campsites to assess impacts on adjacent vegetation.
- Monitor visitor numbers and, if necessary, upgrade visitor facilities according to the zoning provisions outlined in this plan.
- Realign walking trail around camping sites to reduce potential conflict between user groups (see 4.1 Zoning).
- Provide and maintain interpretive signage at places of scenic and historic interest.
- Provide and maintain safe access places of scenic and historic interest within the reserve, imposing access restrictions to hazardous areas.
- Provide self registration stations at public entrances for permit distribution and fee collection, ensuring public compliance with permit conditions through random monitoring by DEH staff.

## **8.4 Commercial Tourism**

Several commercial tour licensees operate in Mount Remarkable National Park. All operators are required to apply for a Commercial Licence, pursuant to the *National Parks and Wildlife Act 1972*. Permits are issued to applicants who meet DEH requirements. Licence fees are paid into a General Reserves Trust Fund, which is used to improve visitor services and facilities within these parks.

### **Objective**

Regulate commercial tours within the parks to ensure their activities are compatible with park values and comply with the objectives of the *National Parks and Wildlife Act 1972*.

### ***Strategies***

- Issue Commercial Licences to tour operators, subject to compliance with this plan and the provisions of the *National Parks and Wildlife Act*.

## **8.5 Information and Interpretation**

A key responsibility of DEH is to manage its reserves for public benefit and enjoyment. Encouraging appropriate recreational use of reserves, providing information that is interesting to visitors, and imparting a positive conservation message are important steps in meeting this responsibility. There is a need to convey to visitors information regarding the natural assets of the park, the impacts of inappropriate behaviour and the need to minimise access to sensitive vegetation and wildlife habitat.

Visitor surveys have highlighted a demand for general factual information on the reserve's natural and cultural features. The development of a resource information document containing a comprehensive description of the reserve's geology, climate, history, fauna, flora, facilities and services is required.

Interpretive information should use high quality interpretive materials and a variety of media including signs, brochures and interpretive panels, and should convey the following:

- orientation and basic facility information;
- positive acceptable behaviour;
- inappropriate behaviour / activities;
- visitor safety information;
- recreation opportunities and settings;
- interpretive themes;
- special values and features of the park including the natural environment and appropriate cultural heritage information.

### ***Objectives***

Provide quality interpretive information to enhance visitor experience and to ensure their behaviour does not compromise natural values.

Promote an appreciation and understanding of the park's natural and cultural features.

### ***Strategies***

- Develop, maintain and regularly review interpretive information at appropriate locations throughout Mount Remarkable National Park.

## 9 MANAGING RESOURCE USE

### 9.1 Exploration and Mining

The historic Spring Creek Mine on the reserve's northern boundary was originally mined for copper. This site was subject to an internal reserve safety audit (SAICORP Risk Audit Report, 1998), resulting in a report recommending improvements to public safety and upgrading existing interpretive facilities. Other copper mines are known to have been located near the pound at Mambray Creek, however, to date, these mines have not been located. Information on the siting of these mines and the nature of their use should be investigated and recorded. The historic Melrose Copper Mine is located just outside the reserve boundary at the base of Mount Remarkable.

Exploration and mining activity is currently prohibited over the areas of the reserve that were constituted by statute in 1972.

Since 1972, pursuant to Section 43 of the *National Parks and Wildlife Act 1972*, all additions to Mount Remarkable National Park have been proclaimed to provide for rights of entry for mineral exploration and mining, which amounts to 52.6% of the reserve (Figure 3).

#### Borrow pit

A shale borrow pit of approximately 1 hectare, exists adjacent to the Pines access track. This pit is unobtrusive and provides a useful source of material for road maintenance. The borrow pit was established by the local council when the land was a Woods and Forest Reserve. DEH will continue to use this pit as a source of rubble for maintenance of roads. If the pit is no longer required, it will be closed and rehabilitated.

#### Extractive Mineral Leases (Napperby Block)

Two Extractive Mineral Leases are in operation within Napperby Block (Figure 3):

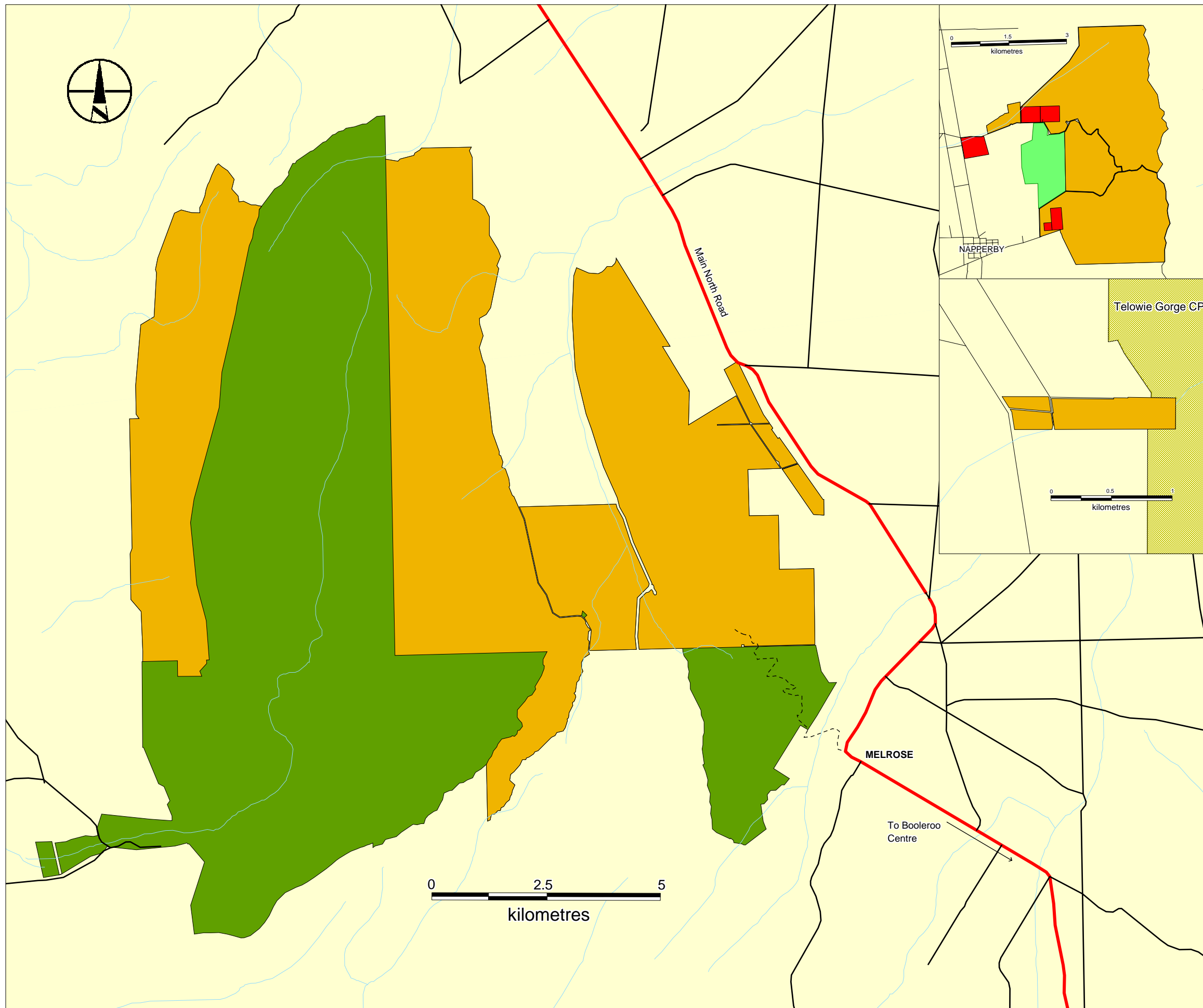
1. A quarry on Napperby Block's western boundary is used to obtain road-making material. The operation of the quarry poses some risk to public safety and has a significant visual impact from vantage points within and outside the reserve.
2. River stones for use in landscaping are obtained from a quarry at the western end of Section 327 and to the east of the Nelshaby Reservoir. Extraction is of limited volume, and coupled with rehabilitation. The area is largely inaccessible to reserve visitors and has little effect on the management of the reserve.

#### **Objectives**

Ensure that mineral or petroleum exploration or extraction activities in the park are undertaken in a manner that minimises disturbance to landscape, wildlife, cultural features and visitor experience.

#### **Strategies**

- Address the safety issues associated with the historic Spring Creek mine, including the provision of safety and information signs.
- In conjunction with PIRSA and the lessees of the Extractive Mineral Lease, assess risks and take appropriate action to discourage unauthorised access to the quarry in Napperby Block, to ensure visitor safety.
- Continue to use borrow pit in accordance with best practice management principles.
- Liaise with operators engaged in mineral and petroleum exploration or extraction activities in the park to prevent undue disturbance and to ensure compliance with the objectives of this management plan.



**LEGEND**

- Drainage
- Mount Remarkable National Park Single Proclamation
- Mount Remarkable National Park Joint Proclamation
- Surrounding Parks
- Heritage Agreement
- Extractive Mineral Lease
- Major Road
- Minor Road

**Figure 3**

**Mount Remarkable National Park  
Exploration and Mining Access**

Map designed and created by  
Reserve Planning using PAMS  
Date: March 2006  
Projection: GDA94 (Zone 53)

## 9.2 Leases and Licences

### Bee Sites

Bee-keeping was conducted in the reserve since at least the Second World War. Bee sites were located in the Alligator Gorge, Mambray Creek and Mount Remarkable areas of the reserve, mainly for Blue Gum (*Eucalyptus leucoxylon*), Sugar Gum (*E. cladocalyx*), and Box Gum (*E. goniocalyx*, *E. microcarpa* and *E. odorata*) honeys. There is one honeybee site (managed in accordance with the Department's policy on keeping bees in reserves) near the Pines track. Feral honeybees occur elsewhere in the reserve and wherever possible these colonies are removed or destroyed.

### **Objectives**

Manage the bee site within Mount Remarkable National Park in accordance with the current DEH policy framework.

### **Strategies**

- Monitor the impacts of existing bees and the bee site on the natural biota of the park, to ensure conservation values are protected.
- Maintain access tracks to the existing bee site to ensure that natural values are not compromised.
- Prohibit additional bee sites from being established in the park.

## 10 INVOLVING THE COMMUNITY

### Friends and Volunteers

Volunteer support and community-based involvement that conserves and improves biodiversity and cultural values, and establishes quality management of recreational use, has become an essential component of park management. DEH acknowledges and supports the active volunteer contribution in the management of Mount Remarkable National Park.

The reserve has a supportive friends group who have made a significant contribution. Their main activities have included the maintenance of walking trails, restoration of historic sites (for example Scarfe's Hut and Baroota Ruins), assisting with visitor services and revegetation activities, including the revegetation of the Mambray Creek campground and other areas within the Visitor Use Zones.

Volunteer campground hosts stay in the camping area during peak visitor periods (eg Easter and October long weekends), providing information and services to other campers. A large number of individuals and community groups provide assistance with the care and maintenance of the reserve, including overseas volunteers and work experience students.

Such community and volunteer assistance is of great benefit to DEH and it important to continue communication with volunteers, provide support and assistance, including policy and technical advice, planning and management direction.

### Regional Communities and Park Neighbours

DEH supports and promotes partnerships and cooperative management arrangements to establish integrated natural resource management. This requires the development of effective working relationships with government agencies, local authorities, non-government organisations and the local community. With regard to Mount Remarkable National Park, this involves ongoing management links to the District Council of Mount Remarkable, Port Pirie Regional Council, Northern and Yorke Natural Resources Management Board, Native Title Claimants, the representative Aboriginal Heritage Committee, Friends of Mount Remarkable National Park, neighbours and key community stakeholders.

Working relationships should be developed to provide a positive direction for the shared development and management of the park to fulfil the objectives of this plan. Moreover, as changes in landuse occur within the region, it is important for DEH to actively work with the District Council of Mount Remarkable, the Port Pirie Regional Council and development bodies to ensure proposed developments do not adversely impact on biodiversity conservation and park values.

### Aboriginal Partnerships

DEH is committed to reconciliation and to the development of partnerships with Indigenous communities to cooperatively manage Mount Remarkable National Park in a way that respects both contemporary and traditional culture, knowledge and skills. Partnerships involve the delivery of programs that promote reconciliation, cultural awareness, Indigenous employment and training, cooperative management and indigenous cultural heritage management in parks.

### ***Objective***

Develop and maintain working relationships with the local community, non-government organisations and statutory bodies that assist with the management of the park and help fulfil the reserve's potential without compromising its natural values.

### ***Strategies***

- Consult with local government, the Northern and Yorke NRM board, the local community and other relevant bodies to explore the benefits of partnership arrangements that will support future management decisions on issues of common interest.
- Encourage and contribute to the development of partnership arrangements to integrate biodiversity and recreation management in the region, with organisations that have an interest in contributing to the sustainable management of the park.
- Involve Aboriginal people who have a traditional association with the land, Native Title Claimants and the nominated Aboriginal Heritage Committee in the cooperative management of the reserve and the preservation of their Indigenous cultural heritage.



- Promote discussion with Aboriginal people who have a traditional association with the land comprising the park to better understand and appreciate their culture, lifestyle and knowledge of the reserve.
- Encourage and support the involvement of the local community, volunteer organisations and individuals in their contribution to park management.
- In consultation with the Friends of Mount Remarkable National Park and other volunteer groups, review the direction of work activities based on the initiatives outlined in this plan of management, and integrate annual work programs of the Friends Group into the proposed management programs for the park.

## 11 MANAGING RESERVE TENURE

### 11.1 Public Utilities

There are two easements within Mount Remarkable National Park. These are for electricity transmission lines and an easement for the Morgan-Whyalla pipeline. No new easements should be permitted except under exceptional circumstances.

Future proposals to install additional telecommunications facilities within the park should be assessed with regard to impacts on biodiversity, maintenance requirements and visual amenity impairment. Permission for their installation should only be granted if there is no viable alternative and a thorough assessment of risks to park values has been undertaken and addressed.

The Australian Government, or organisations operating under the authority of Commonwealth legislation (eg telecommunications carriers) may undertake actions on reserves subject to ministerial approval, even though they may not be referred to in specific terms in a management plan. This is provided that such actions are not inconsistent with the objectives of the plan and are demonstrably in the public interest.

#### *Objective*

Ensure public utilities are operated and maintained without compromising park values.

#### *Strategies*

- Liaise with relevant utility companies and any contractors engaged by them, prior to accessing easements or undertaking any other activity within the reserve.
- Maintain accurate records of underground and overhead services to minimise damage through park maintenance and development work.

## 12 SUMMARY OF MANAGEMENT STRATEGIES

<b>STRATEGY</b>
<b>Zoning</b>
Manage the park in accordance with the zoning prescription outlined in this management plan.
<b>Managing Natural Heritage</b>
<b>Geology, Soils and Hydrology</b>
Provide information signs for significant geological and landscape features.
Assess soil type and properties, including erosion potential, when planning for visitor access or undertaking management activities and development works.
Improve, repair and maintain walking trails to minimise soil erosion as required.
Identify existing areas of erosion and undertake remedial work that includes natural regeneration, revegetation and pest plant removal as required.
Participate in integrated catchment management programs with relevant local authorities and surrounding landowners to minimise negative impacts to hydrology.
<b>Native Vegetation</b>
Prepare and implement a vegetation management plan to protect, enhance and monitor native vegetation communities, species of conservation significance and to identify and coordinate integrated threat management
Record the location and distribution of existing and newly discovered plants or habitats of conservation significance, monitor their populations and implement species management programs if necessary
Continue to contribute to biodiversity conservation programs designed to enhance and restore ecosystems, particularly for species of conservation significance
Monitor the park for the presence of introduced pathogens and implement control measures as necessary
Increase awareness among DEH staff, park volunteers and contractors of the potential for introduction and establishment of <i>Phytophthora cinnamomi</i> , the plant species susceptible to it and indicators of its presence
Ensure that all soil is removed from all earth-moving and construction equipment entering the reserve, to reduce the risk of <i>Phytophthora</i> introduction
If necessary, provide boot-cleaning stations for track users, appropriate signs and education in cooperation with other agencies
<b>Native Fauna</b>
Record animal species and habitats, including opportunistic sightings of rare, vulnerable and endangered fauna, and monitor these populations to ensure their conservation
Co-ordinate and work with the Australian Government, Threatened Species Network and other non-government organisations to formulate and implement management plans for species of significance
Continue fox control programs and monitoring of Yellow-footed Rock-wallabies in Mount Remarkable National Park
Investigate the potential for reintroducing locally extinct flora and fauna species into the park if this is identified as a priority for species recovery efforts

<b>STRATEGY</b>
<b>Introduced Plants</b>
Develop and implement a threat abatement plan for the reserve that allows for the preparation of an annual action plan for pest and introduced species. The action plan should include performance indicators to measure the success of weed control measures and determine annual weed control priorities
Fulfil the obligations of the <i>Natural Resources Management Act 2004</i> and undertake weed control programs, with the priority on scheduled weeds of regional concern and those threatening park values, specifically weeds in the vicinity of threatened species
Maintain liaison and work cooperatively with local authorities and adjoining landholders to achieve integrated pest plant management
Ensure correct procedures and precautions are undertaken when using chemicals to prevent the spread of weeds, especially at locations of threatened species
<b>Introduced Animals</b>
Maintain liaison and work cooperatively with local authorities and adjoining landholders to develop integrated pest animal management and fulfil the obligations of the <i>Natural Resources Management Act 2004</i> within allocated resources
Prepare a threat abatement plan that provides an assessment of numbers and status of pest animals and an eradication strategy for those of significant concern
Continue to undertake effective introduced animal control programs until a threat abatement plan is developed and implemented
Continue the goat control program within the Napperby Block and surrounding land
<b>Managing Fire</b>
Continue to develop, implement and review fire management and response plans in association with CFS and other stakeholders
Continue to liaise and work cooperatively with the local community, relevant District Bushfire Prevention Committees and CFS groups to minimise risk to life and property within and surrounding the reserve
Undertake seasonal fire preparation works, including the maintenance of fire suppression equipment, water supplies and fire access tracks to support any necessary fire management or suppression activities
Ensure visitors comply with the fire danger season and any fire restrictions by providing information and monitoring visitor use
Permit campfires in designated sites only and prohibit the collection of local firewood, encouraging the use of alternative fuel sources
Continue the use of fire as a management tool, where appropriate
<b>Managing Cultural Heritage</b>
<b>Indigenous Heritage</b>
Consult with Aboriginal people with a traditional association with the land, Native Title claimants and relevant Aboriginal heritage authorities, in decisions regarding the management of Aboriginal cultural heritage and before proceeding with any significant on-ground works within the park
Identify and protect any Aboriginal sites, objects and remains of cultural significance in cooperation with the traditional owners, DAARE and relevant authorities
In consultation with the traditional owners, submit cultural sites and stories that relate to the park for inclusion on the DAARE Central Archive

<b>STRATEGY</b>
<b>Non-Indigenous Heritage</b>
Protect and where applicable restore cultural and historical items of significance located in the park in cooperation with the Heritage branch of DEH and other relevant authorities
As resources permit, research and inventory, cultural and historic sites and stories that relate to the park and where appropriate, develop interpretive material for visitors (including Hillam Reserve)
Encourage and support historic studies within the park, supporting and encouraging the local community and volunteer organisations to participate in the collection of historic information and the conservation of cultural heritage sites
Stabilise ruins of huts, homes and mine sites to reduce deterioration and risk to the public
<b>Managing Tourism and Recreation</b>
<b>Visitor Use</b>
Continue to review, update and progressively implement recommendations of the Visitor Facilities Plan where feasible
Periodically conduct visitor surveys to assist in planning visitor facilities, with visitor numbers and opinions being regularly monitored to better understand visitor needs
Provide appropriate information material regarding safety, inappropriate activities and monitor visitor compliance
<b>Visitor Access</b>
Maintain existing vehicle access for park visitors, management and emergency purposes
Provide walking trails that cater for a range of interest and fitness levels, allowing visitors to explore the natural and cultural assets of the park, without adversely impacting sensitive areas
Maintain and upgrade the network of walking trails with the aim to improve visitor safety, soil erosion and maintenance requirements. Where necessary, re-route or extend walking trails and where feasible integrate with regional trail networks to improve visitor access and enjoyment
Where appropriate, provide basic accommodation facilities for users of the Heysen Trail
Allow cycling on public access roads, vehicle based camping and day visitor areas only
In consultation with relevant stakeholders, continue to assess the demand for cycling in the park and where visitor demand and policy permit, identify opportunities for cycling in the park and investigate options for links where regional cycling trails occur
Provide appropriate information signage to assist with safety and navigation consistent with agency standards
<b>Visitor Facilities</b>
Maintain camping and day visitor areas to an acceptable standard
Provide and maintain existing bush camping sites within designated areas in the reserve
Continue the photopoint monitoring of bush campsites to assess impacts on adjacent vegetation
Monitor visitor numbers and, if necessary, upgrade visitor facilities according to the zoning provisions outlined in this plan
Realign walking trail around camping sites to reduce potential conflict between user groups
Provide and maintain interpretive signage at places of scenic and historic interest
Provide and maintain safe access places of scenic and historic interest within the reserve, imposing access restrictions to hazardous areas
Provide self registration stations at public entrances for permit distribution and fee collection, ensuring public compliance with permit conditions through random monitoring by DEH staff

<b>STRATEGY</b>
<b>Commercial Tourism</b>
Issue Commercial Licences to tour operators, subject to compliance with this plan and the provisions of the National Parks and Wildlife Act.
<b>Information and Interpretation</b>
Develop, maintain and regularly review interpretive information at appropriate locations throughout Mount Remarkable National Park
<b>Managing Resource Use</b>
<b>Exploration and Mining</b>
Address the safety issues associated with the historic Spring Creek mine, including the provision of safety and information signs
In conjunction with PIRSA and the lessees of the Extractive Mineral Lease, assess risks and take appropriate action to discourage unauthorised access to the quarry in Napperby Block, to ensure visitor safety
Continue to use borrow pit in accordance with best practice management principles
Liaise with operators engaged in mineral and petroleum exploration or extraction activities in the park to prevent undue disturbance and to ensure compliance with the objectives of this management plan.
<b>Leases and Licences</b>
Monitor the impacts of existing bees and the bee site on the natural biota of the park, to ensure conservation values are protected
Maintain access tracks to the existing bee site to ensure that natural values are not compromised
Prohibit additional bee sites from being established in the park
<b>Involving the Community</b>
Consult with local government, the Northern and Yorke NRM board, the local community and other relevant bodies to explore the benefits of partnership arrangements that will support future management decisions on issues of common interest
Encourage and contribute to the development of partnership arrangements to integrate biodiversity and recreation management in the region, with organisations that have an interest in contributing to the sustainable management of the park
Involve Aboriginal people who have a traditional association with the land, Native Title Claimants and the nominated Aboriginal Heritage Committee in the cooperative management of the reserve and the preservation of their Indigenous cultural heritage
Promote discussion with Aboriginal people who have a traditional association with the land comprising the park to better understand and appreciate their culture, lifestyle and knowledge of the reserve
Encourage and support the involvement of the local community, volunteer organisations and individuals in their contribution to park management
In consultation with the Friends of Mount Remarkable National Park and other volunteer groups, review the direction of work activities based on the initiatives outlined in this plan of management, and integrate annual work programs of the Friends Group into the proposed management programs for the park

<b>STRATEGY</b>
<b>Managing Reserve Tenure</b>
<b>Public Utilities</b>
Liaise with relevant utility companies and any contractors engaged by them, prior to accessing easements or undertaking any other activity within the reserve
Maintain accurate records of underground and overhead services to minimise damage through park maintenance and development work

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## APPENDIX A: HISTORY OF RESERVE MANAGEMENT

### National Pleasure Resorts

Following local moves to develop the tourist potential of the Southern Flinders Ranges, parts of Mambray Creek and Alligator Gorge were, in 1952, dedicated National Pleasure Resorts, under the *National Pleasure Resorts Act 1914*. These areas, of some 200ha, came under the control of the South Australian Government Tourist Bureau (1952 – 1967). The *National Pleasure Resorts Act 1914* gave authority for the development of reserves for “public pleasure, recreation and enjoyment”. Prior to dedication these areas had been rented from pastoral lessees, who were given honorary status to oversee the reserves.

Both areas soon attracted many visitors. Alligator Gorge with its spectacular scenery and long wildflower season saw mainly day visitors, bushwalkers and campers. Mambray Creek was popular for camping over long weekends. Due to better road grades, caravaners were also able to visit this section of the reserve. With unrestricted camping, people camped along Mambray Creek to the Alligator Creek junction. The number of campers in the 1950's was far greater than in the late 1960s when the area came under the control of the National Parks Commission. As the area was readily accessible, it became popular, especially with family groups. Bushwalkers and Boy Scout groups also used the area (NPWS, 1986).

### Wildlife Reserves: The National Parks Commission

In 1964, C.W. Bonython, with other Commissioners of the National Parks Commission, put forward a proposal for comprehensive national parks covering a much larger area than the existing Mambray Creeks and Alligator Gorge National Pleasure Resorts. The Government approved the purchase and dedicated over 8,000ha in the next four years to create the three separate reserves, namely Alligator Gorge, Mambray Creek and Mount Remarkable Wildlife Reserves (Bonython, 1996). Alligator Gorge Wildlife Reserve, comprising 3,831ha, was constituted in July 1965. Mount Remarkable Wildlife Reserve of 272ha was constituted in March 1966. The Mambray Creek Wildlife Reserve, initially comprising 2,691ha was dedicated in September 1967 (with further additions in 1968 and 1969).

Under the control of Commissioners for the *National Parks Act 1966*, these areas were developed for passive recreation with the development of parking areas, limited access roads and walking tracks, lookouts, fireplaces and toilet blocks at Mambray Creek and Alligator Gorge. The first Ranger stationed at Mambray Creek (Peter Martinsen) took up residence in 1969.

### Mount Remarkable National Park

With the passage of the *National Parks and Wildlife Act* on 3 July 1972, the three areas of Alligator Gorge, Mambray Creek and Mount Remarkable were proclaimed and gazetted under the one title, Mount Remarkable National Park, comprising a total 8,236 hectares, approximately half the present reserve area.

Since 1972, the reserve has more than doubled in size with the following additions:

- 337.3 hectares on 19 September 1974 (Section 139, Hundred of Winninowie);
- 1.7 hectares on 2 September 1976 (Section 220, Hundred of Baroota);
- 59.6 hectares on 22 January 1976 (Sections 221 and 222, Hundred of Baroota. This area includes Black Range Lookout and The Bluff);
- 3466 square metres on 30 August 1990 (Allotment 291 of Deposited Plan 24923);
- 8,600 hectares on 4 November 1993 (Allotment 21 of Deposited Plan 35859, Allotment 10 of Deposited Plan 29606, Allotment 9 of Deposited Plan 30258, Allotment 13 of Deposited Plan 30259, Allotment 15 of Deposited Plan 27599, Allotments 1 and 3 of Deposited Plan 22619, Allotment 4 of Deposited Plan 30142, Section 173 of Hundred of Baroota, Sections 56, 71, 72, 73, 74, 229, 382, 383, 384, 385, 386, 392, 393, 394, 395, 399, 402, 404, 405, 435, 445 and 519 of Hundred of Gregory, Section 125 of Hundred of Winninowie and Sections 321, 322, 323, 325, 326, 327, 329 and 347 of Hundred of Napperby. These included an area west of Alligator Gorge containing 'The Battery', two parallel but separate portions of the Willowie Forest Reserve Number 32 and the 'Napperby Block'. The 'Napperby Block' land was proclaimed under Section 43 of the *National Parks and Wildlife Act 1972* to allow for mining access.

- 1,058 hectares on 26 October 2000 (Section 511, Hundred of Wongyarra, Allotment 100 of Deposited Plan 34718, Section 433, Hundred of Gregory, Parcels 457, 458, 459 and Allotment 460 of Deposited Plan 31891. This land is named "The Warren Bonython Link", honouring Warren Bonython's long personal interest in the area and also his association with the National Parks Foundation. The land was proclaimed under Section 43 of the *National Parks and Wildlife Act 1972* to allow for mining access.

## APPENDIX B: CONSERVATION STATUS CODES

### Australian Conservation Status Codes

The following codes are based on the current listing of species under Section 179 of the *Environmental Protection and Biodiversity Conservation Act 1999*.

- EX Extinct:** there is no reasonable doubt that the last member of the species has died.
- EW Extinct in the Wild:** known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- CE Critically Endangered:** facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- E Endangered:** facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- V Vulnerable:** facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- CD Conservation Dependent:** the species is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

**Note:** Prescribed criteria as defined under the IUCN Red List of Threatened Species.

### South Australian Conservation Status Codes

The following codes are based on the current listing of species under Schedules of the *National Parks and Wildlife Act 1972*, as amended in 2000.

- E Endangered:** (Schedule 7) in danger of becoming extinct in the wild.
- V Vulnerable:** (Schedule 8) at risk from potential or long term threats which could cause the species to become endangered in the future.
- R Rare:** (Schedule 9) low overall frequency of occurrence (may be locally common with a very restricted distribution or may be scattered sparsely over a wider area). Not currently exposed to significant threats, but warrants monitoring and protective measures to prevent reduction of population sizes.

### Regional Status Codes

The categories below apply to the species distribution at a regional level.

#### Mammals, Reptiles & Amphibians

There are no regional conservation status categories developed for mammals, reptiles or amphibians to date (2004).

#### Birds

Regional conservation status for birds follow Carpenter and Reid (1998) *The Status of Native Birds in the Agricultural Areas of South Australia*;

The regions are defined as follows;

<b>ML</b>	Mount Lofty	<b>MN</b>	Mid-North	<b>SE</b>	South-Eastern	<b>KI</b>	Kangaroo Island
<b>MM</b>	Murray Mallee	<b>EP</b>	Eyre Peninsula	<b>YP</b>	Yorke Peninsula		

## Plants

Regional conservation ratings for plants follow:

Lang, P.J. & Kraehenbuehl, D.N. (2001). Plants of Particular Conservation Significance in South Australia's Agricultural Regions.

January (2001) update of unpublished database: Florlist. Department for Environment and Heritage.

The regions are as defined by the State Herbarium (Plant Biodiversity Centre), illustrated in the back cover of 'A List of the Vascular Plants of South Australia (Edition IV)' (Ed. Jessop, 1993).

<b>NW</b>	North-Western	<b>FR</b>	Flinders Ranges	<b>NL</b>	Northern Lofty	<b>SL</b>	Southern Lofty
<b>LE</b>	Lake Eyre	<b>EA</b>	Eastern	<b>MU</b>	Murray	<b>KI</b>	Kangaroo Island
<b>NU</b>	Nullarbor	<b>EP</b>	Eyre Peninsula	<b>YP</b>	Yorke Peninsula	<b>SE</b>	South-Eastern
<b>GT</b>	Gairdner-Torrens						

In order of decreasing conservation significance:

- X Extinct/Presumed extinct:** not located despite thorough searching of all known and likely habitats; known to have been eliminated by the loss of localised population(s); or not recorded for more than 50 years from an area where substantial habitat modification has occurred.
- E Endangered:** rare and in danger of becoming extinct in the wild.
- T Threatened:** (*Plants only*) likely to be either Endangered or Vulnerable but insufficient data available for more precise assessment.
- V Vulnerable:** rare and at risk from potential threats or long term threats that could cause the species to become endangered in the future.
- K Uncertain:** likely to be either Threatened or Rare but insufficient data available for a more precise assessment.
- R Rare:** has a low overall frequency of occurrence (may be locally common with a very restricted distribution or may be scattered sparsely over a wider area). Not currently exposed to significant or widespread threats, but warrants monitoring and protective measures to prevent reduction of population sizes.
- U Uncommon:** less common species of interest but not rare enough to warrant special protective measures.
- Q Not yet assessed:** but flagged as being of possible significance.
- N Not of particular significance** (*Plants only*) Also indicated by a blank entry.
- C Common** (*Birds only*) Also indicated by a blank entry.
- O Occasional Visitor Only** (*Birds only*) Not considered of conservational status.