

Brisbane Ranges National Park

September 1997



Management Plan



This Management Plan for Brisbane Ranges National Park is approved for implementation. Its purpose is to direct management of the Park until the Plan is reviewed. A Draft Management Plan was published in September 1996. A total of 16 submissions were received.

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BRISBANE RANGES NATIONAL PARK
MANAGEMENT PLAN



SEPTEMBER 1997

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Note: In December 1996 Parks Victoria (PV) became responsible for the management of parks and other areas previously managed by the former National Parks Service (NPS) and Melbourne Parks and Waterways (MPW). For general information regarding Parks Victoria please call 13 1963, seven days a week.

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FOREWORD

Brisbane Ranges National Park is an important area for the conservation of native flora and fauna and is particularly noted for its wildflowers and koalas which are of great scientific interest. The Park protects about one sixth of Victoria's total flora and represents the largest area of remnant vegetation between the three major population centres of Melbourne, Geelong and Ballarat.

Managed primarily for nature conservation purposes, the Park provides many opportunities for visitors to enjoy the natural environment. The popular Anakie Gorge walking track gives many visitors their first experience of seeing koalas in a completely natural environment.

This Approved Plan establishes the long-term management framework to protect the important conservation and recreation values of the Park while ensuring it plays an important role in nature-based tourism.

As a result of the plan's implementation, I am confident the Park's special features will be protected while visitors' enjoyment is enhanced.

I look forward to the community's support for the management of this important national park, which is a significant part of Victoria's parks system.



Hon Marie Tehan MP
MINISTER FOR CONSERVATION
and LAND MANAGEMENT

APPROVED MANAGEMENT PLAN

This Approved Management Plan has been prepared under section 17 of the *National Parks Act 1975* (Vic.) and is approved for implementation.

The Plan provides the basis for the future management of Brisbane Ranges National Park. It was finalised following consideration of the 16 submissions received on the Draft Plan.



Mark Stone
Director
National Parks



Jeff Floyd
Chief Executive
Parks Victoria

SUMMARY

Brisbane Ranges National Park (7718 ha) is a significant conservation reserve close to Melbourne and Victoria's other major population centres.

The Park will be managed as a world-class protected area for conservation and recreation consistent with its national park status. Protecting and enhancing the Park's natural environments will be an important management goal. Protecting the Park from the spread of root-rotting Cinnamon Fungus will be an overriding consideration in all management strategies.

Visitors will be able to enjoy the Park's attractions from the network of roads and tracks, and the picnic and camping areas sensitively located throughout the Park.

Significant management directions for the Park are summarised below.

- Knowledge of, and protection for, flora and fauna particularly rare or threatened species will be improved.
- The spread of Cinnamon Fungus will be minimised and the effect of the fungus on the Park's ecology will be monitored and research encouraged.
- Fire protection measures will be implemented in accordance with the Geelong Regional Fire Protection Plan.
- A pest plant and animal control strategy will be prepared; identifying target species and methods of control.
- Existing picnic and camping areas and walking opportunities will be enhanced. The Anakie Gorge walking track will continue to be upgraded to a standard suitable for visitors with limited mobility.
- An interpretation plan for the Park that covers interpretative facilities and programs for visitors and education groups will be developed.
- Visitor surveys will be conducted and recreation activities monitored so that management can better understand and address visitors' needs.
- The Friends of Brisbane Ranges and other volunteer groups interested in assisting in management of the Park will be supported.
- Public awareness of management activities will be enhanced.

CONTENTS

FOREWORD	iii
SUMMARY	v
1 INTRODUCTION	1
1.1 Location and planning area	1
1.2 Regional context	1
1.3 Significance of the Park	1
1.4 Creation of the Park	2
1.5 Legislation and guidelines	2
1.6 Park management aims	2
2 STRATEGIC DIRECTIONS	4
2.1 Park vision	4
2.2 Management directions	4
2.3 Management zones	5
3 RESOURCE CONSERVATION	7
3.1 Geological and landform features	7
3.2 Vegetation	7
3.3 Fauna	8
3.4 Landscape	9
3.5 Cultural heritage	10
4 PARK PROTECTION	11
4.1 Fire management	11
4.2 Pest plants and animals, and diseases	12
5 THE PARK VISIT	14
5.1 The Park visitor	14
5.2 Visitor recreation activities and facilities	14
5.2.1 Vehicle access	14
5.2.2 Picnicking	16
5.2.3 Camping	16
5.2.4 Walking	19
5.2.5 Horse riding	20
5.2.6 Bicycle riding	21
5.2.7 Rock climbing	21
5.3 Visitor information and interpretation	21
5.4 Commercial tourism operations	22
5.5 Public safety	23

6	COMMUNITY AWARENESS AND INVOLVEMENT	24
6.1	Friends and volunteers	24
6.2	Community awareness and Park neighbours	24
6.3	Schools education	24
7	OTHER ISSUES	26
7.1	Authorised uses	26
7.2	Boundaries and adjacent uses	26
8	IMPLEMENTATION	28
	REFERENCES	29

TABLES

1	Park management zones and overlay	6
2	Summary of recreation activities	15
3	Modifications to management of tracks	17
4	Picnic and camping facilities	18
5	Priority management strategies	28

APPENDICES

1	Threatened flora species	30
2	Other significant flora species	31
3	Major weed species	32

FIGURES

1	Locality plan	End of Plan
2	Recreation and access	"
3	Land tenure and authorised uses	"
4	Cinnamon Fungus distribution	"
5	Management zones	"

1 INTRODUCTION

1.1 Location and planning area

Brisbane Ranges National Park (7718 ha) is situated 80 km west of Melbourne, 30 km north-west of Geelong, and 40 km south-east of Ballarat (figure 1).

The management plan covers the whole of the National Park, and has been developed with reference to the Steiglitz Historic Park Management Plan and its recommendations.

The plan does not include:

- Freehold enclaves surrounded by the Park.
- Durdidwarrah and Mount Wallace – Bacchus Marsh Roads, which are managed by Shires.

1.2 Regional context

Brisbane Ranges National Park provides opportunities for passive recreation and nature study in a natural setting (figure 2).

As the only national park in the region, the Park has a major role in, and focus on, conservation. The Park is well known and appreciated for its rich plant and animal life, and tranquil setting. The adjoining Steiglitz Historic Park (figure 3), which has historic gold mining relics and other reminders of life in the 19th century, offers an alternative and complementary experience for visitors.

The management of, and facilities offered on, other public land in the region complement the Park, and together they present a wide range of visitor experiences. Other parks and public lands in the region (figure 1) are described below.

- Werribee Gorge State Park — significant for its rugged cliffs and Peregrine Falcon breeding sites. It has many features similar to those of the Brisbane Ranges.
- Lerderderg State Park, situated in the tall forests on the southern edge of the Central Highlands, is popular with picnickers and walkers.

- You Yangs Regional Park — noted for its distinctive granite peaks, it is a very popular picnic and recreation area.
- Meredith Education Area — on the Moorabool River; opportunities for camping and picnicking as well as school studies activities.
- Meredith and Bamganie State Forests — opportunities for recreation and group camping.
- Lal Lal and Bungal State Forests — offer a wide range of recreation and nature study activities close to Ballarat.

Some other important tourist attractions in the area include local wineries and the Anakie Fairy Park.

1.3 Significance of the Park

Brisbane Ranges National Park makes a valuable contribution to Victoria's parks system, which aims to protect viable representative samples of the State's natural environments occurring on public land. Parks also provide opportunities for visitors to enjoy and appreciate natural and cultural values, and many make important contributions to tourism.

The Park is assigned to the IUCN Category II (National Parks) of the United Nations' List of National Parks and Protected Areas. Category II areas are managed primarily for ecosystem conservation and appropriate recreation.

The original 1132 ha of the Park is listed on the Register of the National Estate in recognition of the area's outstanding values and its importance as part of our heritage.

Brisbane Ranges National Park is particularly noted for its wildflowers, which are of scientific interest. The Park also has a range of cultural features and is well used for recreation. Its significant features are summarised below.

Natural values

- Almost one sixth of Victoria's plant species have been recorded within the Park.
- Twenty-six plant species are listed as rare, threatened or significant in Victoria.
- Koalas and other wildlife species, some of which are rare or threatened in Victoria, are regularly seen in the Park.
- The Park has prominent scenic features along the Rowsley fault, such as deep gorges which intersect the escarpment, and panoramic views across the coastal plains.

Cultural values

- Evidence of early Aboriginal occupation.
- Managed in conjunction with Steiglitz Historic Park, the Park contributes to the historic gold mining atmosphere of the ranges.
- A variety of gold mining and early pastoral industry relics can be seen throughout the Park.

Tourism and recreational values

- Being close to Victoria's major population centres, the Park caters for large numbers of people.
- There are excellent opportunities for passive and low impact family recreation in and from the existing picnic and camping areas.

1.4 Creation of the Park

The Park is included under Schedule 2 of the *National Parks Act 1975* (Vic.). The original Park, of 1132 ha, was proclaimed on 15 August 1973. As a result of the Land Conservation Council (LCC) recommendations for the Melbourne Study Area (LCC 1977), the Park was increased in size to 7470 ha on the 26 April 1979. It was brought to its current size of 7718 ha on 20 June 1995 as a result of the LCC recommendation (LCC 1987) to incorporate part of the adjacent Steiglitz Historic Park into the National Park.

1.5 Legislation and guidelines

The Park is reserved and managed under the National Parks Act. The Act requires the Director to preserve and protect the natural condition of the Park and its natural and other features and, subject to this, to provide for the use of the Park by the public for enjoyment, recreation and education. The Act also provides for appropriate research.

The LCC (1977) recommended that the Park be used to:

- provide opportunities for recreation and education associated with the enjoyment and understanding of the natural environment;
- conserve and protect the natural ecosystems, with emphasis given to the conservation of the Park's rich flora.

The LCC (1987) recommended that the Park should continue to be included in Schedule 2 of the National Parks Act, and that:

- hunting and firearms not be permitted;
- significant historical relics of past mining activity be preserved

The Park is managed in accordance with Parks Victoria guidelines for the management of parks, LCC recommendations, and with other plans and guidelines, including:

- the Geelong Regional Fire Protection Plan (CFL 1987);
- an Operational Guide to minimise the spread of *Phytophthora cinnamomi* in the Brisbane Ranges and Steiglitz Areas (Peters 1995).

1.6 Park management aims

Section 4 (Objects) and section 17 of the National Parks Act form the main basis for management of the Park. The following management aims are derived from those sections, and as such broadly govern all aspects of park management.

Resource conservation

- Preserve and protect the natural environment.
- Allow natural environmental processes to continue with a minimum of interference.
- Maintain biodiversity.
- Conserve features of archaeological, historical, and cultural significance.

Park protection

- Protect human life, the Park and adjacent lands from injury by fire.
- Eradicate, or otherwise control, introduced plants, animals and diseases.

The Park visit

- Provide opportunities for appropriate recreation and tourism.

- Promote and encourage an appreciation, understanding and enjoyment of the Park's natural and cultural values and its recreation opportunities.
- Encourage appropriate park use and visitor behaviour, and foster a conservation ethic in visitors.
- Take reasonable steps to ensure visitor safety.

Other

- Provide for and encourage scientific research, surveys and monitoring that will contribute to a better understanding and management of the Park.
- Co-operate with local, State and interstate government authorities, the community and other interested organisations in the management of the Park.

2 STRATEGIC DIRECTIONS

2.1 Park vision

A future visitor to Brisbane Ranges National Park finds an area noted for its diverse flora and abundant wildlife in which there are many opportunities for passive recreation in a rugged natural setting. The unique flora, rich native fauna and cultural history of the Park attract visitors wishing to experience nature and a sense of remoteness. As the only national park in the region, the Park has an important conservation role and focus.

Visitors enjoy a range of passive activities, including picnicking, nature walks, overnight hikes, and car-based camping in a tranquil natural setting. The proximity of the Park to Victoria's major population centres has resulted in an increase in visitor numbers, but sensitive management and the provision of quality facilities ensure that the integrity of the Park is maintained.

Increased understanding of ecological processes has enhanced the management of the Park, and underscores the integrated strategy for the use of fire and the control of pest plants, pest animals, and diseases. Sensitive ecologically-based management ensures that this valuable natural resource is protected for the enjoyment of future generations.

The co-operation of the local community, including the active Friends group, and ongoing scientific research and monitoring, ensure the long-term viability of rare and locally significant species, and the control of threatening processes. The future of the Park is assured.

2.2 Management directions

The presence of Cinnamon Fungus in the Brisbane Ranges (figure 4) is a major threat to the vegetation composition and the overall ecology of the Park (Peters 1994). Minimising the spread of this disease is an over-riding consideration in every aspect of management, and has a major bearing on permitted activities and where those activities are located.

Major management directions for the Park are outlined below.

Resource conservation

- Flora and fauna listed under the *Flora and Fauna Guarantee Act 1988* (Vic.) will be managed in accordance with approved action statements.
- Flora and fauna surveys and monitoring will be undertaken to extend knowledge of the distribution and status of species, particularly rare or threatened species.
- All reasonable steps will be undertaken to contain existing outbreaks of Cinnamon Fungus and to prevent the further spread of the disease into healthy vegetation.
- Research will be undertaken into the long-term effects of Cinnamon Fungus and fire on the ecology of the Park.

Park protection

- Fire protection measures will be undertaken in accordance with the Geelong Regional Fire Protection Plan (CFL 1987).
- A pest plant and animal control strategy that identifies target species and methods of control will be prepared.
- The spread of Cinnamon Fungus will continue to be minimised.
- The effects and distribution of Cinnamon Fungus will continue to be monitored, and a computer-based site register will be developed to map its spread.
- Information about the threats of Cinnamon Fungus to the Park will be included in all park information.

The Park visit

- Existing picnic and camping areas will be maintained and enhanced.
- Walking opportunities will be enhanced in areas at low risk from further spread of Cinnamon Fungus, but restricted where necessary in uninfested high risk sites

within the Conservation Zone and Special Protection Areas.

- The Anakie Gorge walking track will continue to be upgraded to a standard suitable for access for people with limited mobility.
- An interpretation plan will be developed for the Park and interpretative material will be developed for visitors and educational groups.
- Visitor surveys will continue to be conducted and recreation activities monitored to better address visitor needs.

Community awareness and involvement

- The Friends of Brisbane Ranges will be supported.
- Volunteer groups will be assisted to undertake tasks in the Park.
- Public awareness of management activities will be maintained and enhanced.

2.3 Management zones

A park management zoning scheme has been developed to:

- provide a geographic framework in which to manage the Park;
- indicate which management directions have priority in different parts of the Park;
- indicate the types and levels of use appropriate throughout the Park;
- assist in minimising existing and potential conflicts between uses and activities, or between those and the protection of park values;
- provide a basis for assessing the suitability of future activities and development proposals.

Table 1 specifies management zone and overlay characteristics and the location of these is shown on figure 5. A Special Protection Area overlays the designated park management zones where a special management focus is required to protect significant flora and fauna.

TABLE 1 PARK MANAGEMENT ZONES AND OVERLAY

	ZONE		OVERLAY
	CONSERVATION	CONSERVATION AND RECREATION	SPECIAL PROTECTION AREA
AREA/LOCATION	4125 ha, 53% of Park. Includes significant natural and undeveloped areas of the Park.	3593 ha, 47% of Park.	355 ha, 4% of Park. Areas around rare plant and animal locations, and other significant sites.
VALUES	Areas of very high conservation value and a low incidence of Cinnamon Fungus with the opportunity to restrict its spread.	Important natural values with scope for a range of low impact recreation.	Discrete areas of extremely high conservation and/or scientific value requiring special attention.
GENERAL MANAGEMENT AIM	Protect sensitive natural environments and provide for minimal impact recreation activities and simple visitor facilities subject to ensuring minimal interference to natural processes.	Protect less sensitive natural environments and provide for sustainable dispersed recreation activities and small-scale recreation facilities without significant impact on natural processes.	Protect specific natural or cultural values in specific areas and sites where a special management focus is required.

3 RESOURCE CONSERVATION

3.1 Geological and landform features

The Brisbane Ranges stretch from Bacchus Marsh in the north to Maude in the south, and have a maximum elevation of 440 m. The eastern part of the Park is dissected by steep valleys and gorges which run generally east to west, cutting through the Rowsley Fault. The western portion of the Park is undulating and more easily accessible.

The base rock of the Brisbane Ranges consists of uplifted and tightly folded beds of Ordovician sandstone, siltstone, slates and shales. Disused slate quarries scar the hillsides east of Thompson Road (section 3.4). Some unsuccessful restoration of these quarries has been attempted in the past, mainly through the planting of exotic pine trees.

During the Palaeocene era the base rock was overlain by a thin veneer of poorly consolidated silts and gravels. Buckshot gravel deposits adjacent to Durdidwarrah Road have been used for road-making material. These deposits form in a thin layer and extraction requires the removal of vegetation over a large area. The two major past extraction sites have been deep ripped and are now regenerating successfully.

Soils overlying the Ordovician and Tertiary parent material are generally infertile and moderately erodible, particularly where vegetation cover has been reduced.

Aim

- Restore and revegetate former slate and gravel extraction areas.

Management strategies

- *Prohibit rock, gravel and soil extraction within the Park.*
- *Continue to encourage the natural regeneration of indigenous vegetation on old gravel and stone extraction sites (section 3.4).*

- *Remove all exotic species that were originally planted during restoration of the quarries.*

3.2 Vegetation

The rich native flora is the most outstanding resource of the National Park. A total of 619 species of vascular plants (about one sixth of Victoria's flora) have been recorded in the Park. A number of additional species have been recorded in the Park since the compilation of the plant list in 1992.

The vegetation of the Brisbane Ranges has been substantially modified over the years, principally through timber utilisation, which commenced in the gold mining era of the 1850s. Most of the trees seen today are either coppice regrowth or regeneration since harvesting operations. Despite these modifications, the Park today contains a '...rich flora – with open forests of Messmate Stringybark, Red Stringybark, Broad-leaf Peppermint and Red Ironbark, and woodlands of Manna Gum, White Sallee, and Swamp Gum' (LCC 1985).

The orchid flora is a major component of the vegetation and attracts many nature enthusiasts throughout the year. Sixty-one species have been recorded in the Park, which is about one quarter of the total orchid flora of Victoria.

Significant plants

Four plant species in the Park are listed under the Flora and Fauna Guarantee Act (appendix 1), and an Action Statement has been approved for the Brittle Greenhood orchid. Twelve other threatened species (appendix 1) have also been recorded in the Park. A number of other species present in the Park are significant because they are isolated from their main occurrences, at the limit of their distribution, or recorded by Beaglehole (1983) as significant in the Melbourne Study Area (appendix 2).

In addition, an unusually large specimen of Red Ironbark situated on McLean Highway has been listed on the Register of the National Estate as a Significant Tree.

Impacts of Cinnamon Fungus on vegetation

Cinnamon Fungus is widespread within the Park (figure 4) and continues to have a major impact on the structure and floristics of the vegetation through dieback of the overstorey in some areas, but more particularly through alteration of the understorey. Susceptible species such as Grass trees, Horny Cone-bush and many others have been replaced by resistant species such as grasses and sedges. It is important to minimise the spread of the disease to assist with the maintenance of the Park's vegetation structure, floristics and diversity (section 4.2).

Cinnamon Fungus has an adverse affect on some threatened species. Peters (1994) found that Golden Grevillea and Scented Bush-pea were highly susceptible, Dense Mint-bush was susceptible, Velvet Daisy-bush moderately susceptible and Fragrant Salt-bush slightly susceptible, but that Yarra Gum was resistant to the disease.

Direct control of Cinnamon Fungus is not feasible or currently possible. Control is primarily through quarantining of infected areas, modification of management practices, and hygiene.

Minimising the spread of Cinnamon Fungus is an over-riding consideration in every aspect of management.

Vegetation and fire

Knowledge of the long-term effects of wildfire and fuel reduction burning on vegetation communities and species is limited. Because fuel reduction burning for fire protection purposes will continue in the Park, there is a responsibility to learn more about its impacts. Constructed control lines for fuel reduction burning and wildfires may directly impact on threatened species, and indirectly impact on vegetation communities through the spread of Cinnamon Fungus.

Aims

- Conserve native vegetation communities in their natural condition, and maintain genetic diversity.
- Provide special protection and enhance the long-term survival prospects for significant vegetation communities and species.
- Minimise the spread of Cinnamon Fungus to uninfected vegetation communities and species.

Management strategies

- *Manage Flora and Fauna Guarantee Act listed flora (appendix 1) according to approved action statements.*
- *Continue to record data on location and status for threatened species (appendix 1) and consider that information in all management actions.*
- *Encourage research into the location and ecology of threatened species.*
- *Encourage survey and research into the effects of fire on significant vegetation communities and species (section 4.1).*
- *Minimise the risk of spread of Cinnamon Fungus in all management activities (section 4.2).*
- *Erect a sign at the Significant Tree and continue to protect the tree and site from non-natural degradation, particularly road works.*

3.3 Fauna

There have been limited investigations into the fauna of the Park. The Victorian Wildlife Atlas (NRE database 1997a) holds records for 170 bird species, 25 mammals, 24 reptiles, and 15 frogs.

Koalas were re-introduced into the Park from Quail Island, Phillip Island and French Island in 1944, 1945, 1957 and 1977. They are now common throughout the Park. A research grid has been established in the Park to monitor the Koala population on a regular basis.

Significant fauna

The Swift Parrot is endangered in Victoria and is listed as vulnerable on the Commonwealth *Endangered Species Protection Act 1992* (Vic.). The rare Brush-tailed Phascogale, restricted Common Bent-wing Bat, rare Powerful Owl, rare Painted Honeyeater and endangered Swift Parrot are listed under the Flora and Fauna Guarantee Act. In addition the Common Dunnart and Barking Owl are rare in Victoria (CNR 1995b) and the White-throated Nightjar and Peregrine Falcon are considered significant. The Red-necked Wallaby is considered to be rare in the Park, but a number of recent sightings indicate that numbers may be increasing.

Aims

- Protect native fauna from management and visitor activities.
- Increase knowledge of fauna populations, and their response to Cinnamon Fungus, fire and other potentially harmful processes.
- Prevent activities that adversely affected rare or threatened species.

Management strategies

- *Manage Flora and Fauna Guarantee listed fauna according to approved action statements.*
- *Continue to record the location and status data for threatened species, and consider that information in all management actions.*
- *Continue to undertake faunal surveys and research to increase knowledge of the species and populations and their management.*
- *Continue to support the monitoring of Koala populations on the established research grid by the Friends of Brisbane Ranges National Park.*
- *Protect roosting sites for the Common Bent-wing Bat by restricting public access into the historic mine tunnel south of Quarry Track.*

- *Determine appropriate fire regimes for the conservation of faunal species (section 4.1).*

3.4 Landscape

The most striking topographic feature of the area is the north-south running Rowsley fault, which rises abruptly from the Werribee plains. The fault defines the eastern boundary of the Park, and forms a strong contrast to the surrounding cleared cropping and grazing land. Panoramic views from the Park over the plains to Melbourne, and short distance internal views over the gorges, are also a feature.

The effects of Cinnamon Fungus on the vegetation are having major impacts on the landscape values of the Park (section 3.2). Other existing impacts on the landscape include former stone and mineral extraction sites, particularly the disused slate quarries along the Rowsley fault which are visible from some viewing points within the Park and from major roads east of the Park.

Potential causes of damage to the landscape include management activities, wildfire and activities on adjacent private land.

Aims

- Minimise visual impacts on the natural landscape, especially from major viewing points.
- Rehabilitate, remove or ameliorate undesirable visual intrusions.

Management strategies

- *Ensure that any developments within the Park are in keeping with the character of the landscape, and do not conflict with, or encroach on, internal and external views.*
- *Assist the natural regeneration of vegetation on disused gravel and stone extraction sites through supplementary plantings where necessary.*
- *Liaise with the City of Greater Geelong, and the Shires of Moorabool and Golden Plains to protect vegetation on adjoining freehold land.*

3.5 Cultural heritage

The Wathaurong clans occupied the area around Geelong, and it is believed that small bands regularly occupied the Brisbane Ranges (Schell 1994). European settlement resulted in the dramatic decline of the Wathaurong population, and in 1859 the few remaining members of the clan were relocated to the 260 ha Steiglitz Reserve. The Reserve, on the north bank of the Little River, received only minimal use and was finally closed in 1901 (Boland 1992). In 1989 the Wathaurong Aboriginal Co-operative placed a plaque at the nearby Little River Picnic Area (outside the Reserve) to commemorate the former Reserve.

A limited archaeological survey was undertaken in the Park by the Heritage Services Branch, Aboriginal Affairs Victoria (Schell 1994). The survey located 11 artefact scatters, two isolated artefacts, and one scarred tree. Other occupation sites are known to exist within the Park.

All Aboriginal sites and materials are protected under the *Archeological and Aboriginal Relics Preservation Act 1972* (Vic.) and the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cwlth.).

Permanent European occupation of the area commenced soon after 1835, as squatters took up large pastoral runs. Early attempts at cropping near the Park were unsuccessful due to the low fertility of the soil (Boland 1992).

The gold rushes of the 1850s had a dramatic and long-lasting effect on the area, large amounts of timber being harvested to supply the Steiglitz mines for construction, heating and mine shoring. Timber harvesting for firewood and minor forest products continued under licence from the Forests Commission, Victoria, until the Park was declared in 1973.

A pipeline carrying water from the Lower Stony Creek Reservoir, which was constructed in the 1870s to service Geelong, can be seen in places where it passes through Anakie Gorge. The original pipeline was of wood but this was replaced with a metal pipeline in 1960. The Anakie Gorge walking track was originally built to service the pipeline and the retaining walls along the track are of historical interest.

Today dry-stone walls, mine shafts, mullock heaps and foundations associated with mine workings can still be seen in many areas of the Park.

Aims

- Protect archaeological and historical sites of significance and, where appropriate, interpret selected sites.
- Promote further investigation into Aboriginal and European history and culture.

Management strategies

- *Continue to liaise with the Wathaurong Aboriginal Co-operative on the development and implementation of appropriate management strategies for protecting and interpreting Aboriginal sites within the Park, particularly in the vicinity of the Staughton Vale cliff face.*
- *Support further archaeological and historic studies to identify sites requiring management and protection.*
- *Continue to record, monitor and protect Aboriginal and European cultural sites and relics and provide interpretation where appropriate.*
- *Protect the historic retaining walls and pipeline along the Anakie Gorge walking track from visitor impacts, and provide on-site interpretation.*

4 PARK PROTECTION

4.1 Fire management

The National Parks Act requires the Director of National Parks to ensure that appropriate and sufficient measures are taken to protect parks from injury by fire. Current fire protection measures are in accordance with the Geelong Region Fire Protection Plan (CFL 1987). This plan provides for continued fuel reduction burning, the maintenance of the Park's extensive system of fire protection tracks, water points and fire breaks, and liaison with private landholders for the common purpose of fire management within the Park and on adjacent land. It also contains information on park assets, including camping areas and areas of ecological and cultural significance.

The vegetation types of the Park generally accumulate low ground fuel loads, usually below 12 tonnes per hectare. Fire has not had a significant impact on the Park over the last 25 years, and the last major wildfire within the Park burnt 740 ha in 1968. Fires caused by lightning are a regular event, but they are usually quickly controlled. The majority of fire activity within the Park is fuel reduction burning undertaken by NRE as part of the fire protection plan.

There is an increasing requirement and desire to understand more about the ecological impacts and responses of the flora and fauna to both wildfire and fire management activities. Ecological monitoring of before and after burns will increase understanding of the effects of fire and enhance the overall management of the Park. Information gained through ecological monitoring will also contribute to revisions of the fire protection plan.

Fuel reduction burns can also serve as ecological burns, and every opportunity to combine the two aims and activities should be considered.

The shape and size of the Park mean that Country Fire Authority brigades are often actively involved in fire suppression activities within the Park, and PV officers and equipment are often involved in fire suppression on private

land. Co-operative fire management activities will continue and be encouraged.

Aims

- Protect life, property and park values from injury by fire.
- Minimise the adverse effects of fires and fire suppression methods.
- Develop and maintain fire regimes appropriate to the conservation of native flora and fauna.

Management strategies

- *Develop an ecologically-based Fire Management Plan which accords with Parks Victoria guidelines, the Geelong Regional Fire Protection Plan (CFL 1987), Code of Practice for Fire Management on Public Land (CNR 1995a) and ensure that:*
 - *appropriate fire regimes occur, particularly in the Conservation Zone and Special Protection Areas;*
 - *fuel reduction burning is restricted to the Conservation and Recreation Zone where possible.*
- *Publicise and enforce fire regulations and restrictions.*
- *Minimise fire risk in the Park by restricting fires to fireplaces provided at camp sites and picnic areas.*
- *Encourage research into the ecological effects of prescribed fire through pre- and post-fire monitoring of flora and fauna and incorporate the information gained into the fire management plan for the Park.*
- *Reduce the risk of spreading Cinnamon Fungus by practising hygiene strategies when deploying fire suppression vehicles in quarantined areas (section 4.2).*
- *Rehabilitate fire control lines and other disturbed areas resulting from fires and fire suppression activities as soon as possible after the fire.*

4.2 Pest plants and animals, and diseases

Pest plants

The geology, soils and rainfall of the Brisbane Ranges mean that the Park is reasonably free from noxious and other dominant weed species. A total of 102 exotic species have been recorded in the Park, but most of these do not dominate or cause major problems. Many of the weeds are associated with surrounding cleared land or with past land use. Thirteen major weed species have been identified (appendix 3), and these are regularly controlled. Serrated Tussock presents a significant risk to park values and will be given high priority for control works.

Pest animals

Over 20 introduced animal species occur in the Park, but populations are generally low and of limited concern, both for the ecology of the Park and for adjoining landholders. Foxes are listed as a Potentially Threatening Process under the Flora and Fauna Guarantee Act, and the associated Action Statement prescribes the management of this species.

Regular control is undertaken of rabbit, fox, goat and feral cat populations.

Most problems are associated with park boundaries, and are best dealt with in co-operation with adjoining landholders.

Diseases

One of the notable management problems of the Brisbane Ranges is the widespread presence of Cinnamon Fungus (figure 4). Cinnamon Fungus is an introduced microscopic pathogenic fungus which attacks the roots of susceptible plants. In many cases infection by Cinnamon Fungus results in the death of the plant. Not all plants are susceptible; grasses and sedges are quite tolerant. Susceptible plants include Stringybark Eucalypts, Grass-trees, peas, and most species of the family Proteaceae. Mass death of some species, such as Grass-trees, can result in major changes to the landscape and species composition of a site.

The disease poses a threat to rare and threatened plant species in the Park (section 3.2). Areas disturbed as a result of the disease may be further threatened by weed invasion and soil erosion. Indirect effects include the reduction of food or shelter for wildlife such as the Brown Antechinus (Newell & Wilson 1993).

Cinnamon Fungus spreads either by zoospores migrating through soil moisture, or by transport of infected soil from one site to another, often through human activities. Much of the spread of Cinnamon Fungus in the Park (figure 4) is attributable to the movement of infected gravel.

The use of Cinnamon Fungus-infected gravel in the construction of roads, bridges and reservoirs is listed under Schedule 3 of the Flora and Fauna Guarantee Act as a Potentially Threatening Process. An Action Statement for the management of this Threatening Process has not yet been developed.

The disease can be temporarily controlled by sterilisation of the soil, but this is not feasible over large areas such as the Brisbane Ranges. Phosphonate spray has been trialed and is considered effective for the protection of rare and threatened plants (Peters 1994). The most appropriate method of control, however, is to limit the spread of the disease and to avoid long distance transport of the spores by human activities. This can be achieved by quarantining uninfected areas, and preventing vehicle access and soil disturbance, or by fumigating earthmoving equipment before leaving infected sites.

These requirements will have impacts on a wide variety of activities in the Park, and will form the basis for prohibiting or restricting some activities

Research programs into Cinnamon Fungus in the Park are giving valuable insights into the biology and ecology of this significant disease.

Aims

- Control, and where possible eradicate, pest plant species.
- Control, and where possible eradicate, pest animals in the Park.
- Minimise any adverse affects on park values from control activities.
- Minimise the spread of Cinnamon Fungus by natural processes, and avoid the transport of infected soil by human activities.
- Carry out a cat trapping program around the picnic and camping areas in the Park.
- Co-ordinate control programs for pest plants and animals and diseases with local government and neighbouring landholders (section 6.2).
- Minimise the risk of spread of Cinnamon Fungus by practising hygiene strategies in accordance with park guidelines and Peters (1995).

Management strategies

- *Prepare a pest plant and animal control strategy in accordance with Parks Victoria guidelines that addresses priorities for funding, control techniques and monitoring.*
- *Control and monitor new occurrences of pest plants before they have an opportunity to establish.*
- *Control and monitor the major pest plant species (appendix 3) and give priority to control activities in the Special Protection Area and the Conservation Zone.*
- *Control Serrated Tussock in accordance with 'A Strategy for the Management of Serrated Tussock in Victoria' (Aberdeen 1995).*
- *Manage and control threatening processes in line with approved action statements prepared under the Flora and Fauna Guarantee Act.*
- *Use Phosphonate spray to assist in the protection of rare or threatened species and communities that are susceptible to Cinnamon Fungus.*
- *Continue to monitor the effects of Cinnamon Fungus, and develop a computer-based site register to map its spread.*
- *Conduct Cinnamon Fungus surveys before and after fuel reduction burns, and restrict fire control lines to existing roads and tracks.*
- *Continue research into the biology, ecology and control of Cinnamon Fungus.*
- *Minimise or avoid the introduction and spread of pest plants and diseases by minimising soil disturbance during wildfire suppression, road maintenance and facility development works, in accordance with Parks Victoria guidelines.*
- *Monitor the spread of pest plant and animal species, and the effectiveness of all control works, in line with the Pest Management Information System (PMIS).*

5 THE PARK VISIT

5.1 The Park visitor

Brisbane Ranges National Park offers visitors a range of recreation opportunities in an area noted for scenic drives, nature walking, wildflowers and bird studies.

The Park has about 100 000 visitors annually. It is predicted that this number will increase with the growth of major population centres in the region. Autumn is the most popular season, and on Sundays, particularly in Autumn, facilities at the major picnic areas are generally used to capacity.

Visitors are generally in family groups from Geelong and the western suburbs of Melbourne. These visitors focus on the Anakie Gorge and Stony Creek picnic areas, which have easily accessible and high quality facilities.

Providing for the visitor

Visitor services will highlight the Park's conservation values and cater for family and other small groups. Although no new picnic or camping areas will be developed, existing picnic facilities will be enhanced, and a new camping area to be established within the adjacent Steiglitz Historic Park will also cater for visitors to Brisbane Ranges National Park.

Aims

- Provide for visitors in accordance with the above overview.
- Provide opportunities and quality facilities and services for the use and enjoyment of the Park in a tranquil natural setting.

Management strategies

- *Permit recreational activities in accordance with table 2.*
- *Provide and maintain facilities and services that highlight, but are in keeping with, the area's distinctive character (section 5.2, and tables 3 and 4).*
- *Introduce visitors to the opportunities available throughout the Park through the*

provision of information shelters at Anakie Gorge and Stony Creek picnic areas and Boar Gully camping area.

- *Establish a program to determine appropriate levels of recreational activity consistent with protecting recreational experiences and park values.*
- *Apply current market survey findings on visitor profiles, patterns of behaviour, expectations and preferences to assist in park management.*
- *Encourage all visitors to adopt minimal impact techniques and to adhere to codes of conduct appropriate to their activity.*
- *Monitor visitor numbers and use to ensure the adequate provision of facilities consistent with appropriate types and levels of use.*

5.2 Visitor recreation activities and facilities

Brisbane Ranges National Park provides for a range of recreational activities (table 2). The rugged terrain and the presence of Cinnamon Fungus mean that the Park is unsuited to activities requiring off-track access, but all of these are catered for in other public land in the region (figure 1 and section 1.2).

Steiglitz Historic Park, managed jointly with the National Park, provides facilities for large numbers of visitors, and opportunities and experiences that complement those offered by the Park.

5.2.1 Vehicle access

Access to the Park from surrounding areas is excellent, bitumen roads from Geelong, Bacchus Marsh, Werribee and Meredith leading to the main visitor nodes. The Park has an extensive internal network of roads. Bitumen, gravel and 4WD tracks give access to all areas.

TABLE 2 SUMMARY OF RECREATION ACTIVITIES

ACTIVITY	ZONES	
	CONSERVATION	CONSERVATION & RECREATION
Picnicking	Yes	Yes
Camping — designated sites with facilities	No	Yes
Camping — dispersed (no facilities)	No	No
Pleasure driving	YC	YC
4WD touring	YC	YC
Walking — on designated walking tracks and specified MVO tracks (table 3)	Yes	Yes
Horse riding — on roads open to public vehicles	Yes	Yes
Bicycle riding — on roads open to public vehicles	Yes	Yes
Rock climbing/Abseiling	No	Yes
Firewood collection	No	No
Fishing	N/A	N/A
O*rienteering/Rogaining	No	No
Fossicking	No	No
Hunting	No	No
Car rallies	No	No
Dogs	No	No

Yes - Permitted

No - Not appropriate

YC - Conditional - refer to relevant section

N/A - Not applicable

*

The Mt Wallace–Bacchus Marsh, Butcher and Durdidwarrah Roads, which traverse the Park (figure 2), are managed by local government (section 7.2).

The presence of Cinnamon Fungus throughout the Park has meant that public vehicle access is restricted to the main through roads, and management tracks are therefore maintained for fire and other emergency access only.

The road network is maintained regularly, and care must be taken to ensure that Cinnamon Fungus is not spread by earth moving equipment.

Aims

- Provide and maintain an appropriate access network for visitor use and management purposes.
- Minimise the impact of vehicle use and track management on park values.

Management strategies

- *Maintain all access in the Park designated as 'Road' on figure 2 for public access. Maintain all access in the Park, designated as 'Track' on figure 2, for management and emergency vehicles only, except as specified in table 3 and figure 2.*

- *Modify the management of designated park tracks in accordance with table 3 and figure 2.*
- *Reduce the risk of spreading Cinnamon Fungus by implementing hygiene strategies in all road maintenance works in accordance with park guidelines and Peters (1995).*
- *Ensure that all imported roadmaking material is free of Cinnamon Fungus.*

5.2.2 Picnicking

Picnicking is the most popular form of recreation in the Park. Facilities are provided at six locations as shown in table 4 and figure 2. Anakie Gorge and Stony Creek are the most popular picnic areas, and facilities there are frequently fully occupied on Sundays, particularly in autumn.

Picnic areas are also provided in Steiglitz Historic Park, including an additional picnic area which is soon to be developed adjacent to Sutherlands Creek.

The popularity of the Park has placed high demands on the supply of firewood, particularly in and around Anakie Gorge and Stony Creek. One gas barbecue has been built (donated by the Friends of the Brisbane Ranges) at the Anakie Gorge Picnic Area, and is proving to be successful. It is intended to place additional gas barbecues at the main picnic areas and to reduce the number of wood barbecues.

There are opportunities for informal dispersed picnicking without facilities throughout the Park, particularly on access tracks adjacent to the main roads.

Aims

- Improve and maintain picnic facilities to a high standard.
- Encourage more dispersed picnicking in appropriate areas throughout the Park.

Management strategies

- *Allow campfires only in fireplaces provided and do not allow firewood collection in the Park.*
- *Install additional gas barbecues at the Anakie Gorge, Stony Creek and Fridays Picnic Areas, and Boar Gully Camping Area, and remove wood barbecues/fireplaces at that time.*
- *Encourage visitors to supply their own firewood until the proposed gas barbecues are installed.*
- *Assess the adequacy of existing toilets and other facilities, and the need for additional facilities at all picnic areas.*

5.2.3 Camping

The Park offers a variety of bush camping opportunities. Seven car-based camping sites are provided in the north of the Park at Boar Gully camping area (figure 2). A fee is charged for the use of this camping area.

There is a high demand for camping; some 1300 people per year use the Boar Gully site. The popularity of camping has degraded the site. Development of the proposed camping area in Steiglitz Historic Park is expected to reduce this pressure (NPS 1996). Camping is also available in the other public land areas in the region (figure 1).

Walk-in camping, catering for up to 12 people, is provided at Little River and the Old Mill Walk-in Camping Areas (figure 2), as part of the three-day walk through the Park.

Campfires are dealt with in section 5.2.2.

Aim

- Maintain the current high standard of facilities, and capacity for car-based and walk-in camping.

Management strategies

- *Maintain the car-based camping facilities and current capacity at Boar Gully Camping Area.*

TABLE 3 MODIFICATIONS TO MANAGEMENT OF TRACKS

ROAD OR TRACK	FUTURE MANAGEMENT/COMMENTS	CLASS	STATUS	
			EXISTING	PROPOSED
Aspera Track	Not required for management. Close and revegetate.	3	MVO	C
Block Track	Close to minimise spread of Cinnamon Fungus. Establish a formal agreement with the affected landholder. Provides access to inlying private property.	3	O	MVO/P
Boundary Track	Close to minimise spread of Cinnamon Fungus. Poor surface.	3	O	MVO
Bracken, Join, Century and Elsie Reef Tracks	Rationalise to one track.	3	O	MVO
Brisbane Track	The Track is outside the Park boundary in two places. Establish a formal agreement with the affected landholder.	3	MVO	MVO
Circuit Track (west of Spectral Track)	Close to walkers.	3	MVO	MVO, NW
Circuit Track (east of Spectral Track only)	Not required for management. Close to quarantine healthy vegetation from the spread of Cinnamon Fungus.	3	MVO	C
Corner Track	Close to minimise spread of Cinnamon Fungus.	3	O	MVO
Correa Track	Close to walkers to minimise the spread of Cinnamon Fungus. Investigate requirement for fire management. Close if not required.	3	MVO	MVO, NW
Grass Tree Track	Close to minimise spread of Cinnamon Fungus. Poor surface.	3	O	MVO
Heath Track	Required for access. Extend south to Park boundary.	3	MVO	MVO
Kangaroo Track (part)	Close to minimise spread of Cinnamon Fungus.	3	O/MVO	MVO
McLean Highway	Road outside the Park boundary at Little River and Staughton Vale. Establish formal agreements with affected landholders.	2	O	O
Native Youth Track	Poor creek crossing. Close to minimise spread of Cinnamon Fungus	3	O	MVO

Table 3 (cont.)

ROAD OR TRACK	FUTURE MANAGEMENT/COMMENTS	CLASS	STATUS	
			EXISTING	PROPOSED
Old Thompson Track (between Open Tk and Thompsons Rd)	Runs parallel to Thompsons Road. Close to vehicles but leave open for walking, horse riding and bicycle riding (sections 5.2.5 & 5.2.6).	2	O	R
Sailors Track	Vehicle access not required for management. Manage as walking track.	3	MVO	W
Slate Track	Vehicle access not required for management. Manage as walking track.	3	MVO	W
Spectral Track (south of Circuit Track)	Close to walkers.	3	MVO	MVO NW
Spectral Track (north of Circuit Track only)	Not required for management. Close and revegetate.	3	MVO	C
Spike Track	Close to walkers to minimise the spread of Cinnamon Fungus. Investigate requirements for fire management. Close if not required.	3	MVO	MVO NW
Stony Rise	Close to walkers to minimise the spread of Cinnamon Fungus. Investigate requirement for fire management. Close if not required.	3	MVO	MVO NW
Swamp Track	Vehicle access not required. Manage as a walking track.	3	O	W
West Track	Close to minimise the spread of Cinnamon Fungus.	3	O	MVO

CLASS

1	All vehicle — all weather
2	All vehicle — dry weather only
3	4WD — dry weather only

STATUS

MVO	Management vehicles only
O	Open to public vehicles
C	Closed to all vehicles and walkers
R	Walkers, cyclists and horse riders only
P	Private property access
W	Walkers only
NW	No walkers

TABLE 4 PICNIC AND CAMPING FACILITIES

SITE	CAPACITY	BARBECUES	TOILETS
Anakie Gorge Picnic Area	35 cars	Wood ¹ & Gas	Yes
Fridays Picnic Area	8 cars	Wood	Yes
Grahams Creek Picnic Area	5 cars	Wood	No
Little River Picnic Area	4 cars	Wood	Yes
Sapling Gully Picnic Area	3 cars	Wood	No
Stony Creek Picnic Area	35 cars	Wood ¹	Yes
Boar Gully Camping Area	7 sites	Wood ¹	Yes
Little River Walk-in Camping Area	1 site	Wood	No ²
Old Mill Walk-in Camping Area	1 site	Wood	Yes

¹ To be removed when additional gas barbecues are installed (section 5.2.2).

² Toilets available in adjacent picnic area.

- *Continue to collect fees for car-based camping in the Park.*
- *Assess the location and number of walk-in campsites with the view to providing additional sites if demand warrants.*
- *Maintain the current camping permit system to regulate the use of the three-day walk to a maximum of 12 campers at any one campsite.*
- *Inform visitors of other camping opportunities within the region.*

5.2.4 Walking

A variety of walking experiences is available, from short easy walks to the more rugged three-day walk from Boar Gully Camping Area to Steiglitz township. The three-day walk is staged to allow for camping at Little River and the Old Mill (figure 2). The popularity of this walk indicates that numbers using the track need to be regulated to preserve the recreational experience and the condition of the track (section 5.2.3).

There is potential to set up additional day return walks from picnic areas using sections of the three-day walk and management tracks.

Most of the walking in the Park is fairly rugged and requires a degree of fitness. To extend the range of walking opportunities, the Anakie Gorge walking track is currently being redeveloped with a surface and gradient suitable for all users, including visitors with limited mobility.

Walkers may spread Cinnamon Fungus in mud attached to their boots. To protect uninfested high risk sites within the Conservation Zone and to protect rare or threatened flora within the Special Protection Area (figure 5) from further spread of Cinnamon Fungus, access will be restricted, or tracks relocated or hard surfaced, and carefully drained.

Aims

- Provide opportunities for walking without compromising other park management objectives.
- Minimise any environmental impacts caused by walking.

Management strategies

- *Allow walking only on existing public vehicle and walking tracks, and management vehicle only tracks, as specified in table 3, to protect sites that are*

uninfested but at high risk of invasion by Cinnamon Fungus.

- *Maintain the current walking tracks at, as a minimum, Category C standard and in a condition that will minimise the spread of Cinnamon Fungus.*
- *Continue to upgrade the Anakie Gorge walking track to A2 standard suitable for visitors with limited mobility.*
- *Close Stony Rise, Spike, Correa, Circuit, Spectral, and Aspera management vehicle tracks to walkers (table 3).*
- *Extend the range and number of return-loop walking tracks from picnic and camping areas. Ensure that all new walking tracks are along existing management vehicle only tracks, or in sites uninfested by and at low risk from Cinnamon Fungus (figure 4).*
- *Relocate the overnight walking track (figure 2) within the Special Protection Area near Steiglitz (figure 5) to within the gully and alongside Sutherlands Creek.*
- *Investigate the need to relocate sections of the overnight walking track between Banksia and Back tracks to Lease Road and Hazel Track.*
- *Install a boardwalk from the Park boundary corner to Nelsons Lookout, and harden the surface and carefully drain the walking track from Anakie Gorge to Switch Road.*
- *Investigate the need to close management vehicle tracks north and west of Loop Track to access by walkers.*
- *Promote minimal impact walking codes e.g. in park information and interpretation material.*
- *Survey walker satisfaction and attitudes.*

5.2.5 Horse riding

Various styles and levels of horse riding are conducted at many locations throughout the region, and it is a current low-level but increasing use within the Park. Roads in the western section of the Park such as Durdidwarrah, Lease, Grahams Creek, Yankee Gully and Saw Pit Gully Roads provide good opportunities for horse riding but are currently little used.

The risk of spreading Cinnamon Fungus, introducing weeds and damaging soils and native vegetation needs to be minimised and, therefore, access by horses needs to be controlled.

Aims

- Provide opportunities for horse riding without compromising other park management objectives.
- Minimise any environmental impacts caused by horse riding.

Management strategies

- *Liaise with Local Government agencies and horse riding clubs to develop a co-ordinated regional approach to horse riding.*
- *Permit horse riding on roads open to public vehicles but not on management vehicle only tracks or walking tracks.*
- *Permit horse riding on Old Thompsons Track for a trial period of two years with conditions developed in consultation with horse riding clubs.*
- *Provide information (including a map) on suitable areas for horse riding.*
- *Monitor the impact of horses on track surface condition and vegetation, including weed introduction.*
- *Prohibit camping with, and the grazing and feeding of, horses within the Park.*

5.2.6 Bicycle riding

Bicycles are currently ridden in the Park on roads and tracks open to public vehicles. Cycling has a low level of use in the Park but is gaining in popularity.

The risk of spreading Cinnamon Fungus, damaging soils and native vegetation and conflicting with other users needs to be minimised and, therefore, access for bicycles needs to be controlled.

Aims

- Provide access for bicycle riding while minimising environmental damage and conflicts with other recreation activities.
- Minimise any environmental impacts caused by bicycle riding.

Management strategies

- *Permit bicycle riding on roads open to public vehicles but not on management vehicle only tracks or walking tracks.*
- *Permit bicycle riding on Old Thompsons Track for a trial period of two years with conditions developed in consultation with bicycle riding clubs.*
- *Encourage use of the Mountain Bike Code.*

5.2.7 Rock climbing

Rock climbing and abseiling are conducted at the Staughton Vale cliff face (figure 2). Both commercial and private groups use the cliff face regularly, and areas at the top and base are becoming eroded and degraded. The current high usage of this site needs to be regulated to limit the degradation of the site and preserve the recreational experience.

Peregrine Falcons have used the cliff face as a breeding site for many years. Disturbance at critical stages of the breeding cycle may cause the birds to abandon the nest, resulting in the death of the young. Currently, the cliff face is closed to climbers during the breeding season.

Aims

- Preserve the recreational quality of the rock climbing experience at the Staughton Vale cliff site.
- Protect the breeding sites of Peregrine Falcons.
- Prevent further erosion and degradation of the Staughton Vale cliff site.

Management strategies

- *Implement a permit system to educate and regulate rock climbers.*
- *Continue to close the cliff face to rock climbing, and other use, during the critical periods of the Peregrine Falcon breeding cycle.*
- *Define access areas at the cliff top and base, and revegetate degraded areas.*
- *Monitor environmental impacts over time by establishing a series of fixed photo points, and control impacts through site hardening where appropriate.*
- *Encourage user groups, in association with the Victorian Climbing Club, to carry out restoration works.*

5.3 Visitor information and interpretation

To enable visitors to have the best possible experiences in the Park, information and interpretation need to be presented in a co-ordinated and cohesive manner. This will be facilitated through the production of an Interpretation Plan for the Park.

Information is currently provided at the main picnic areas, and a self-guided nature walk has been set up in Anakie Gorge. Introductory information about the Park is also available at tourist information centres in the region. However, there is a need to better inform passing visitors of the Park's attractions and facilities. Information signs at strategic locations adjacent to the main thoroughfares will assist in orienting visitors and providing park information.

There are opportunities to extend the range of self-guided walks, and to further develop interpretative themes related to natural history, mining history, and the effects of Cinnamon Fungus on the ecology of the Park.

Aims

- Promote the image of the Park as an area of high conservation significance.
- Enhance visitors' enjoyment and understanding of the Parks' values.
- Orientate visitors to the Park and its features.

Management strategies

- *Develop an Interpretation Plan for the Park with themes and recommendations including:*
 - *the high conservation values of the Park;*
 - *gold mining history;*
 - *Cinnamon Fungus and its implications for visitors;*
 - *promotional links with other nearby tourist attractions.*
- *Provide adequate safety messages and visitor orientation information indicating the range of picnic opportunities available at other locations in the Park and in Steiglitz Historic Park at:*
 - *Anakie Gorge and Stony Creek picnic areas;*
 - *Boar Gully camping area;*
 - *the intersection of Geelong – Ballan/Butchers Road;*
 - *the intersection of Geelong – Ballan/Durridwarrah Road;*
 - *the intersection of Thompson/Mt Wallace – Bacchus Marsh Road.*
- *Through signage and park information, encourage visitors to use less frequented picnic areas, such as Grahams Creek and Sapling Gully.*
- *Establish and implement monitoring and maintenance schedules for all interpretative facilities.*

- *Provide interpretation activities at peak visitor times.*
- *Regularly evaluate information and interpretation programs related to the Park.*

5.4 Commercial tourism operations

There are 20 commercial tour companies operating in the Park at present. A permit is required to conduct commercial tours in the Park. The monitoring and regulation of commercial tours need to be maintained and improved.

It is anticipated that with the increasing popularity of nature-based tourism, commercial tourism in the Park will increase. Park managers must be equipped to deal with this anticipated increase in demand, and be able to regulate commercial operations if and when they are in conflict with park values.

Aim

- Encourage commercial tourism in the Park where it does not conflict with park values.

Management strategies

- *Require all commercial tour operators to be licensed, and accredited by a recognised industry body, and to have undertaken some formal training relevant to operating tours in parks.*
- *Work with commercial tour operators to provide services, facilities and information for visitors and to protect park values.*
- *Educate commercial tour operators about appropriate practices and guidelines to minimise the spread of Cinnamon Fungus.*
- *Continue to assess and review applications from commercial tour operators to use the Park in line with management objectives.*
- *Regularly monitor and assess commercial tours against permit conditions, and record data on visitor numbers and sites visited.*

- *Monitor the impact of commercial tourism on park values, and where appropriate redirect activity, or restrict access and visitor numbers if necessary.*
- *Liaise with State and local tourism bodies to ensure co-ordination with tourism initiatives in the region.*

5.5 Public safety

The safety of visitors to the Park is a consideration in all aspects of management. There are always some risks involved with entering bushland areas, but they can be minimised through specific management actions, including the maintenance of facilities to a high standard, continued fire protection measures, and continuation of an ongoing risk management program that removes identified hazards in areas where visitors congregate. Emergency contact information will be included in park information.

Aim

- Provide safe and enjoyable venues for park visitors.

Management strategies

- *Develop a risk management program for the Park.*
- *Identify, record and remove hazards in the main visitor nodes in line with Parks Victoria guidelines.*
- *Undertake fire protection measures as specified in section 4.1.*
- *Direct visitor activity away from potentially dangerous locations such as mine shafts.*
- *Include emergency contacts on information boards within the Park, and relevant publications.*

6 COMMUNITY AWARENESS AND INVOLVEMENT

6.1 Friends and volunteers

The Friends of Brisbane Ranges, field naturalists, local bird observers and other interested groups make valuable contributions to many park management projects. The Friends group in particular has contributed to many aspects of the Park, from active involvement in works programs to the donation of a gas barbecue at Anakie Gorge picnic area.

Aim

- Assist volunteer groups to undertake appropriate management tasks in the Park.

Management strategies

- *Continue to support the Friends of Brisbane Ranges National Park and Anakie Tree Group.*
- *Develop a long-term volunteer strategy that incorporates the skills and interests of volunteer groups in park management activities, e.g. a volunteer guides program.*

6.2 Community awareness and Park neighbours

The Park is surrounded by a mixture of farms, residential land and land managed by Barwon Water (figure 3). Many of these surrounding properties retain areas of natural bushland which complement and add to the conservation status of the Park. Community groups such as the Anakie Tree Group are actively involved with the Park in the development of wildlife corridors and the promotion of native vegetation in the wider area.

Parks Victoria and the Park's neighbours have a mutual interest in many management issues such as fire management and pest plant and animal control. Parks Victoria will also encourage and promote awareness in the wider community of PV practices and park values.

Aims

- Increase public awareness of management activities including fuel reduction burning, pest plant and animal and disease control, and the conservation of threatened species.
- Encourage conservation and sound land management practices on private land adjoining the Park.

Management strategies

- *Maintain liaison with local community groups and land owners to address issues that may affect the Park or adjoining land.*
- *Apply, and encourage the application of, the Good Neighbour Program to management issues on or near the boundary of the Park.*

6.3 Schools education

School groups use the Park for activities ranging from nature walks to rock climbing. The main role of the Park is in educational activities where the focus is on ecology and management issues.

Facilities around the Park catering for educational groups include the Staughton Vale and Steiglitz School Camps, and privately owned and operated camps. These camps provide educational and adventure activities which augment the park experience.

The Park has only a limited capacity to support adventure activities, some of which can be better accommodated in the nearby parks and State forests.

Aim

- Encourage the use of the Park as an educational resource.

Management strategies

- *Provide a range of interpretation services to school groups.*

- *Encourage large school groups to use the nearby You Yangs Regional Park, Meredith Education Area, and Bamganie and Meredith State Forests (figure 1) for adventure activities.*
- *Assist school groups in planning educational activities within the Park, and the wider region.*

7 OTHER ISSUES

7.1 Authorised uses

7.1.1 Apiculture

Apiculture has been a traditional use in the Park and there are six apiary sites, five of which may be occupied at any one time (figure 3). Some of these sites are poorly located, or are in conflict with the proposed management zone designations.

Aim

- Allow continuation of apiculture while minimising the effect on park values.

Management strategies

- *Continue to allow apiculture in accordance with Parks Victoria guidelines.*
- *Continue to permit six sites, with a maximum of five to be occupied at any one time.*
- *Relocate sites as appropriate in consultation with the Victorian Apiarists Association (VAA) and under the following guidelines:*
 - *restrict sites to the Conservation and Recreation Zone;*
 - *locate sites on or close to the Park boundary;*
 - *locate sites where there is suitable year-round access.*

7.1.2 Water production

The Park is adjacent to the water production areas of Durdidwarrah and Lower Stony Creek, both of which are managed by Barwon Water. A pipeline from the Lower Stony Creek Reservoir runs through Anakie Gorge and requires regular checking and maintenance. Access is therefore a major concern as the track, which was designed for walkers only, limits access for management vehicles.

Aim

- Ensure that water production activity does not affect park values.

Management strategies

- *Issue Section 27 consents to Barwon Water for the pipelines in the Park.*
- *Continue to allow access to the Anakie Gorge pipeline, either on foot or by suitable vehicle.*

7.2 Boundaries and adjacent uses

Brisbane Ranges National Park has a very long (approximately 120 km) and contorted boundary and a very high boundary-to-area ratio. As a result, many of the Park's management problems are related either directly or indirectly to boundary issues.

The Park adjoins Steiglitz Historic Park. The two Parks are managed by PV and complement each other to offer a broad range of visitor experiences.

The remainder of the adjoining land is residential and farming or managed by Barwon Water.

There is concern that threats to the ecological processes and landscape values of the Park may originate from development, subdivisions and land use practices on adjoining land.

There is informal access through the Park to private enclave allotments (figure 3), two of which contain residences.

In addition five management vehicle only tracks (Kangaroo, Open, Pine, Stable and Gate Tracks) currently give temporary access to adjoining private land (figure 2) until the Shire provides proper legal access.

Mainly because of the terrain, some park roads and tracks are partially located on private land outside the Park boundary.

Other boundary issues to be considered are:

- Mount Wallace – Bacchus Marsh Road and Durdidwarrah Road are Shire roads but are not fully located in road easements;
- the Park boundary alignment is not correctly defined.

Aims

- Integrate planning and management between Brisbane Ranges National Park and Steiglitz Historic Park.
- Minimise conflicts between park values and adjoining land.
- Consolidate the Park boundary and eliminate any anomalies through correction or agreements.

Management strategies

- *Liaise with the City of Greater Geelong, and the Moorabool and Golden Plains Shires to ensure that legislation and planning controls for adjacent freehold land complement the management of the Park.*
- *Encourage adjacent and enclave landholders to retain native vegetation and place covenants on land with conservation values.*

- *Investigate the need to provide formal access through the Park to private enclaves.*
- *Consider the purchase of private enclaves when and if available for purchase, where they would be valuable additions to the Park.*
- *Liaise with the appropriate Shires to provide proper legal access to adjacent landholders who are currently using park tracks as temporary access.*
- *Retain the Mount Wallace – Bacchus Marsh Road on Crown land, and negotiate an agreement with the Shire regarding road maintenance.*
- *Where possible, realign park tracks that are outside the boundary; reach formal agreements with the affected land-holder to permit continued access for PV management.*
- *Consult with the appropriate Shires for the incorporation of all unused road easements surrounded by Park into the Park.*

8 IMPLEMENTATION

A three-year rolling implementation program will be prepared for the Park to ensure efficient implementation of this Plan. Priorities for management are identified in table 5 as an initial step in this process.

TABLE 5 PRIORITY MANAGEMENT STRATEGIES

MANAGEMENT STRATEGY	SECTION IN PLAN
Resource conservation	
Determine appropriate fire regimes for the conservation of flora and fauna.	4.1
Implement action statements for Flora and Fauna Guarantee listed species.	3.2, 3.3
Park protection	
Develop an ecologically-based fire management plan for the Park.	4.1
Prepare a pest plant and animal control strategy.	4.2
Implement Cinnamon Fungus control.	4.2
Undertake fire protection works.	4.1
The Park visit	
Develop an Interpretation Plan for the Park.	5.3
Provide park information at the major visitor areas.	5.3
Maintain the walking track network to minimise the risk of spreading Cinnamon Fungus.	5.2.4
Enhance walking opportunities from picnic areas.	5.2.4
Encourage visitors to adopt minimal impact techniques and codes.	5.1
Other issues	
Relocate apiary sites in consultation with the VAA	7.1.1
Rectify Park boundary anomalies.	7.2
Issue Section 27 consents with Barwon Water for the pipelines.	7.1.2
Monitoring and research	
Monitor and map Cinnamon Fungus.	4.2
Record and monitor threatened species.	3.2, 3.3
Record and monitor Aboriginal and European cultural sites.	3.5
Encourage research on and monitor the ecological effects of fire.	3.2, 4.1
Monitor visitor numbers and use.	5.1

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APPENDIX 1 THREATENED FLORA SPECIES

SCIENTIFIC NAME	COMMON NAME	STATUS
<i>Acrotriche cordata</i>	Coast Ground-berry	r
<i>Cymbonotus lawsonianus</i>	Bear's-ears	r
<i>Eucalyptus yarraensis</i>	Yarra Gum	Rr
<i>Glycine latrobeana</i>	Clover Glycine	Vv*
<i>Grevillea steiglitziana</i>	Brisbane Range Grevillea	Rr
<i>Olearia pannosa</i> ssp. <i>cardiophylla</i>	Velvet Daisy-bush	Rv*
<i>Poranthera corymbosa</i>	Clustered Poranthera	r
<i>Prostanthera decussata</i>	Dense Mint-bush	r
<i>Pseudanthus divaricatissimus</i>	Tangled Pseudanthus	Rr
<i>Pterostylis truncata</i>	Brittle Greenhood	e* ⁺
<i>Pultenaea graveolens</i>	Scented Bush-pea	v*
<i>Rhagodia parabolica</i>	Fragrant Saltbush	r
<i>Stipa breviglumis</i>	Cane Spear-grass	Rr
<i>Thelymitra circumsepta</i>	Naked Sun-orchid	v
<i>Thelymitra X macmillanii</i>	Crimson Sun-orchid	r

Source: Brisbane Ranges Plant List 1992 Revision.

Status (NRE database 1996b):

e - endangered in Victoria.

r - rare in Victoria.

R - rare in Australia.

v - vulnerable in Victoria

V - vulnerable in Australia

* listed under the Flora and Fauna Guarantee Act

⁺ Action Statement prepared under the Flora and Fauna Guarantee Act

APPENDIX 2 OTHER SIGNIFICANT FLORA SPECIES

SCIENTIFIC NAME	COMMON NAME	MAIN DISTRIBUTION / STATUS
<i>Asperula subsimplex</i>	Water Woodruff	Category 2
<i>Chorizandra australis</i>	Southern Bristle-sedge	Category 3
<i>Cyathea australis</i>	Rough Tree-fern	Highland fern gullies
<i>Danthonia penicillata</i>	Slender Wallaby-grass	Highland forest
<i>Dicksonia antarctica</i>	Soft Tree-fern	Highland fern gullies
<i>Grevillea chrysophaea</i>	Golden Grevillea	Gippsland
<i>Grevillea rosmarinifolia</i> — narrow leaf form formerly known as <i>G. glabella</i>	Grevillea	Category 3
<i>Isolepis producta</i>	Nutty Club-sedge	Category 3
<i>Lepidium pseudotasmanicum</i>	Shade Pepper-cress	Category 3
<i>Pomax umbellata</i>	Pomax	East & North-east Victoria
<i>Pteris tremula</i>	Tender Brake	Highland fern gullies

Source: NPS (1981); Beaglehole (1983).

Status:

Beaglehole's categories of significance

Category 2 - Species endangered, vulnerable, very rare, or extremely localised.

Category 3 - Species rare, very localised, or grossly depleted.

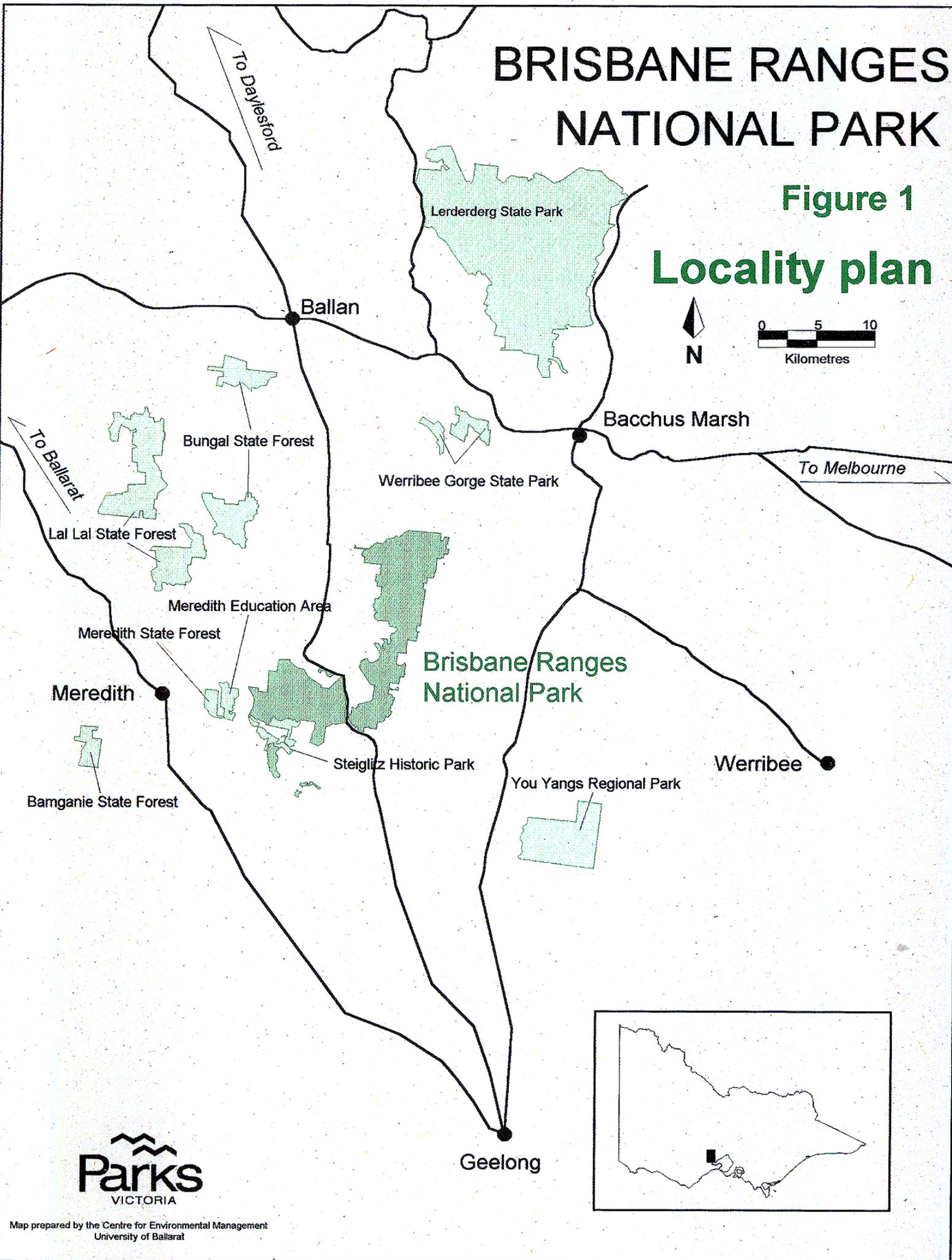
APPENDIX 3 MAJOR WEEDS SPECIES

SCIENTIFIC NAME	COMMON NAME
<i>Euphorbia lathyris</i>	Caper Spurge
<i>Foeniculum vulgare</i>	Fennel
<i>Kunai ambigua</i>	White Kunai
<i>Marrubium vulgare</i>	Horehound
<i>Melianthus comosus</i>	Tufted Honey-flower
<i>Myrsiphyllum asparagoides</i>	Bridal Creeper
<i>Nassella trichotoma</i>	Serrated Tussock
<i>Opuntia</i> spp.	Prickly Pear
<i>Pinus</i> spp.	Pine trees
<i>Rubus</i> spp.	Blackberry
<i>Ulex europaeus</i>	Gorse
<i>Verbascum virgatum</i>	Twiggy Mullein
<i>Vinca major</i>	Blue Periwinkle

BRISBANE RANGES NATIONAL PARK

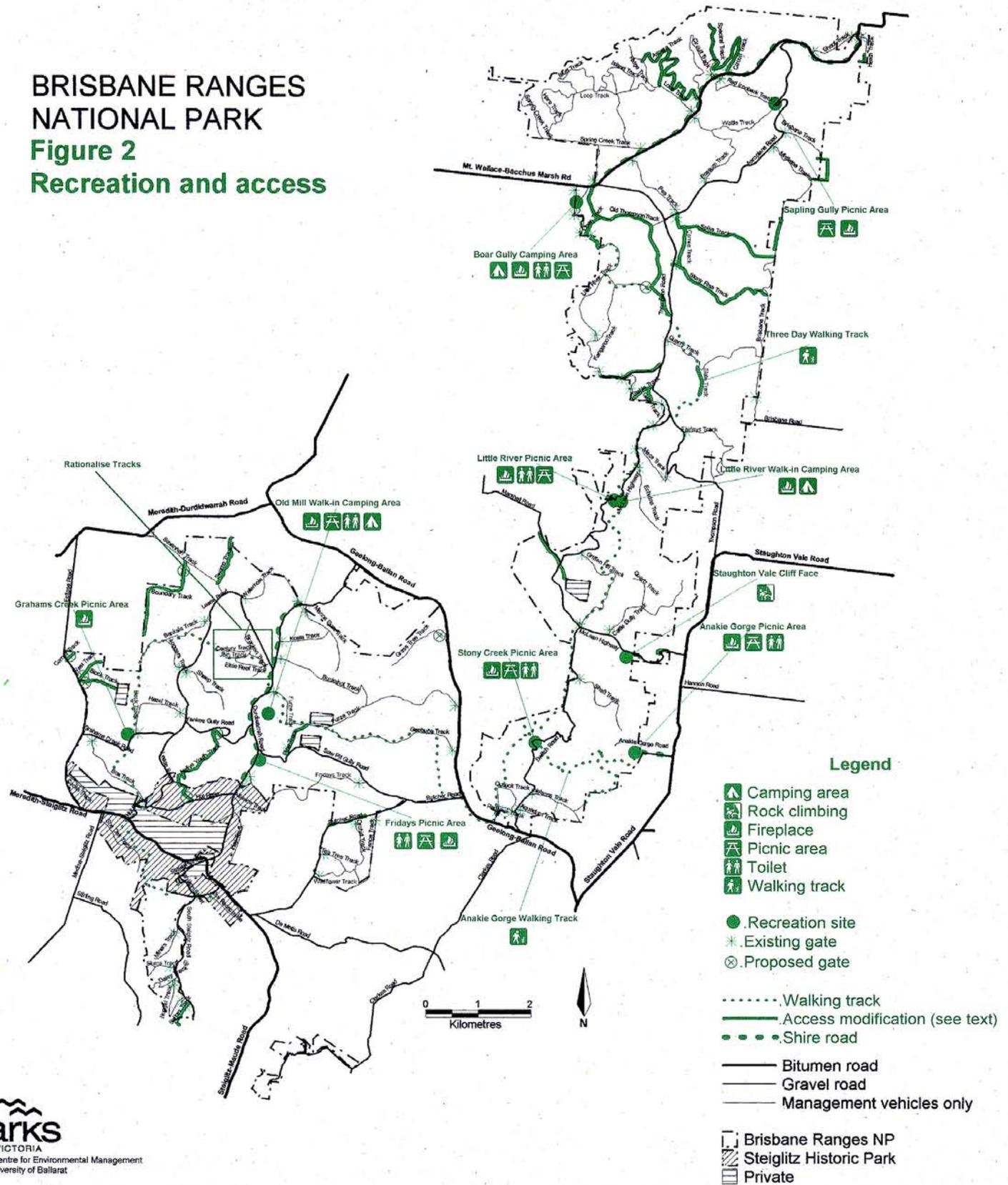
Figure 1

Locality plan



BRISBANE RANGES NATIONAL PARK

Figure 2 Recreation and access

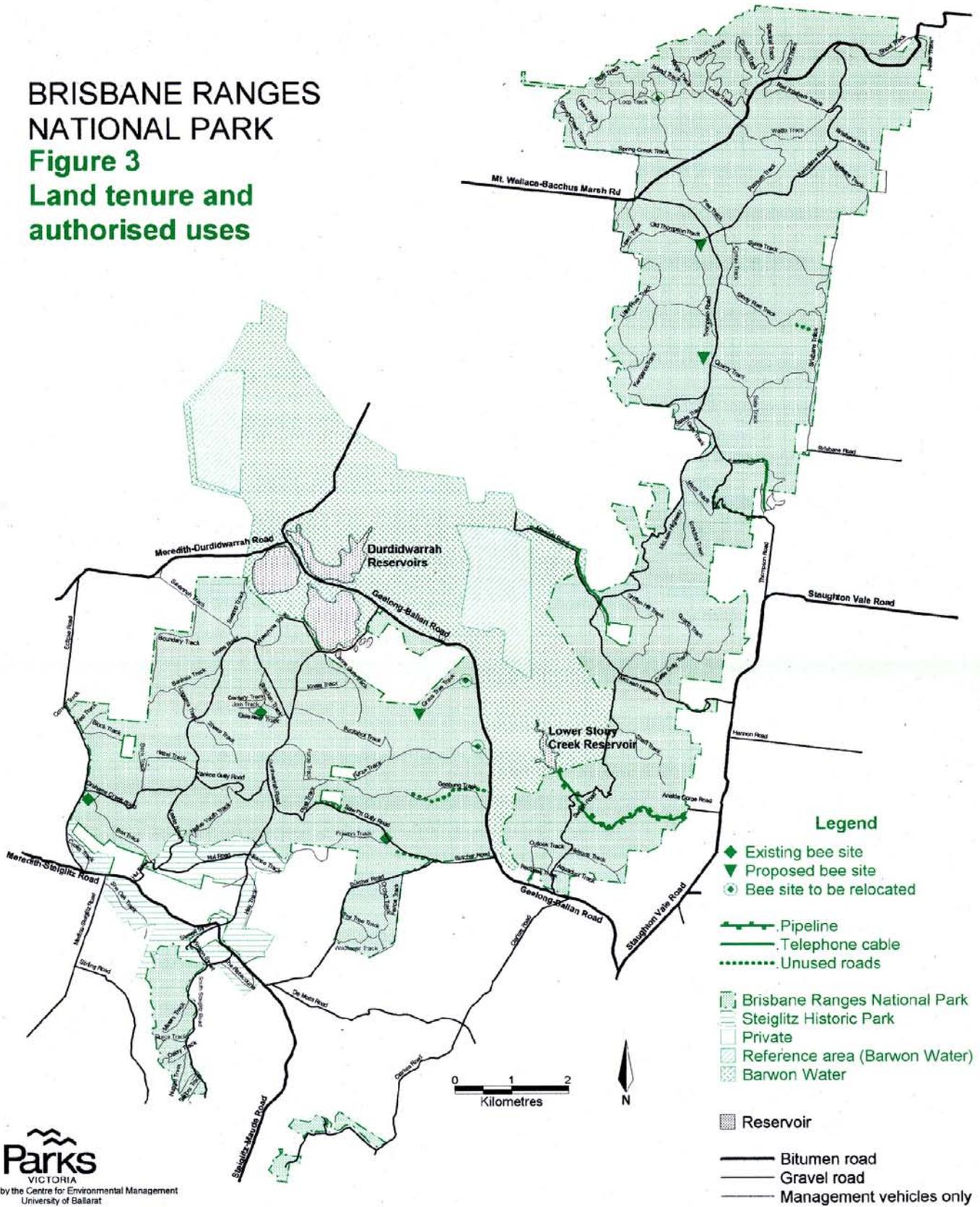


Parks
VICTORIA

Map prepared by the Centre for Environmental Management
University of Ballarat

**Figure 2
Recreation
and access**

BRISBANE RANGES NATIONAL PARK
Figure 3
Land tenure and authorised uses



Parks
 VICTORIA
 Map prepared by the Centre for Environmental Management
 University of Ballarat

Figure 3
Land tenure and authorised uses

BRISBANE RANGES NATIONAL PARK

Figure 4 Cinnamon Fungus distribution

