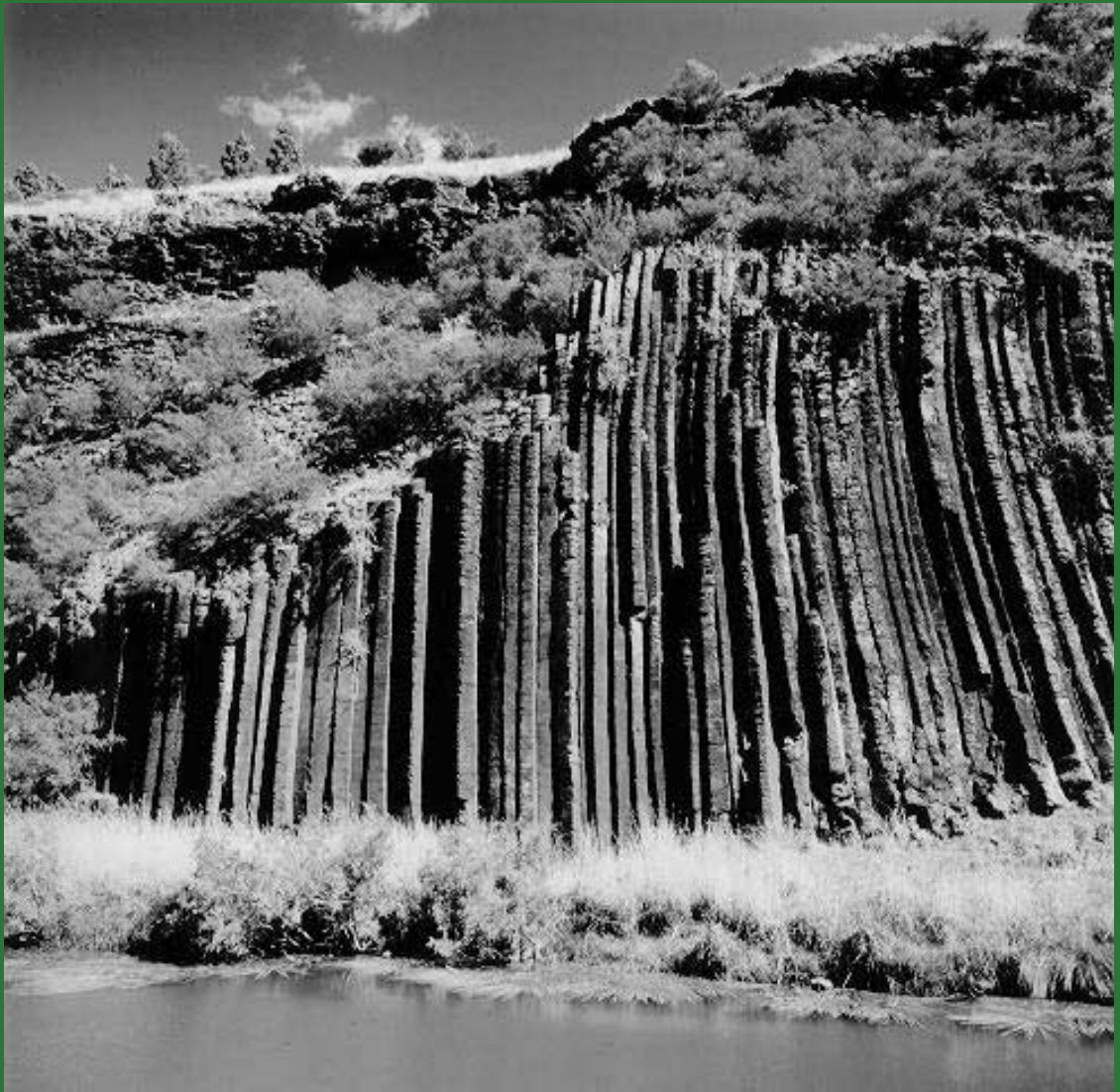


Organ Pipes National Park

February 1998



Management Plan



This Management Plan for Organ Pipes 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 August 1996. A total of 8 submissions were received.

Copies of the Plan can be obtained from:

Parks Victoria
378 Cotham Rd
KEW VIC 3101

Organ Pipes National Park
Organ Pipes Road
DIGGERS REST VIC 3427

NRE Information Centre
8 Nicholson Street
EAST MELBOURNE VIC 3002

Parks Victoria Information Centre
Vault 11
Banana Alley
Flinders Street
MELBOURNE VIC 3000
☎ 13 1963

For further information on this Plan please contact:

Jim O'May - Chief Ranger, Brimbank ☎ 03 9336 3911

**ORGAN PIPES NATIONAL PARK
MANAGEMENT PLAN**



FEBRUARY 1998

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FOREWORD

Organ Pipes National Park is an important area for the conservation of native flora and fauna, on the north-western fringe of metropolitan Melbourne. The Park also protects significant geological features, particularly the Organ Pipes formation. A highly successful native vegetation restoration program has led to the return of much of the indigenous fauna previously abundant to Melbourne's west. Volunteers have provided much of the impetus and labour for this restoration program.

Managed primarily for nature conservation purposes, the Park also offers many opportunities for visitors to enjoy the natural environment. In particular, the Park gives many urban visitors their first introduction to the natural and cultural heritage values of national parks.

This Approved Plan establishes the management framework to protect the important conservation and recreation values of the Park for the metropolitan community, while ensuring that it plays an important role in nature-based tourism on the western side of Melbourne.

I am confident that implementation of the Plan will ensure protection of the Park's special features and also enhance visitors' enjoyment of it.

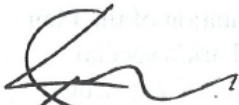
I look forward to the community's support for the management of this important national park, which is a significant part of Victoria's parks system.



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.



Mark Stone
Director
National Parks

The Plan provides the basis for the future management of Organ Pipes National Park. It was finalised following consideration of the eight submissions received on the Draft Plan.



Jeff Floyd
Chief Executive
Parks Victoria

SUMMARY

Organ Pipes National Park was established in recognition of the State significance of the exposed basalt columns known as the Organ Pipes. The Park covers 121 ha of gorge country along Jacksons Creek in the Maribyrnong valley. Walking tracks and viewing areas give access to significant geological features. With the continued urban expansion in the north and west of Melbourne, more and more visitors will come to the Park.

The main focus of park management has been rehabilitation of a landscape with depleted native plant communities dominated by weeds. Much of the impetus and labour for the restoration work came from volunteers interested in conserving indigenous vegetation, who formed the State's first 'Friends' group, the Friends of Organ Pipes (FOOPS).

The success of restoration work is evident in the return of a woodland landscape dominated by native species and many indigenous fauna such as platypuses, kangaroos and wallabies. Sugar Gliders have been successfully re-introduced to the Park.

The plan establishes clear conservation aims for the Park while providing for increased recreational use.

The restoration will continue and is emphasised in the Park's theme:

- restoration and conservation of the indigenous, pre-European landscape as an example of the former Keilor Plains landscape.

Management directions for the Park are summarised below.

- The Park landscape will be restored to resemble the conditions that existed prior to European settlement, using material from remnant vegetation within the Park where possible. Control of pest plants and environmental weeds will be part of the revegetation program.
- Consideration will be given to appropriate enhancement of existing habitat to enable re-introductions of indigenous fauna.
- Significant geological, archaeological and historical features will be protected.
- Control of pest animals, in particular rabbits, cats, foxes and dogs, will continue.
- Control of erosion sites and repairs to flood damage will continue.
- High quality interpretation services will be maintained and developed as a feature of the Park. The philosophy and technology of restoration and conservation of natural landscapes, particularly those of the Keilor Plains, will be a key feature of the Park's information, interpretation and education material.
- The system of walking tracks in the Park will be expanded within the constraints of land capability.
- The Park will be promoted as a model of community participation in public land management.

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1 INTRODUCTION

1.1 Location and planning area

Organ Pipes National Park is situated 20 km north-west of Melbourne off the Calder Highway (figure 1). The Park falls along the boundaries of the City of Hume, to the north of Jacksons Creek, and the City of Brimbank, to the south of Jacksons Creek.

The planning area comprises the Organ Pipes National Park (121 ha).

1.2 Regional context

Apart from the Park and limited nearby areas along Jacksons Creek and Deep Creek, few patches of remnant vegetation remain on the Keilor Plains west of Melbourne.

Complementary areas also managed by Parks Victoria with remnant native flora and fauna of the Keilor Plains, include Holden Flora Reserve (65 ha), Holden School Site (25 ha), Derrimut Grassland Reserve (154 ha) and Laverton North Grassland Reserve (52 ha).

The Park is important to the whole Region as a centre for education about the geology, flora and fauna of the Keilor Plains, and the restoration of degraded land.

In the open space network in the west of Melbourne (figure 1), most areas offer complementary recreational opportunities to those provided in the Park.

The City of Brimbank manages areas east of the Park, including Keilor public golf course and the proposed Sydenham Park, and owns the land with frontage to Jacksons Creek almost enclosed by the eastern block of the Park (figure 2).

Land use to the north and west of the Park is rural residential blocks and grazing. The Calder Highway abuts sections of the southern boundary of the Park and Calder Raceway abuts the southern boundary of the Highway, close to the main entry to the Park (figure 1). Residential development is expanding towards the Park from the direction of Taylors Lakes, along the south side of the Calder Highway.

1.3 Significance of the Park

Organ Pipes 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 III (Natural Monuments) of the United Nations' list of National Parks and Protected Areas. Category III areas are managed primarily to protect or preserve outstanding natural features.

Organ Pipes National Park protects the basalt columns known as the Organ Pipes, which are of State geological significance. It also protects a small example of a basalt plain land system located on the extensive lava plains extending from Melbourne to Mt Gambier in South Australia. The Park includes part of the largest and least modified area of volcanic plains grassland and shrubland west of Melbourne – a land type poorly represented on public land.

The Park's proximity to Melbourne makes it an excellent destination for day visitors for walking and picnicking, and also allows for community involvement in management.

Community involvement in the re-establishment of native vegetation led to the formation in 1971 of the first Friends group in the State.

The Park presents an excellent opportunity to demonstrate the effects and problems of land rehabilitation.

Significant features of the Park are summarised as below.

Natural values

- Geological sites of State significance.
- Remnant native grasslands and grassy woodlands.
- Plants listed as rare in the Melbourne area.
- Re-established plants once common in the Park and surrounding areas.

- Diversity of habitats supporting over 20 plants of conservation significance and recolonising indigenous fauna following re-establishment of native vegetation.
- An important link in the wildlife corridor along Jacksons and Deep creeks.

Cultural values

- Aboriginal sites, mainly campsites and isolated surface scatters.
- Evidence of past land use by Europeans.

Tourism and recreational values

- Closest national park to Melbourne, allowing easy access for coach and short-stay visitors.
- Opportunities for walking, nature observation and other passive recreational activities in a natural setting.

Community educational values

- Proximity to Melbourne encourages community involvement in park management.
- Opportunities for education and interpretation of geology, flora and fauna.
- Demonstration of the potential for re-establishing Keilor Plains native vegetation and fauna, and land restoration.

1.4 Creation of the Park

Organ Pipes National Park originated as a result of a donation of 65 ha of land to the Crown from the trustees of the E. A. Green Charitable Foundation. Following transfer of the land to the Crown, and as a result of the *National Parks Act 1971* (Vic.), the area was included in Schedule 2 of the Act, and proclaimed on 12 March 1972.

The interim policy of the National Parks Service (NPS) for the Park at that time was:

- to restore the highly modified environment of the Organ Pipes National Park to a condition as similar as possible to that at the time of first European settlement (NPS 1972).

A further 20 ha of land was added to the Park as a result of the *National Parks (Amendment) Act 1978* (Vic.).

A further 36 ha of Crown land, including some land previously compulsorily acquired for the Park, was added to the Park on 4 June 1997, as a result of the *National Parks (Amendment) Act 1997* (Vic.).

1.5 Legislation and guidelines

The Park is reserved and managed under the provisions of the National Parks Act. The Act requires the Director to preserve and protect the natural environment 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. Visitor activities are regulated in accordance with the Park Regulations 1992.

In 1977, the former Land Conservation Council (LCC) in the Final Recommendations for the Melbourne Study Area (LCC 1977) recommended that the Park be reserved as a 'Geological Monument' to 'provide opportunities for education and recreation associated with understanding and enjoying natural features'.

The Final Recommendations for the Melbourne Area District 1 Review (LCC 1987) recommended that the Park continue to be reserved as a National Park under the National Parks Act for the purposes identified by the former LCC in 1977.

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

- Fire Protection Plan, Port Phillip Area (former Melbourne Region) (CNR 1996);
- Draft Conservation Program for Native Grasslands and Grassy Woodlands in Victoria (CNR 1992);
- Code of Practice for Fire Management on Public Land (CNR 1995).

1.6 Park management aims

Section 4 (Objects) and section 17 of the National Parks Act provide 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 the minimum of interference.
- Maintain biodiversity.
- Conserve features of archaeological, historical and cultural significance.

Park protection

- Protect water catchments and streams.
- 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 recreational opportunities.
- Encourage appropriate park use and behaviour, and foster a conservation ethic in visitors and an understanding of minimal impact behaviour.
- Take reasonable steps to ensure the safety of visitors.

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 to assist in the management of the Park.

2 STRATEGIC DIRECTIONS

2.1 Park vision

A future visitor to Organ Pipes National Park finds a landscape resembling that which existed before European settlement. Fauna once widespread across the western Melbourne plains are established in the Park, and it forms an important link in the wildlife corridor along Jacksons and Deep creeks. A successful pest control program minimises the threat to the Park's flora and fauna.

With increasing urban sprawl, the Park is important for Melbourne residents seeking a natural area close to the city for picnicking, nature study, quiet walks and other passive recreation activities. Visitors reach it by vehicle, and on foot or by bicycle from the outskirts of Melbourne through the surrounding open space. Visitors take advantage of the network of tracks to explore different parts of the Park.

High quality interpretation services enrich visitors' experience and appreciation of the natural environment of the Keilor Plains. Many visitors learn about successful land rehabilitation methods as part of their park experience.

A highly organised Friends and volunteer program contributes significantly to the management of the Park and is a highly regarded model for community involvement in park management elsewhere.

2.2 Management directions

Major management directions for the Park are outlined below.

Resource conservation

- The park landscape will be restored to resemble the conditions that existed before European settlement.
- Indigenous vegetation will continue to be restored, using seed or stock from local provenance where possible.
- Significant geological features will be protected.
- Enhancing existing habitats to enable re-introductions of indigenous fauna will be considered as appropriate.
- Significant archaeological and historical features will be protected.

Park protection

- The environments of Jacksons Creek will be managed to protect riparian vegetation and water quality.
- Pest plants and environmental weeds will continue to be controlled as part of the revegetation program.
- Pest animals, in particular rabbits, cats, foxes and dogs will be controlled as necessary to protect natural values.
- Fire protection works will be undertaken in accordance with the Port Phillip Regional Fire Protection Plan.
- Erosion will be controlled and flood damage repaired as necessary to protect natural values and the natural environment.

The Park visit

- High quality interpretation services will be developed and maintained as a feature of the Park.
- The philosophy and technology of restoration and conservation of natural landscapes, particularly those of the Keilor Plains, will be key features of the Park's information, interpretation and education material.
- Recreation activities that enhance visitors' enjoyment, appreciation and understanding of the natural environment will be encouraged.
- The system of walking tracks in the Park will be expanded, within the constraints of land capability.

Community awareness and involvement

- The highest possible land management standards will be maintained and promoted as a model for the community.
- The participation of community groups in park management will be promoted as a model for participation in the management of other public land.
- Co-operation will be fostered with local government and other public authorities, community groups and adjoining land owners in conserving native vegetation and habitats.
- 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.

Three management zones apply to the Park: Conservation, Conservation and Recreation and Recreation Development.

2.3 Zoning

A park management zoning scheme has been developed to:

- provide a geographic framework in which to manage the Park;

Special management area overlays summarise requirements additional to those of the underlying zone.

Figure 3 shows their location and table 1 describes zone and overlay characteristics.

TABLE 1 MANAGEMENT ZONES AND OVERLAY

	ZONES			OVERLAY
	CONSERVATION	CONSERVATION AND RECREATION	RECREATION DEVELOPMENT	SPECIAL MANAGEMENT AREAS
AREA/LOCATION	107.3 ha, 88.6 % of Park. Comprises most of the Park.	13.0 ha, 10.8 % of Park. Comprises central riparian strip and two picnic areas near the Organ Pipes.	0.7 ha, 0.6 % of Park. Comprises Visitor Centre site.	2.0 ha, 1.6 % of Park. Comprises work centre, unused carriageway and water supply easement and Geelong to Melbourne powerline.
VALUES	Area of high conservation value with established or re-established Keilor Plains flora communities. Protects habitat corridor for establishing indigenous fauna.	Areas of reasonably high natural values; easy access; high visitor use; opportunities for passive recreation.	Node including educational and interpretative facilities for large numbers of people.	Essential park operation facilities and essential public utilities.
GENERAL MANAGEMENT AIM	Protect sensitive natural environments and provide for minimal impact recreation activities with simple visitor facilities, subject to ensuring minimal interference to natural processes.	Protect less sensitive natural environments and provide for sustainable dispersed recreation activities with small-scale recreation facilities, without significant impact on natural processes.	Provide for educational and interpretative activities for large numbers of people with minimal impact on the surrounding natural environment.	Highlight areas or sites where special management provisions are needed to provide for a particular non-standard use or activity.

3 RESOURCE CONSERVATION

3.1 Geological and landform features

The Park is on the Keilor Plains, which are part of the greater Western Volcanic Plains. These plains stretch from Melbourne to Mt Gambier in South Australia and are the third largest lava plains in the world. The geomorphological and geological features in the Park are of State significance (Rosengren 1986).

The Plains were built up by successive lava flows, more than one million years ago (Upper Tertiary), overlying steeply dipping Ordovician to Silurian sedimentary rocks. The Park clearly shows the process of valley incision by Jacksons Creek, the major tributary of the Maribyrnong River (Rosengren 1986).

Structural features, such as bedding in the Silurian mudstones and jointing in the basalt, outcrop at several locations. The narrow and steep valley has basalt cliffs, boulder scree and sedimentary escarpments (Beardsell, in prep.).

The four main geological features in the Park are all of volcanic origin and are major visitor attractions.

The Organ Pipes – a spectacular example of basalt columns rising to 20 m. Regarded as the best example of columnar jointing in Victoria.

Tessellated Pavement – a mosaic of basalt columns eroded by Jacksons Creek to form pavements.

Rosette Rock – a radial array of basalt columns.

Scoria cone – the remains of a weathered scoria cone at the car park.

In addition, there is the **Sandstone layer** – a layer of sandstone visible along Jacksons Creek, dating back to around 400 million years ago.

Continued uncontrolled access over the Tessellated Pavement is likely to lead to deterioration in the long-term.

Aim

- Protect and interpret the four main geological features.

Management strategies

- *Provide on-site interpretation signs at the following geological features:*
 - *The Organ Pipes*
 - *Rosette Rock*
 - *Sandstone layer*
 - *Tessellated Pavement*
 - *Scoria cone.*
- *Protect the Tessellated Pavement and associated flora and make provision for viewing of the pavement.*
- *Control pest plants, especially African Box-thorn, at geological sites (section 4.2).*

3.2 Streams

Jacksons Creek, Deep Creek and Emu Creek are the major tributaries of the Maribyrnong River, which has a catchment area of 1300 km². The Maribyrnong Valley is the only natural corridor link from the City of Melbourne to the forested foothills of Mt Macedon to the north-west.

Jacksons Creek rises in the Wombat Forest and flows east to the Roslynn Reservoir. From there it flows through Gisborne, Sunbury and Organ Pipes National Park to its confluence with Deep Creek near Sydenham Park.

Records of rainfall have been kept at the Park since 1972. The area is in a rain shadow, receiving an average of 580 mm of rain per year, which creates a relatively dry and harsh environment. However, high rainfall during winter and spring can cause flooding along Jacksons Creek and bring problems for the residents on the flood plain downstream at Maribyrnong. Flooding in September 1993 washed out vegetation and viewing platforms, and scoured creek banks.

In the past, walkers and anglers have caused extensive trampling along Jacksons Creek

banks. Efforts to protect banks have included setting walking tracks back from the creek, controlling access to the creek, and revegetation (section 3.3).

Aim

- Protect and enhance Jacksons Creek and its banks.

Management strategies

- *Carry out repairs to the flood-damaged banks of Jacksons Creek.*
- *Continue revegetation along the creek (section 3.3).*
- *Monitor the impacts of angling, and consider restricting or excluding access if required.*
- *Monitor the water quality of Jacksons Creek.*

3.3 Vegetation

Before the Park's declaration, the area had been used for grazing and other agricultural activities for 140 years, and most of the indigenous vegetation had been replaced by a wide variety of weeds. Nevertheless, the Park, together with the nearby proposed Sydenham Park (City of Brimbank) and Deep Creek, forms part of the largest remaining area of volcanic plains grassland and shrubland in the Maribyrnong River system (Beardsell, in prep.).

Jacksons Creek valley immediately downstream of the Park contains scattered remnants of indigenous plant communities including River Red Gum riparian woodland, Reedbed and Sedgeland communities, shrubland and grasslands. One of only two recorded natural occurrences of White Cypress-pine near Melbourne is in this valley.

The section of National Park abutting Sydenham Park has significant stands of indigenous grasses and is noted for Silky Blue Grass and Red-leg Grass. This area is being actively restored and managed by the Park in line with this Plan's Conservation zone.

The Park protects over 20 species of flora classified as rare or threatened or significant in the Melbourne area (Beaglehole 1983) (appendix 1). A total of 124 indigenous plant species has been recorded in the Park since it was proclaimed. DCE (1990c) recognised the State significance of the Park's remnant native grasslands and grassy woodlands.

Revegetation

A key focus of the Park has been the re-establishment of six vegetation community types believed to be the original vegetation communities. These communities fall within three landform zones – plains, escarpment and riparian – and their distribution reflects the soils, which are derived from the underlying geology.

The most significant vegetation community is the native grasslands, which consist of large stands of indigenous grasses on the slopes above and between the steep rocky sections of Jacksons Creek. In addition to some natural recruitment, the restoration of these stands has been assisted since the early 1980s by Park staff and FOOPS (McDougall 1987). The grasslands areas are part of the Keilor Plains grasslands, which have developed on basalt soils and are dominated by Kangaroo Grass with a diverse mixture of herbs and other grasses.

The upper sections of the escarpment support Sheoke and Lightwood communities on basalt soils. The Sheoke community type, dominated by Drooping Sheoke, is associated with the gentle slopes in the transition from the plains to the valley. The Lightwood community, dominated by a mixture of wattles including Lightwood and Golden Wattle, occurs on the steep slopes of the escarpment.

The Yellow Box community is found on the lower section of the escarpment. Eucalypts including Yellow Gum and Yellow Box form a canopy above wattles and other shrubs.

The River Red Gum community grows along the banks of Jacksons Creek and is dominated by River Red Gum, Manna Gum and Blackwood.

The Grey Box community, dominated by Grey Box woodland, occurs in scattered areas on basalt soils including the north-eastern part of the Park, where it extends to the nearby Melbourne Airport (Armand, Kemp & Taylor 1987; Kemp 1994; Taylor pers. comm.).

Seed collection, propagation and planting out have been a collaborative effort between Park staff and FOOPS. Local indigenous species have been introduced into the Park from the closest known site, which for some species was up to 20 km distance (Kemp & Irvine 1993). Many indigenous species, propagated from local material, have been successfully re-established (Kemp and Irvine 1993; Taylor pers. comm.).

A review of the Park's revegetation program (Carr & Muir 1994) resulted in seven recommendations covering vegetation zones, weed control and significant species.

Aim

- Re-establish and protect indigenous flora communities.

Management strategies

- *Continue to implement the revegetation program, and monitor progress (section 4.3).*
- *Finalise a comprehensive list of flora species considered indigenous to the Park to form the basis for revegetation planning. Base the list on historic evidence and develop in consultation with FOOPS and botanical experts.*
- *Review the long-term revegetation program in consultation with interested stakeholders, incorporating relevant recommendations from Carr & Muir (1994).*
- *Complete planting along the self-guided nature trail as a priority.*
- *Update the seed collection program in line with the comprehensive flora list and continue to use the closest suitable seed*

sources for revegetation work (from within the Park wherever possible).

- *Ensure that the introduction of new species is in accordance with Parks Victoria guidelines.*
- *Liaise with relevant land owners and agencies to maintain access to seed source sites.*
- *Maintain the Park's field nursery to meet the Park's revegetation needs.*
- *Protect significant flora species (appendix 1) in accordance with Parks Victoria guidelines and approved Flora and Fauna Guarantee (FFG) action statements.*
- *Burn grasslands in accordance with McDougall (1989) (section 4.1) and encourage investigation of ecological burning to facilitate regeneration of woodland communities and control of pest plants. Record burns and monitor impacts on vegetation.*
- *Exclude rabbits and use direct-seeding as a means of broad-scale low-cost restoration, giving priority to the restoration of vegetation on the flood damaged sites along the creek (section 4.2). Monitor success of plantings and regeneration in the revegetation program.*

3.4 Fauna

The close proximity of riparian, escarpment and grassland environments in the Park creates a wide range of habitats that can support diverse fauna.

Beardsell (in prep.) identified the Park as an area having State faunal significance. The study found that the Jacksons and Deep creeks valley system, which runs through the Park, has a high diversity of reptiles, amphibians and mammals, and many significant fauna.

The long-term revegetation program has enabled native fauna to recolonise sections of the Park naturally. FOOPS, Park staff and field naturalists have recorded 15 native

mammal species, 88 bird species, 13 reptile species and 6 amphibian species in the Park. A number of these are considered to be regionally threatened, rare or restricted (appendix 2; Beardsell (in prep.)). Sugar Gliders were re-introduced to the Park in 1989 and have successfully colonised the creek area.

Four significant reptile species have been recorded in the Park (appendix 2). Its grassland areas may be suitable for the re-introduction of the threatened Striped Legless Lizard.

The banks and ponds of the creek provide habitat for the Growling Grass Frog, a species that has suffered a major decline throughout its range (Webster pers. comm.). A number of indigenous fish species have been recorded in the creek (Tunbridge & Glenane 1982), including one threatened species (appendix 2). Other threatened indigenous fish species have been recorded in the Maribyrnong River system outside the Park, and may move through the creek in the Park. Introduced fish species have also been recorded in the Park, including Brown Trout, a predator of native fish. The introduced fish populations appear to be self-sustaining, as fish stocking into the Maribyrnong system has been minimal in the last decade (Baxter pers. comm.).

The creek and escarpment form a wildlife corridor that includes the least modified habitat in the Park landscape and links to Holden Flora Reserve upstream, and Radar Hill, Deep Creek and Emu Creek to the east.

Aim

- Protect and conserve native fauna.

Management strategies

- *Monitor fauna species and habitat of significant species listed in appendix 2, and maintain the Park logbook of fauna sightings.*
- *In conjunction with FOOPS, investigate the role of nest boxes and monitor their success.*
- *Consider habitat requirements when planning ecological burning, and monitor impact of burns on habitat.*

- *Develop a long-term strategy for fauna re-introductions which states the species considered to be indigenous to the Park, and includes investigating the feasibility of introducing:*
 - *the Striped Legless Lizard into the recent additions to the Park in accordance with the Striped Legless Lizard Action Statement (Webster, Fallu & Preece 1992);*
 - *smaller mammal species such as the Fat-tailed Dunnart;*
 - *indigenous fish.*
- *Protect in-stream habitat for aquatic fauna, and ensure that the upstream and downstream movement of indigenous fish within the Park is not restricted.*
- *Liaise with NRE to ensure that aquatic fauna in the Park are considered before any further exotic fish are released into Jacksons Creek or Deep Creek.*

3.5 Landscape

The landscape forms part of the Western Plains character type—typically flat grassy plains (Leonard & Hammond 1984). The plains occur as a plateau around the steep valley meanders formed by the incised Jacksons Creek. The gorge is also a distinctive feature of the Western Plains character type (Leonard & Hammond 1984). The valley sides range from sandstone escarpment gorges with basalt walls to steep slopes with basalt soils.

The valley floor varies from river flats to narrow rocky stretches through gorges. The gorge environment gives experiences of remoteness in contrast to the exposed escarpment and plateau with their views to surrounding urban and rural settings. The valley rim includes views to the City of Melbourne to the south-east.

The major viewsheds from the main track are to the north and west over degraded weed-covered farmland outside the Park. Other visual intrusions include farmland to the north of several eroding gullies; the large earth embankments and advertising signs of the Calder Park Raceway opposite the Park

entrance; and the large power transmission lines at the western end of the Park (section 7.1).

Aims

- Preserve the views within and into Jacksons Creek valley.
- Enhance the views across the Keilor Plains.

Management strategies

- *Exercise opportunities presented by planning scheme referrals to minimise the visual impacts of adjacent developments on the Park (section 7.2).*
- *Ensure that landscape and scenic values are considered when planning any works.*
- *Encourage revegetation of roadsides and surrounding land to minimise visual impacts from adjacent properties, including the Calder Park Raceway (section 7.2).*
- *Undertake landscape works to help reduce visual intrusion from power lines.*

3.6 Cultural heritage

Organ Pipes National Park is of significance to Aboriginal people. The Woiworung tribe and the Kulin nation are said to have inhabited the Yarra and Maribyrnong River systems. Jacksons Creek formed part of the boundary between two clan estates, Marin-Bulluk and Wurundjeri-Willam (Barwick 1984).

Archaeological surveys undertaken in the 1980s and 1991 by the former Victoria Archaeological Survey located Aboriginal campsites and isolated artefacts within the Park (Xiberras 1991). The environment along Jacksons Creek offered shelter, water and plentiful food.

All Aboriginal sites and material is protected under the *Archaeological and Aboriginal Relics Preservation Act 1972 (Vic.)* and the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwlth)*.

The open grassy nature of the Keilor Plains and their proximity to Melbourne meant that these areas were among the first settled by Europeans

(Sutton 1916). The area of the Park was alienated from the Crown in 1851 (Xiberras 1991). The land around the Organ Pipes was used for dairying, an orchard and cropping, and grazed until the late 1960s.

A preliminary archaeological survey was undertaken in October 1993.

The remains of an 1850s stone European house can be seen beside Lightwood Gully Track. This significant European settler homestead ruin includes the remains of two stone sheds and a well, and traces of an orchard (Xiberras 1991).

The basalt footings of a cable swing foot bridge over Jacksons Creek remain from the 1880s. They are west of the Organ Pipes, about 50 m east of the existing management vehicle ford.

Aim

- Protect and preserve sites of historic and archaeological significance.

Management strategies

- *Protect Aboriginal sites by recording their location (not by on-site marking) and any associated management activity that is undertaken.*
- *Consult with the Aboriginal community and Aboriginal Affairs Victoria (AAV) regarding the identification, recording and protection of Aboriginal sites prior to new development works.*
- *Survey, assess, and prepare management and (where appropriate) interpretation guidelines for:*
 - *the early European homestead ruin situated along Lightwood Gully track;*
 - *the footings of the 1880s cable swing foot bridge.*

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. Wildfire is a major threat to the Park, which because of its small size is in danger of being totally burnt. Only one small wildfire has occurred in the Park since its reservation in 1972. The absence of wildfire has been a major factor in the success of the revegetation works.

The Park has a high fire hazard rating because of the combination of low rainfall, exposure to winds, steep slopes, grassy vegetation and tall-growing weeds, together with the adjoining grazing land and proximity to the Calder Highway.

The major risks of wildfire occurring in the Park are through visitor activities or fire from adjoining land. Hazard reduction is undertaken in visitor picnic areas to minimise visitor risk.

Fire protection works are planned in accordance with the Fire Protection Plan, Port Phillip Area (CNR 1996).

Fire breaks are slashed and fuel reduction burns along Park boundaries carried out annually to reduce the ability of fire to enter or leave the Park. Rangers liaise with adjoining land owners and the Country Fire Authority (CFA) on the maintenance of fire breaks. Fire management tracks form a network for fire suppression access to most of the Park.

Management of the grasslands areas includes ecological burning at approximately three-year cycles as recommended by NRE research (McDougall 1989). Fire may also be used on a trial basis to stimulate regeneration, and for weed management in other vegetation communities in the Park (section 3.3).

Aim

- Protect human life, the Park flora and fauna and adjoining land from injury by fire.

Management strategies

- *Undertake fire protection works in accordance with the Port Phillip Fire Protection Plan (CNR 1996).*
- *Maintain management tracks (figure 3) for fire protection purposes.*
- *Where feasible, integrate fuel reduction burns required by the Fire Protection Plan with ecological burning.*
- *Liaise with the CFA, Melbourne Fire Brigade, VicRoads and other relevant agencies and land owners as appropriate.*
- *Monitor the incidence and effects of fires in the Park.*
- *Continue the practice of prohibiting solid fuel fires in the Park.*

4.2 Pest plants and animals

The abundance of pest plants, environmental weeds and pest animals in the Park and adjacent land is the result of the long history of grazing and other human disturbances. Pest plant species include the following noxious weeds: African Box-thorn, Artichoke Thistle, Horehound, Patersons Curse, Common Prickly-pear, Common Bindweed, Variegated Thistle and Serrated Tussock. Environmental weeds include Canary-grass, Bridal Creeper and Chilean Spear-grass.

Pest animal species in the Park include European Rabbit, Fox, feral Cat, Black Rat, Brown Rat and House Mouse. Rabbits are inhibiting natural regeneration of vegetation and are the priority for control (section 3.3). Wandering domestic and feral cats and dogs will increasingly threaten native fauna as housing extends closer to the Park. Fox populations will need to be further reduced if native animal populations are to thrive.

A Pest Plant and Animal Management Plan has been prepared (Mueck & Walters 1996).

Aim

- Control pest plants and animals to protect native plants and animals.

Management strategies

- *Continue control of pest plants and integrate with the revegetation program incorporating relevant proposals from Mueck and Walters (1996) (sections 3.1 and 3.3).*
- *Develop and implement pest animal control programs, in particular for rabbits, cats, dogs, foxes, and Black Rats.*
- *Focus rabbit control in the rabbit exclusion blocks and along the creek (section 3.3), and maintain rabbit-proof fencing.*
- *Monitor pest plants and animals using the Pest Management Information System (PMIS) (DCE 1990b).*
- *Control new occurrences of pest plants before they have an opportunity to establish.*

4.3 Soil conservation

Most of the Park's soils have been altered and degraded by erosion resulting from human activity. However, some zonal soils have developed complete soil profiles. These are the heavy red-brown clays that develop on the basalt plains and are common in the Park. These clays have a thin loamy topsoil and contain basalt floaters. The clay becomes waterlogged in wet weather but

dries quickly in hot weather, shrinks, hardens and cracks (Van de Graaff 1979). This response to wet and dry conditions restricts the flora to those species (mainly grassland species) that can tolerate these conditions.

The other main soil group, the azonal soils, comprises alluvial soils along Jacksons Creek flats, lithosols on steeper slopes and colluvial soils at the base of steep slopes.

The effects of vegetation clearing and weed and rabbit invasion were soil exposure and increased erosion. Increased rain runoff resulted in sheetwash erosion across the slopes, and gullying along drainage lines. Slumping occurs on steeper slopes where rabbit burrowing has channelled water into the soil profile. Cracking of the soil has contributed to the development of erosion on the slopes.

Previous agricultural land use altered soils, promoted erosion and increased the risk of salinity. Some erosion sites remain along Jacksons Creek and in the gullies.

Aim

- Control active erosion sites.

Management strategies

- *Identify and monitor, and undertake works to control, erosion sites.*
- *Co-ordinate erosion control works with the revegetation program.*

5 THE PARK VISIT

5.1 The Park visitor

The Park's proximity to Melbourne enables it to attract a wide range of visitors, including local residents, school and community groups, picnickers, and tourists and others who might not often visit parks.

Visitor numbers have fluctuated over the past decade. In 1996-97, 50 116 visitors were recorded for the Park.

The busiest seasons during these years were in autumn and spring. Recent visitor surveys indicate repeat visitation from across the metropolitan area and a high frequency of local visitors.

The Park is also popular with school and other groups—a total of 212 groups were booked in 1996-97—and by people who enjoy working on conservation projects as weekend volunteers. The Park is also a regular destination for commercial bus tour operators.

Other increases in visitor numbers are likely to come from major developments being planned near the Park. These include the City of Brimbank development of Sydenham Park, expansion of the Taylors Lakes area, and housing subdivisions up to the Calder Raceway.

Recreation in Organ Pipes National Park is limited to passive activities because of the Park's small size and rugged terrain, and the erodability of the soils. The main activities are walking, picnicking, sight-seeing, nature study and education.

The Park's recreational setting has elements of the 'Roaded Natural' and 'Semi Developed' categories of the Recreation Opportunity Spectrum (DCE 1990a). This follows from the Park's proximity to the Calder Highway and other roads, as well as to nearby residential areas and aircraft flight paths.

Providing for the visitor

Organ Pipes National Park will continue to allow visitors to escape from the city to a relatively natural woodland and grassland setting and participate in nature-based recreation. Park management will work to

facilitate high-quality visitor experiences and simultaneously conserve and protect the environment. With this aim in mind, existing facilities and services will be improved, and more will be provided.

Aim

- Provide opportunities and quality services and facilities for use and enjoyment of the Park.

Management strategies

- *Permit recreational activities in accordance with table 2.*
- *Provide facilities and services that highlight, but are in keeping with, the area's distinctive character (section 5.2).*
- *Apply current market survey findings to assess visitor profiles, expectations, preferences and patterns of behaviour, to assist in park management.*
- *Establish a program to determine appropriate levels of recreational activity consistent with protecting visitor experiences and park values.*
- *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 adequate provision of facilities consistent with appropriate types and levels of use.*

5.2 Visitor recreation activities and facilities

5.2.1 Access and day visits

Public access to the Park is via a sealed road from the Calder Highway leading to the car park, Visitor Centre and other visitor facilities (figure 4). The road and visitor facilities are open to the public from 8 am to 4.30 pm every day (excluding Christmas Day), and to 6.00 pm at weekends during daylight saving.

TABLE 2 SUMMARY OF RECREATION ACTIVITIES

ACTIVITY	ZONE*		MANAGEMENT STRATEGY
	CONSERVATION	CONSERVATION /RECREATION	
Walking	Yes	Yes	On designated tracks only (figure 4).
Picnicking	No	Yes	Permitted in designated picnic areas and facilities (figure 4).
Barbecues	No	Yes	BYO non-solid fuel barbecues are permitted in designated picnic areas and facilities.
Canoeing	Yes	Yes	Opportunities limited; inform inquirers of alternative sites.
Nature study	Yes	Yes	Collection of material requires a permit.
Swimming	Yes	Yes	Do not promote and include this activity in ongoing risk assessment audits.
Organised group activities	Yes	Yes	Booking required; promote use of Visitor Centre, car park and picnic areas.
Fishing	Yes	Yes	Do not promote; inform inquirers of alternative sites. Restrict to locations on the creek with track access shown on figure 4.
Camping	No	No	Inform inquirers of alternative sites.
Orienteering/rogaining	No	No	Inform inquirers of alternative sites.
Cycling	No	No	Permitted on entrance road and car park only. Inform inquirers of alternative sites.
Pleasure driving 2WD/4WD	No	No	Permitted on entrance road and car park only. Inform inquirers of alternative sites.
Trail bikes	No	No	Registered bikes permitted on entrance road and car park. Inform inquirers of alternative sites.
Rock climbing/abseiling	No	No	Inform inquirers of alternative sites.
Horse riding	No	No	Inform inquirers of alternative sites.
Dogs	No	No	Inform inquirers of alternative sites.

* The Recreation Development Zone encompassing the Visitor Centre provides for intensive education and interpretation activities.

The steep terrain, and limited area and extent of tracks, make the Park unsuitable for public vehicles, including bicycles, and they are restricted to the entrance road and car park. Vehicle access beyond the car park to the Organ Pipes rock formation may be provided by the Ranger for visitors with limited mobility.

The conservation values of the Park, particularly the fauna reintroduction program, and the expectations of visitors seeking recreation in a relatively natural setting, make the presence of dogs undesirable. They are excluded from the Park.

Three management vehicle creek crossings give Park staff access to management tracks in the north of the Park. These tracks are of particular importance for summer fire management access. There are several access points to the Park used for management purposes only, off Loemans and Thompsons Roads. Access from Loemans Road is across private land.

Aims

- Improve public access opportunities that do not impinge on the conservation role of the Park.
- Maintain passive nature recreation opportunities for visitors.
- Control the impact of visitors on the Park environment.

Management strategies

- *For the security of facilities, continue to close the Park at night to public vehicles, except for special events.*
- *Provide minibus access to the Organ Pipes during open hours for visitors with limited mobility, by prior arrangement with Park staff.*
- *Continue to provide for informal parking at the Park entrance, and after-hours pedestrian access into the Park. Consider a more formal car park for after-hours visitors if demand increases.*

- *Provide bicycle stands in the vicinity of the Visitor Centre.*
- *Continue to exclude dogs from the Park.*
- *Maintain visitor booking and traffic counter records.*
- *Monitor the impacts of recreational activities on the Park, particularly in picnic and creek areas.*

5.2.2 Walking

Park walking tracks are limited because of the steepness and small area of the Park, and total less than 3 km in length. The walking tracks are generally shared with management vehicles and are confined to the southern half of the Park, as there is no pedestrian crossing over the creek. The main track is a partly sealed track leading from the car park down to the Organ Pipes, which branches west to Rosette Rock and Tessellated Pavement, and east along Jacksons Creek.

A nature study trail loops from the Visitor Centre to a viewing platform and back to the picnic area and car park. This trail gives access for people with limited mobility and has views to the Organ Pipes and across the valley. It is proposed that the trail should feature displays of Keilor Plains flora.

The Park is a potential link for several path networks in the north of Melbourne in the event of a crossing being built over the creek.

Aims

- Improve public access opportunities that do not impinge on the conservation role of the Park.
- Seek to expand walking opportunities.

Management strategies

- *Investigate the feasibility of expanding walking opportunities by constructing track loops and creek crossings at the Tessellated Pavement and the south-east end of the Park and utilising City of Brimbank land and existing management tracks (figure 4).*

- *Maintain existing visitor walking tracks to Class B standard (NPS 1995).*
- *Liaise with the Cities of Brimbank and Hume on any proposed regional trail. Ensure that any entry into or trail through the Park takes into account:*
 - *impacts on rocky escarpment slopes*
 - *fragility of grassland and restoration areas*
 - *suitability of any creek crossings*
 - *location of Park facilities*
 - *Park closure hours*
 - *Park restrictions on bicycle access*
 - *Park restrictions on dogs.*

5.2.3 Fishing

Amateur anglers use the Park as there are few areas of public access to the Maribyrnong River system. Anglers have trampled reed beds along sections of the creek, as well as breaking through vegetation. Angling may affect indigenous fish populations in the creek, (section 3.4) and Platypus have been recorded in the creek. A fishing permit system was trialed in the early 1980s to control angling, but it was not successful as most fishing occurs out of hours.

Aim

- Reduce the effects of angling on creek habitats and indigenous fish and platypus populations.

Management strategies

- *Restrict angling to locations on the creek with track access (figure 4).*
- *Inform anglers of more suitable public access areas for fishing in the Maribyrnong River system.*
- *Monitor and review the impacts of angling, and consider restricting or excluding access if necessary.*

5.2.4 Rubbish control

Litter in the Park has been an ongoing problem, particularly in the Scoria Cone picnic area.

Bins have recently been phased out and the problem has been reduced.

Aim

- Minimise littering and litter in the Park.

Management strategy

- *Implement a 'Take your rubbish home' strategy.*
- *Inform Park visitors of the strategy, and monitor its effectiveness.*
- *Arrange removal of heavy rubbish from recent additions to the Park.*

5.3 Visitor information, education and interpretation

The Park's geological features, varied vegetation and landforms, ongoing revegetation programs and other resources and facilities, including the Visitor Centre, present excellent opportunities for education about the natural environment.

Rangers currently provide a free half-hour introduction to the Park for booked groups; further Ranger time is charged on a fee for service basis. A guide for teachers and visitors was published in 1992 (DCE 1992).

The Visitor Centre is the focus for information about the Park. The display area gives information on the features of the Park and its history. The Visitor Centre office has further information and occasional indoor displays. The facility is popular but greater use can be made of it with improved resourcing to facilitate delivery of services to visitors.

FOOPS volunteers have assisted with public information by staffing the Centre on Sundays, the busiest day at the Park.

Some temporary on-site interpretative signs were installed in the Park in 1994. These feature photographs of the Park in the 1970s that contrast with the current landscape, and explain the formation of the Organ Pipes.

Aims

- Enhance visitors' enjoyment and understanding of the Park's natural and cultural values.
- Orientate visitors to the Park and its features.

Management strategies

- *Prepare an Interpretation Plan for the Park taking into consideration:*
 - *profiles of visitors and other interest groups*
 - *geology and geological history*
 - *restoration of the natural environment contrasted with the former degraded environment*
 - *the Aboriginal environment*
 - *early European use of the land*
 - *the role of volunteers.*
- *Encourage the private sector to provide school holiday interpretation programs in the Park.*
- *Seek ways to enhance services to schools and to expand educational opportunities based on nature conservation and restoration of the Park.*
- *Provide booked groups with introductory talks, where feasible.*
- *Liaise with land managers of other Parks in the area to ensure that there are complementary interpretation themes.*

- *Provide adequate visitor orientation information and safety messages at key visitor nodes.*
- *Establish and implement monitoring and maintenance schedules for all interpretative facilities.*
- *Undertake regular evaluation of information and interpretation programs related to the Park, including cost effectiveness.*

5.4 Public safety

The small size of the Park and steep terrain make locating tracks difficult, and also present some safety considerations for walkers in the Park. The use of current walking/management tracks by cyclists poses risks for both walkers and riders.

Aim

- Provide a safe environment for all visitors and staff.

Management strategies

- *Provide for visitor activities and visitor facilities in accordance with risk mitigation requirements.*
- *Liaise with emergency services about appropriate emergency access and procedures.*
- *Ensure that staff are adequately trained to assist in emergency situations.*

6 COMMUNITY AWARENESS AND INVOLVEMENT

6.1 Friends and volunteers

Community involvement has played a major role in the development of the Park. The Friends of Organ Pipes (FOOPS) have made important contributions by helping to research, design and implement the revegetation program, and by providing the resources to support this program, especially the nursery.

In addition, the first Volunteers in Parks Program was successfully piloted in the Park in 1994. Other community groups and programs such as The Greening of Corrections Program, run with the Department of Justice (formerly Office of Corrections - OOC 1990), also give valuable assistance with a range of park management activities.

Aim

- Encourage community involvement in park management activities and projects.

Management strategies

- *Involve FOOPS in Park planning and management, particularly revegetation, management of the nursery, land protection, fauna monitoring and interpretation and education.*
- *Support FOOPS and other Friends groups by:*
 - *promoting their activities*
 - *facilitating training courses*
 - *providing for joint activities*
 - *encouraging membership.*
- *Develop and evaluate a long-term volunteer strategy which incorporates the skills and interests of volunteer groups in Park management activities, including:*
 - *increasing involvement of Scouts and other groups in Park restoration*

- *investigating ways to resource an Adopt-a-Park program with schools*
- *publicising opportunities*
- *liaising with the Department of Justice to involve people undertaking community service orders.*

6.2 Community awareness and Park neighbours

Private land surrounding the Park includes residential development, grazing, the Calder Raceway and Tullamarine Airport. There is increasing interest from neighbours in appropriate land management adjacent to the Park.

Aim

- Increase public awareness of management activities in the Park.

Management strategies

- *Liaise with local community groups and land owners, and as appropriate involve them in relevant aspects of planning and managing the Park (section 7.2).*
- *Liaise with Landcare groups to foster sound land management and restoration*
- *Apply, and encourage the application of, the Good Neighbour Policy to management issues on or near the boundary of the Park.*
- *Encourage the formation of Landcare and Land for Wildlife programs in adjoining land.*

7 OTHER ISSUES

7.1 Authorised uses

An easement for the South Morang to Keilor section of the Melbourne to Geelong Solaris power line traverses the western section of the Park from north to south (figure 2). The power line was constructed in the early 1980s. The former SEC funded the planting of vegetation screenings along tracks in the Park in 1985 to minimise the visual impact of the power lines on park visitors.

A carriageway and water supply easement, located near Column Gully (figure 2), has not been used.

Aim

- Seek co-operative management of easements consistent with park objectives.

Management strategies

- *Formalise a section 27 consent with Solaris (formerly SEC) for the power line traversing the western section of the Park.*
- *Liaise with Solaris to minimise the potential impact of weed infestation along the power line.*
- *Continue to screen areas to minimise visual impact of pylons (section 3.5).*
- *Investigate removal of the carriageway and water supply easement and liaise with Melbourne Water before any works are undertaken by Parks Victoria on the easement.*

7.2 Boundaries and adjacent uses

Surrounding land uses and practices are an important influence on park management. Certain land use activities and land management practices, on neighbouring land, especially those allowing uncontrolled pest plant and animal infestations, are a threat to the Park.

The City of Brimbank owns the land (part of Lot 1, Part of CA A Section 27 and part of

Crown Portion 29) which is almost surrounded by the south-eastern block of Park (figure 2). FOOPS has carried out restoration works on this land in recent years in keeping with the objectives of the Plan's Conservation Zone. An existing track has the potential to be developed as part of the Park walking track system to form a loop trail if a creek crossing at the eastern boundary with the Park can be provided (figure 4 and section 5.2.2).

Several other areas have been identified as important to improving Park access, recreation opportunities and landscape setting. These include land with riparian frontage, and land on the northern rim of the valley in the viewshed of the Visitor Centre lookout and walking tracks to the Organ Pipes.

Sydenham Park, which is being developed by the City of Brimbank, abuts the Park along its south-east boundary.

The Holden School Site and Holden Flora Reserve, both managed by Parks Victoria, are upstream of and near the Park (figure 1). Holden Flora Reserve contains remnant flora of Keilor Plains and fauna including the Platypus, Water-rat (LCC 1977) and the endangered Southern Lined Earless Dragon. Revegetation expertise developed at the Park could be applied to these two sites.

Certain activities detract from the landscape, for example the high embankments of Calder Park Raceway. FOOPS have volunteered to help vegetate the slopes of the Raceway. VicRoads has used seedlings from the Park to revegetate along the Calder Highway frontage. Development of housing estates in the area also has the potential to be visually intrusive on the Park.

The nearby Tullamarine Airport and Calder Park Raceway generate high noise levels which detract from visitor experiences. The Federal Airports Corporation proposal to duplicate runways will increase the frequency and levels of aircraft noise experienced in the Park. The Park entrance and eastern block of the Park are in the direct flight path of the preferred east-west runway duplication along Barbiston Road.

The City of Hume planning scheme retains the areas north and west of the Park as a ‘green wedge’ of rural residential and agricultural land separating Sunbury from Melbourne. The City may consider cycle links to the north of the Park as part of cycle strategy for the whole City which extends east to Roxburgh Park.

The City of Brimbank is developing concept plans for recreational facilities to be built on the undeveloped Sydenham Park area to the south-east of the Park. The City has also approved continued subdivision of land west from Taylors Lakes along the Calder Highway to within half a kilometre of the Park.

Aims

- Encourage conservation and sound land management practices on surrounding land.
- Consolidate Park boundaries.

Management strategies

- *Liaise with the City of Brimbank to have relevant adjoining land (currently under its ownership) managed under the National Parks Act.*
- *Liaise with the Cities of Brimbank and Hume to ensure that planning schemes include appropriate controls over land adjacent to the Park.*
- *Seek to become a statutory referral authority for land adjacent to the Park.*

- *Liaise with surrounding land managers to encourage the re-establishment and protection of indigenous species using techniques compatible with park management objectives, particularly with the City of Brimbank on management of creek and grassland environments of Sydenham Park.*
- *Liaise with VicRoads and Calder Park Raceway regarding the proposed overpass to the raceway to ensure that it is not visually intrusive and does not hinder park access (section 3.5).*
- *Promote and investigate improving wildlife corridor links between the Park and Maribyrnong River system and associated reserves (section 6.2).*
- *Co-ordinate the management of Holden Flora Reserve and Holden School Site with management of the Park.*
- *Liaise with the Federal Airports Corporation and Calder Park Raceway management to encourage management practices that take into consideration park management objectives, including liaising with Calder Park Raceway management to minimise landscape impacts of the raceway.*

8 IMPLEMENTATION

Plan implementation will be assisted by the preparation of a three-year rolling implementation program based on the following priority management strategies. The program will provide the basis for annual works programs and budget development.

TABLE 3 PRIORITY MANAGEMENT STRATEGIES

MANAGEMENT STRATEGY	SECTION IN PLAN
Resource conservation	
Continue revegetation program.	3.3
Protect the Tessellated Pavement.	3.1
Park protection	
Continue pest plant control program.	3.1, 4.2
Develop and implement pest animal control programs.	4.2
Undertake fire protection in accordance with the Port Phillip Fire Protection Plan.	4.1
Control active erosion sites.	3.2, 4.3
Seek to bring management of City of Brimbank inlier under the National Parks Act.	7.2
Preserve landscape values.	3.5
The Park visit	
Extend walking opportunities.	5.2.2
Prepare interpretation plan for the Park.	5.3
Liaise with the Cities of Brimbank and Hume about links with adjacent public land.	5.2.2, 7.2
Monitoring and research	
Monitor fauna species.	3.4
Develop a long-term strategy for fauna re-introduction.	3.4
Monitor progress of revegetation program.	3.3
Monitor visitor use and impacts.	5.1, 5.2

REFERENCES

- Armand, S.M., Kemp, B. & Taylor, I. (1987) Draft Management Plan for Organ Pipes National Park, Applied Science Students, Environmental Assessment and Land Use Policy, Victoria College, unpub.
- Barwick, D.E. (1984) Mapping the Past: an Atlas of Victorian Clans, *Aboriginal History* **8**:(2): 100-31.
- Beardsell, C. (in prep.) *Sites of Faunal Significance in the Western Region of Melbourne*, Department of Natural Resources & Environment, Victoria.
- Beaughlehole, A.C. (1983) *The distribution and conservation of vascular plants in the Melbourne area, Victoria*, Western Victorian Field Naturalists Club, Portland.
- Carr G. W. & Muir A.M. (1994) Review of Revegetation at Organ Pipes National Park, Sydenham, Victoria, Ecology Australia, unpub.
- CNR (1992) *Draft Conservation Program for Native Grasslands and Grassy Woodlands in Victoria*, Department of Conservation & Natural Resources, Melbourne.
- CNR (1995) *Code of Practices for Fire Management of Public Land*, Department of Conservation & Natural Resources, Victoria.
- CNR (1996) *Fire Protection Plan, Port Phillip Area (former Melbourne Region)*, Department of Conservation & Natural Resources, Melbourne.
- DCE (1990a) An Inventory of Recreation Opportunity Settings on Major Areas of Public Land in Victoria, *NPW Occasional Paper Series*, No 4.
- DCE (1990b) *PMIS, Pest Management Information System*, Land Protection Division, Department of Conservation & Environment, Melbourne.
- DCE (1990c) *Remnant Native Grasslands and Grassy Woodlands of the Melbourne Area: an action plan for conservation based on biological values*, Department of Conservation & Environment, Melbourne.
- DCE (1992) *Organ Pipes National Park, a Guide for Teachers and Visitors*, Department of Conservation & Environment, Melbourne.
- Kemp, B. (1994) *Organ Pipes National Park – a Natural History*.
- Kemp, B. & Irvine, R. (1993) Design and Use of Planting Zones at the Organ Pipes National Park, *Victorian Naturalist*, **110** (3): 113-25.
- LCC (1977) *Final Recommendations, Melbourne Study Area*, Land Conservation Council, Melbourne.
- LCC (1987) *Final Recommendations, Melbourne Area District 1 Review*, Land Conservation Council, Melbourne.
- Leonard, M., & Hammond, R. (1984) *Landscape Character Types of Victoria*, Forests Commission Victoria.
- McDougall, K. L. (1987) Sites of Botanical Significance in the Western Region of Melbourne, Department of Geography, The University of Melbourne, Parkville, Report for Department of Conservation, Forests and Lands.
- McDougall, K. L. (1989) The Re-establishment of *Themeda triandra* (Kangaroo Grass): Implications for the Restoration of Grassland, *Arthur Rylah Institute for Environmental Research Technical Report No 89*, Department of Conservation, Forests & Lands, Victoria.
- Melbourne Water (1991) *Draft Upper Maribyrnong River Concept Plan. Railway Trestle Bridge to Organ Pipes National Park*, Main report, Melbourne Water, Melbourne.
- Mueck, S. G. & Walters, B. (1996) Pest Plant and Animal Management Plan, Organ Pipes National Park & Woodlands Historical Park, Biosis Research Pty Ltd., Melbourne, unpub.
- NPS (1972) *Interim Policy, Re-vegetation of Organ Pipes National Park*, National Parks Service, Melbourne.

- NPS (1995) *National Parks and Conservation Reserves Guidelines and Procedures Manual*, National Parks Service, Department of Conservation & Natural Resources, Melbourne.
- NRE (database) 1997a Atlas of Victorian Wildlife, Department of Natural Resources & Environment, Melbourne.
- NRE (database) 1997b Flora Information System, Department of Natural Resources & Environment, Melbourne.
- OOC (1990) *The Greening of Corrections Program*, Office of Corrections, Melbourne.
- Rosengren, N. (1986) Sites of Geological and Geomorphological Significance in the Western Region of Melbourne, Department of Geography, University of Melbourne for CFL, Arthur Rylah Institute.
- Sutton, C. S. (1916) A sketch of the Keilor Plains flora, *The Victorian Naturalist*, **33**: 112-23 & 128-43.
- Tunbridge B.R., & Glenane T. G. (1982) Fisheries Value and Classification of Fresh and Estuarine Waters in Victoria, Fisheries and Wildlife Division of Ministry for Conservation, Melbourne, unpub.
- Van de Graaff (1979) *Soils of Melbourne*, Student Resources Bulletin, Land Protection Service.
- Varcoe, T. (n.d.) Jacksons Creek Valley, Importance of acquired lands, Department of Conservation & Environment, Melbourne, unpub.
- Webster, A., Fallu R. & Preece K. (1992) Striped Legless Lizard (*Delma impar*), Flora and Fauna Guarantee Action Statement No. 17, Department of Conservation & Environment, Melbourne.
- Xiberras, A. (1991) *An Archaeological Survey of the Organ Pipes National Park*, Victoria Archaeological Survey, Melbourne.

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- Alan Webster, Flora and Fauna Guarantee Officer, NRE, Port Phillip Region.

APPENDIX 1 SIGNIFICANT FLORA

SCIENTIFIC NAME	COMMON NAME	STATUS
<i>Allocasuarina luehmannii</i>	Buloke	⁺ d
<i>Banksia marginata</i>	Silver Banksia	*
<i>Bulbine glauca</i>	Bulbine Lily	*
<i>Callitris glaucophylla</i>	White Cypress-pine	d
<i>Calytrix tetragona</i>	Fringe Myrtle	*
<i>Comesperma polygaloides</i>	Small Milkwort	⁺ v
<i>Correa glabra</i>	Rock Correa	
<i>Enneapogon nigricans</i>	Nigger-heads	*
<i>Eremophila deserti</i>	Turkey-bush	d
<i>Glycine tabacina</i>	Variable Glycine	*
<i>Helipterum anthemoides</i>	Chamomile Sunray	*
<i>Nicotiana suaveolens</i>	Austral Tobacco	*
<i>Psoralea tenax</i>	Tough Psoralea	⁺ e
<i>Ptilotus macrocephalus</i>	Feather-heads	*
<i>Rhagodia parabolica</i>	Fragrant Saltbush	r*
<i>Rutidosis leptorrhynchoides</i>	Button Wrinklewort	⁺ eE
<i>Senecio macrocarpus</i>	Large-fruit Groundsel	⁺ eV
<i>Senna artemisoides</i>	Desert Cassia	*
<i>Stipa setacea</i>	Corkscrew Spear-grass	r
<i>Tripogon loliiformis</i>	Rye Beetle-grass	r
<i>Viminaria juncea</i>	Golden Spray	*

Source: NRE database 1997b

Conservation status:

- e endangered in Victoria
- d depleted in Victoria
- r rare in Victoria
- v vulnerable in Victoria
- E endangered in Australia
- V vulnerable in Australia
- ⁺ listed under the Flora and Fauna Guarantee Act
- * Regional conservation status (DCE 1990c)

APPENDIX 2 SIGNIFICANT FAUNA

SCIENTIFIC NAME	COMMON NAME	STATUS
Mammals		
<i>Orinthyrcus anatinus</i>	Platypus	*
<i>Petaurus breviceps</i>	Sugar Glider	*
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	*
Birds		
<i>Aquila audax</i>	Wedge-tailed Eagle	*
<i>Egretta alba</i>	Great Egret	*
<i>Falco peregrinus</i>	Peregrine Falcon	*
<i>Lichenostomus fuscus</i>	Fuscous Honeyeater	*
<i>Lichenostomus melanops</i>	Yellow-tufted Honeyeater	*
<i>Merops ornatus</i>	Rainbow Bee-eater	*
<i>Rhipidura rufifrons</i>	Rufous Fantail	*
Reptiles		
<i>Chelodina longicollis</i>	Long-necked Tortoise	*
<i>Pogona barbata</i>	Eastern Bearded Dragon	*
<i>Pseudechis porphyriacus</i>	Red-bellied Black Snake	*
<i>Trachydosaurus rugosus</i>	Stumpy-tailed Lizard	*
Fish		
<i>Galaxias olidus</i>	Mountain Galaxias	i
Amphibians		
<i>Litoria raniformis</i>	Growling Grass Frog	*

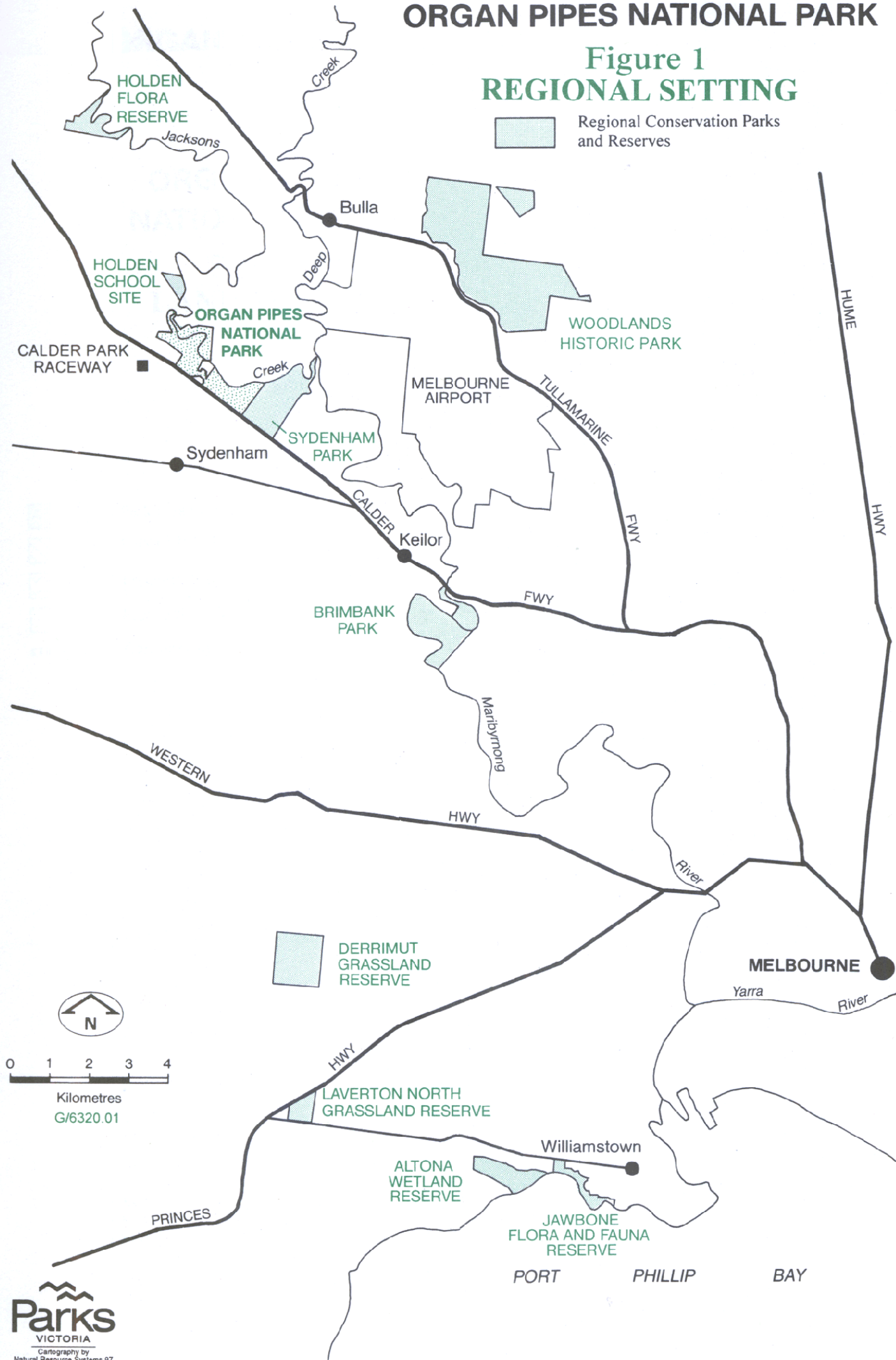
Source: NRE database 1997a

* regionally significant (Beardsell in prep.)

i insufficiently known

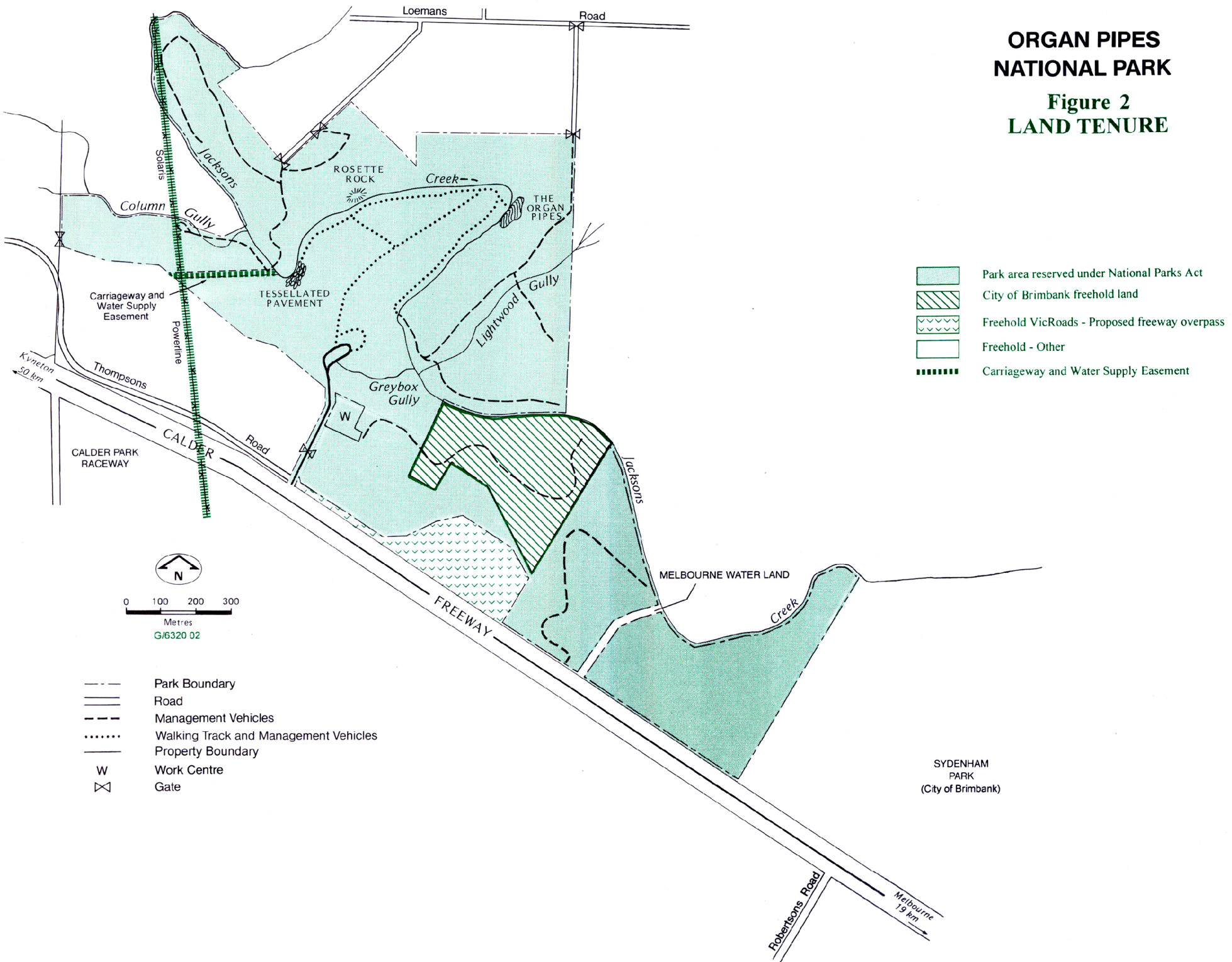
ORGAN PIPES NATIONAL PARK

Figure 1 REGIONAL SETTING



ORGAN PIPES NATIONAL PARK

Figure 2 LAND TENURE

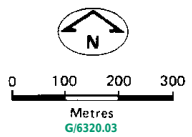
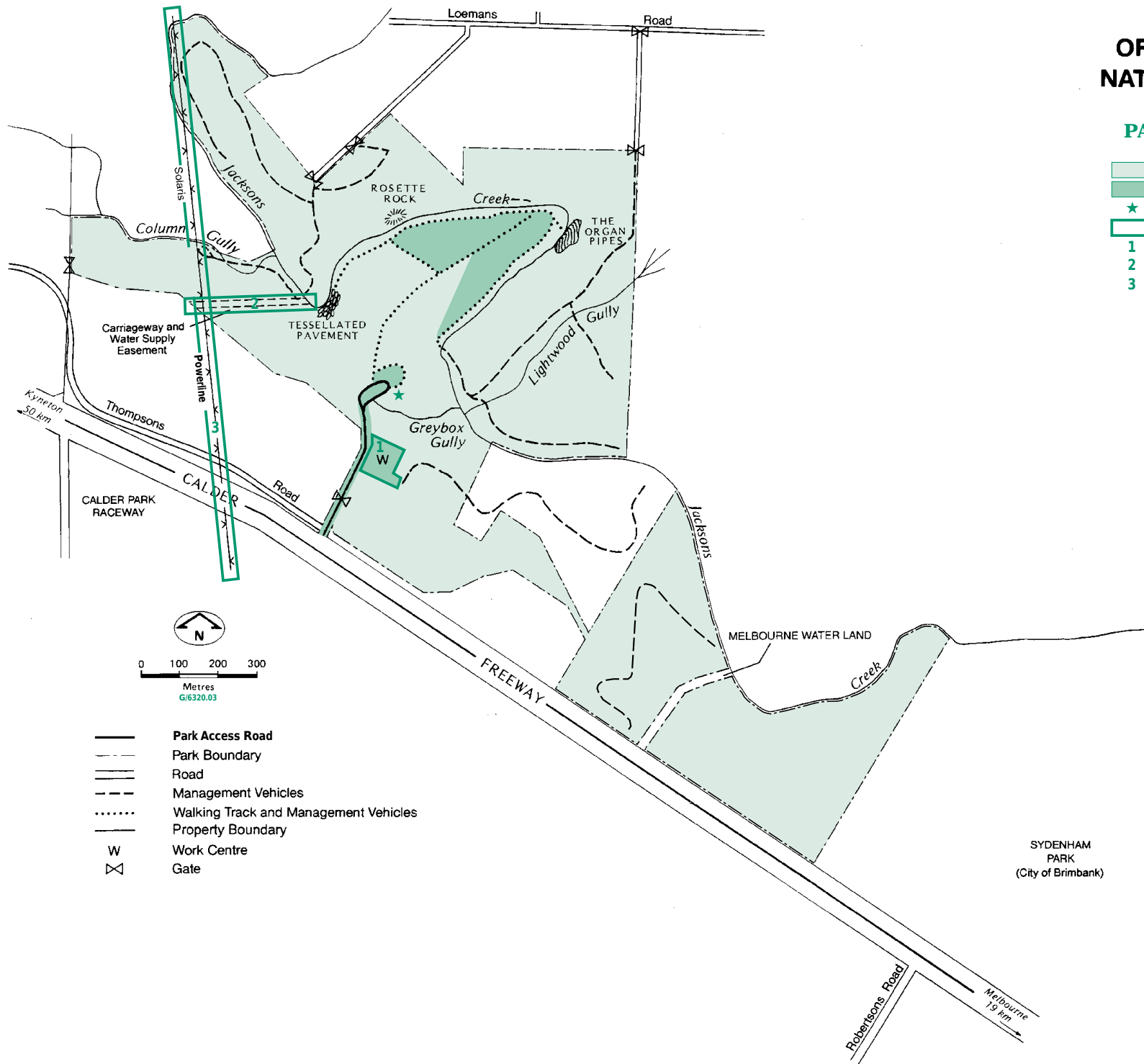


ORGAN PIPES NATIONAL PARK

Figure 3

PARK ZONING

- Conservation Zone
- Conservation and Recreation Zone
- Recreation Development Zone
- Special Management Area
- 1** Work Centre
- 2** Unused Carriageway and Water Supply Easement
- 3** Geelong to Melbourne Powerline



- Park Access Road
- Park Boundary
- Road
- Management Vehicles
- Walking Track and Management Vehicles
- Property Boundary
- W** Work Centre
- Gate

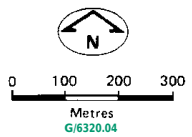
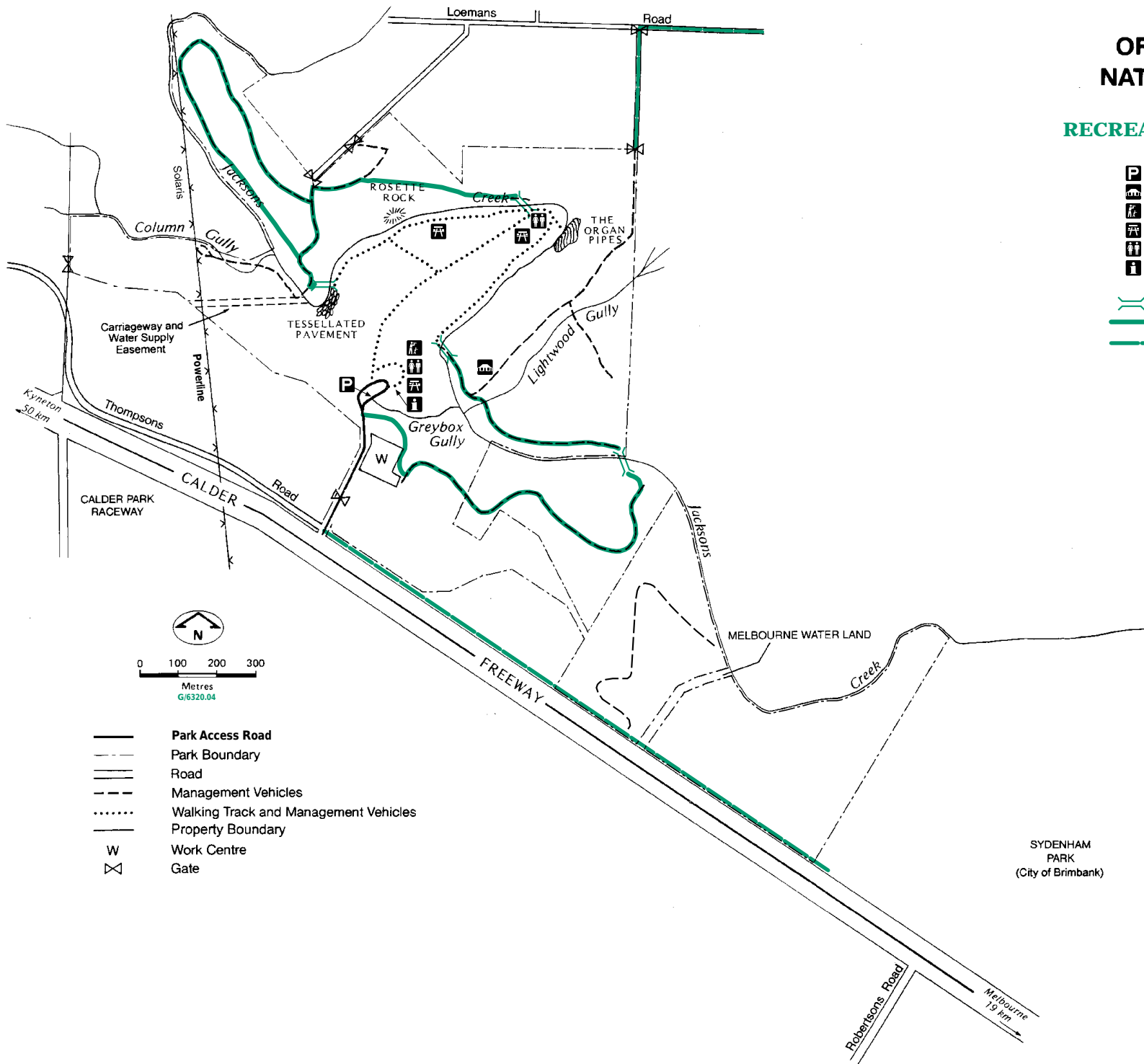
SYDENHAM PARK
(City of Brimbank)

ORGAN PIPES NATIONAL PARK

Figure 4

RECREATION FACILITIES

-  Carpark
-  Homestead ruin
-  Lookout
-  Picnic area
-  Toilets
-  Visitor Centre
-  Proposed creek crossing
-  Proposed walking track
-  Proposed regional trail



-  Park Access Road
-  Park Boundary
-  Road
-  Management Vehicles
-  Walking Track and Management Vehicles
-  Property Boundary
-  W Work Centre
-  Gate

SYDENHAM PARK
(City of Brimbank)