

National Parks Service

# **L***ittle Desert National Park*

Management Plan

June 1996



NATURAL RESOURCES  
AND ENVIRONMENT

This Management Plan for the Little Desert National Park is approved for implementation. Its purpose is to direct all aspects of management in the Park until the Plan is reviewed. A Proposed Management Plan for the Little Desert National Park and Wail State Forest was published in November 1991. A total of 179 submissions on the Proposed Plan were received from private individuals and groups.

Copies of this Plan can be obtained from:

NRE Horsham Office  
Department of Natural Resources and Environment  
21 McLachlan Street  
HORSHAM VIC 3400

Outdoors Information Centre  
Department of Natural Resources and Environment  
240 Victoria Parade  
EAST MELBOURNE VIC 3002

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**LITTLE DESERT NATIONAL PARK**

**MANAGEMENT PLAN**

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**National Parks Service**

**DEPARTMENT OF NATURAL  
RESOURCES AND ENVIRONMENT**

**VICTORIA**

**JUNE 1996**

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**Note:** In April 1996 the Department of Conservation and Natural Resources (CNR) became part of the Department of Natural Resources and Environment (NRE).

COVER: Malleefowl, a significant species in the Park, is classified as 'vulnerable' in Victoria.

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## FOREWORD

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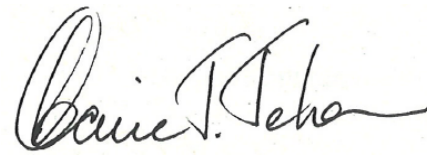
The Little Desert National Park is renowned for its unmodified 'desert' landscapes and its conservation values. Features of special note include the presence of Malleefowl, the Wimmera River and colourful spring wildflower displays.

Although not an immediately spectacular national park like the Grampians or Wilsons Promontory, Little Desert National Park has a subtlety and surprising variety that many people value very highly. For those who look closely the Park challenges all notions of desert as wasteland.

Over a number of years there has been very strong public interest in the management of this area.

The public consultation process has included four public meetings, 179 formal submissions following the release of a Proposed Plan. All comments have been carefully considered in the preparation of this Plan.

The Little Desert National Park will be managed to conserve the Park's rich and diverse assemblage of flora and fauna and protect other important natural values. Recreational opportunities will be enhanced to help people appreciate and enjoy the Park's values.



**Hon Marie Tehan MP**  
MINISTER FOR CONSERVATION  
and LAND MANAGEMENT

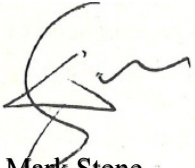
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## APPROVED MANAGEMENT PLAN

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This Approved Management Plan, prepared under Section 17 of the National Parks Act 1975 (Vic.), is approved for implementation.

The Plan provides the basis for future management of the Little Desert National Park. It was finalised following consideration of the 179 submissions received on the Proposed Plan.



**Mark Stone**  
**Director, National Parks Service**



**Paul Mainey**  
**Interim Regional Manager, South West**

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## SUMMARY

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Little Desert National Park (132 000 ha) protects significant vegetation and habitats characteristic of relatively low rainfall and soils of low natural fertility.

The Park's diverse and significant flora and fauna give the area outstanding conservation values.

Little Desert National 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 largely undisturbed environments will be an important management goal.

Recreational opportunities will be retained or enhanced, and the Park will continue to make an important contribution to nature-based tourism in western Victoria.

Significant management directions for the Park are summarised below.

- Significant vegetation and habitats will be given special protection. Priorities include Malleefowl habitats, Yellow Gum woodlands in the western block and the Wimmera Heritage River corridor.
- Fire protection will be managed in accordance with the Horsham Region Fire Protection Plan and a Park fire management plan, which will integrate burning for fire protection and ecological purposes.
- Control of foxes, rabbits and pest plants, in conjunction with adjacent landholders where appropriate, will be a priority.
- Camping and day visitor facilities in several locations along the Wimmera River and elsewhere in the Park will be maintained or upgraded.
- The range of walking opportunities will be enhanced and promoted, particularly the Desert Discovery Walk.
- Four wheel driving opportunities will be maintained, with difficult and/or sensitive sections of tracks being upgraded or realigned.





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# 1 INTRODUCTION

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## 1.1 Location and planning area

The planning area extends in a band from the South Australian border to the east side of the Wimmera River (figure 1) and is about five hours' drive along the Western Highway from Melbourne. The planning area comprises:

- Little Desert National Park (132 000 ha) to the west of the Wimmera River;
- a proposed addition to Little Desert National Park (647 ha);
- a Public Purposes Reserve (60 ha), incorporating the bed and eastern bank of the Wimmera River, separates the Park and the Wail State Forest.

Throughout this Plan, the terms 'Park' and 'planning area' refer to those three areas, unless specific references indicate otherwise.

The Park comprises three main blocks which are referred to throughout the Plan as the 'western', 'central' and 'eastern' blocks. The Park also includes the following areas:

- Little Desert (West) Reference Area (2 240 ha) and Little Desert (East) Reference Area (3 200 ha);
- Little Desert Remote and Natural Area (16 400 ha);
- Catiabrim Education Area (1 350 ha).

## 1.2 Regional context

Little Desert National Park is in the Wimmera region of Victoria. The economy of this area is based on mixed cropping (predominantly cereal and legumes) and grazing (mainly sheep with some beef cattle).

The extensive areas of agriculture are on the heavier and more fertile loam and clay soils, which contrast with the sandy soils within the planning area.

Light industry, retailing and services are located at Horsham - the major city of the region - and at the smaller towns of Dimboola, Nhill, Kaniva, Goroke and Natimuk.

## 1.3 Significance of the Park

Little Desert 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 jumbled system of sand dunes and the relatively low rainfall have led to the descriptive term 'desert'. However, the area is anything but a desert, supporting a diverse vegetation ranging from woodlands of Yellow Gum, River Red Gum and Black Box through open woodlands of Desert Stringybark to expansive Desert Banksia and Sheoak heathlands. The Park's remnant vegetation has high conservation significance.

More than 40 vascular plant species recorded in the Park and adjacent road reserves are classified as rare or threatened in Victoria, and many other plant species are near the limits of their range. The fauna is also diverse and includes a number of rare or threatened bird species such as the Malleefowl.

The Park is a popular tourist destination, particularly in spring when the wildflowers are in full bloom. The relatively undisturbed landscape and feeling of remoteness create an important recreational setting which attracts thousands of campers and day visitors each year.

Other significant features are the attractive scenery, and Aboriginal cultural sites along the Wimmera River.

In recognition of the area's outstanding values and its importance as a part of our heritage, Little Desert National Park was listed on the Register of the National Estate on 15 May 1991.

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.

## 1.4 Creation of the Park

Little Desert National Park had its beginnings in 1955 when 217 ha were reserved, principally for the protection of Malleefowl, as the Kiata Lowan Sanctuary. (This area is now referred to as the Sanctuary). The Little Desert was a focus of public attention and controversy in the years following 1968 when plans were announced to develop the area for agriculture. As a result of the public outcry over this proposal, the area was increased to 945 ha in 1968 and proclaimed as the Little Desert National Park – the 21st national park in Victoria. In 1969 the Park was expanded to 35 300 ha with the addition of the majority of the block between the Wimmera River and the Nhill-Harrow Road.

Little Desert National Park is reserved under Schedule 2 of the Act.

In May 1988, in accordance with the Land Conservation Council (LCC) Final Recommendations for the Wimmera Study Area (LCC 1986), the Park was further expanded to 132 000 ha by the addition of all the Crown land between the then existing Park and the South Australian border. The popular campground known as Horseshoe Bend was also added to the Park at this time.

A significant addition to the Park in 1991 was the donation by the Williams family (formerly of Kaniva) of seven hectares of land known as Broughtons Waterhole (figure 2).

## 1.5 Legislation, LCC recommendations and guidelines

### Legislation

Little Desert National Park is reserved and managed under the provisions of 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 to provide for the use of the Park by the public for enjoyment, recreation and education, and for research.

Little Desert Remote and Natural Area is protected and managed in accordance with Sections 21C and 21D of the National Parks

Act. These sections require the Director to control and manage the area so that the natural environment and its natural condition and appearance are protected.

The *Crown Lands (Reserves) Act 1978* (Vic.) provides the legal basis for administration of the Public Purposes Reserve along the Wimmera River.

The *Reference Areas Act 1978* (Vic.) provides for Reference Areas to be proclaimed and managed in accordance with Ministerial Directives.

The section of the Wimmera River in the planning area is part of the designated Wimmera Heritage River corridor under the *Heritage Rivers Act 1992* (Vic.). This Act provides for its protection and indicates particular uses which are or are not permitted. A separate management plan for the Wimmera Heritage River will be prepared by September 1997.

The *Flora and Fauna Guarantee Act 1988* (Vic.) provides for the conservation of Victoria's native flora and fauna by protecting important habitat and controlling processes which may pose a threat to native species and communities. NRE must manage areas for which it is responsible in accordance with the provisions of Act.

### Land Conservation Council

Three LCC studies relate to management of the planning area. These LCC studies include guidelines for land use management.

- *The Wimmera Study Area - Final Recommendations* (LCC 1986), accepted by the Government in 1988, includes the recommendation for enlargement of the Little Desert National Park, and creation of two Reference Areas and the Catiabrim Education Area within the Park.
- *The Rivers and Streams Special Investigation - Final Recommendations* (LCC 1991a), which were accepted by Government in October 1991, include a recommendation for the creation of a Victorian Heritage River corridor on the Wimmera River from Polkemmet Bridge

to Wirrengren Plain. A section of the corridor lies within the planning area.

- *The Wilderness Special Investigation - Final Recommendations* (LCC 1991b) identify a large section of the western block of the Park (the Little Desert Remote and Natural Area) as an area with remote and natural attributes which should be managed appropriately. These recommendations were given effect by the *National Parks (Wilderness) Act 1992* (Vic.).

### **NRE plans and guidelines**

The planning area is managed in accordance with NRE guidelines for the management of parks and public land, and with other NRE plans and guidelines, including:

- Horsham Region Fire Protection Plan (DCE 1989);
- National Parks Service Guidelines and Procedures Manual (NPS 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 disturbance, and 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.
- Take reasonable steps to ensure the safety of visitors.

#### **Other**

- Provide for and encourage scientific research, surveys and monitoring that will contribute to 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.

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## 2 STRATEGIC DIRECTIONS

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### 2.1 Park vision

A future visitor to Little Desert National Park finds a world-class national park protecting significant vegetation and fauna including Malleefowl, and habitats characteristic of areas with low rainfall and low natural fertility.

The Park is well known and loved by Victorian, interstate and international visitors for its unique landscapes and sense of remoteness. Managed with an increased knowledge of its natural environments, its natural and cultural features are well protected.

Visitors are attracted to the remoteness of the desert as well as the range of recreation activities available at the Wimmera River. Quality visitor facilities (including information and interpretation) enhance visitors' experience and appreciation. The Desert Discovery Walk, offering one to four day walks, is well promoted and used for winter and spring walking.

Control of vermin, noxious weeds and environmental weeds is successful, and on-going in co-operation with landholders along the Park boundary.

The future protection of the area's special values is assured.

### 2.2 Management directions

Major management directions for the Park are outlined below.

#### Resource conservation

- An appropriate balance between conservation, recreation and tourism activities, giving priority to conservation objectives, will be established.
- The rich and diverse assemblage of flora and fauna in the Park will be conserved.
- Aboriginal cultural sites will be protected.
- Emphasis will be placed on survey and research to provide a more comprehensive basis for future management.

#### Park protection

- The relatively unmodified landscapes of the Park will be protected by providing appropriate facilities, preventing disturbances, and restricting developments.
- Because knowledge of the long-term consequences of fire regimes on the vegetation is limited, burning prescriptions will continue to be conservative. Research into, and monitoring of, the effects of wildfires and prescribed fires on the flora and fauna will be encouraged, with a view to the future use of prescribed fire as a tool to assist in achieving conservation objectives.
- Significant Aboriginal cultural sites and European historic sites will be protected.
- Pest plants, animals and pathogens will be controlled, and their introduction will be prevented where possible.

#### The Park visit

- Good quality facilities for campers and picnickers will be provided at a limited number of developed areas, and visitor information will be upgraded.
- Opportunities for passive recreation, particularly walking in the vast remote and semi-remote settings of the Park, will be enhanced.
- The range of recreational opportunities associated with the Wimmera River will be maintained.
- Commercial tourism opportunities will be enhanced, consistent with Park management objectives.

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## Community awareness and involvement

- Information and educational material about the Park's natural and heritage values will be developed and made available.
- Appropriate scientific research and survey will be encouraged.

## 2.3 Zoning

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.

Five management zones apply to the Park - Conservation, Conservation and Recreation, Recreation Development, Reference Area and Education.

In addition, Land Use Designations (one for the Little Desert Remote and Natural Area and one for the Wimmera River Heritage River) are used to summarise requirements additional to those of the underlying primary zones.

Table 1 specifies Park management zone and overlay characteristics and the location of these zones and overlays is shown in figure 1.

**TABLE 1 PARK MANAGEMENT ZONES AND OVERLAYS**

|                               | ZONE   |   |   |   |  |
|-------------------------------|--|---|---|---|--|
|                               | 1  | 2   | 3   | 4   | 5  |
|                               | REFERENCE AREA   | CONSERVATION  | CONSERVATION & RECREATION   | RECREATION DEVELOPMENT  | EDUCATION  |
| AREA/<br>LOCATION             | 5440 ha, 4% of Park. Comprises Little Desert (West) (2240ha) and Little Desert (East) (3200ha) Reference Areas.  | 79 390 ha, 60% of Park. Substantial parts of the western, central and eastern blocks of the Park.   | 45 865 ha, 34% of Park and all of Public Purposes Reserve (60 ha). Natural and undeveloped areas of the Park mostly surrounding the Conservation Zone.  | 15 ha, <1% of Park. Comprises the picnic and camping areas and a surrounding buffer of 200 m.                     | 1350 ha, 1% of Park. Catiabrim Education Area.   |
| VALUES                        | Relatively undisturbed land types and associated vegetation.   | Areas of high conservation value.   | Important natural values with scope for low impact recreation.  | Sites with facility development in a natural or semi-natural setting.   | A natural area with scope for adventure activities with the emphasis on education and social skills. |
| GENERAL<br>MANAGEMENT<br>AIMS | Protect viable samples of one or more land types that are relatively undisturbed for comparative study with similar land types elsewhere, by keeping all human interference to the essential minimum and ensuring as far as practicable that the only long-term change results from natural processes. | 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. | Provide primarily for high use visitor nodes with a concentration of recreation and/or interpretation facilities. | Provide primarily for environmental education in a relatively undisturbed area.                      |



Table 1 (cont.)

|                         | OVERLAY  |   |
|-------------------------|--|---|
|                         | LAND USE DESIGNATION<br>- REMOTE AND NATURAL AREA  | LAND USE DESIGNATION<br>- HERITAGE RIVER AREA   |
| AREA/ LOCATION          | 16 400 ha, 12% of Park.<br>Little Desert Remote and Natural Area.  | 190 ha, <1% of Park. Wimmera Heritage River corridor overlays part of the Park and the Public Purposes Reserve. |
| VALUES                  | Significant remote and natural area.   | River significant for nature conservation, recreation, scenic or cultural heritage.                             |
| GENERAL MANAGEMENT AIMS | Protect the area's remote and natural attributes; prevent new and incremental developments, including the construction and upgrading of vehicular tracks and construction of new structures. | Protect the heritage values of the area.  |

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## 3 RESOURCE CONSERVATION

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### 3.1 Geological and landform features

The Little Desert is characterised by low irregular Quaternary sand dunes and sand sheets, known as the Lowan Sands. The dunes generally have a relief of less than 20 m, but in some places, particularly adjacent to the Nhill-Harrow Road, the underlying ridges of older Parilla Sand, laid down in the Tertiary period, give additional height to the dunes (up to 80 m). The red-brown Parilla Sand also outcrops in a number of locations as sandstone ridges and isolates, forming some of the better known features of the area such as Mt Turner and the Crater.

The altitude ranges from 100 m in the western block to 220 m in the east of the central block.

#### Aim

- Minimise impacts from visitors, management activities and educational studies on the Park's significant geological and geomorphological features.

#### Management strategy

- *Where appropriate, provide interpretive material relating to landform features.*

### 3.2 Rivers and streams

#### Hydrology

The Wimmera region has very limited surface water. The Wimmera River, the major watercourse, collects most of its water from the Pyrenees, Mt Cole and Grampians Ranges. Flow of water into the River from the Park is limited to minor rainwater run-off and highly saline groundwater discharges.

Numerous small clay pans and depressions between dunes, mainly in the western block and to a lesser extent the central block, hold water following rain. Fire dams have been constructed in some of these depressions.

Extensive reserves of good quality ground water are found in aquifers between 45 m and 260 m below ground level

Local knowledge suggests that many former soaks or semi-permanent springs, generally on the perimeter of the planning area, no longer hold water.

The Wimmera-Mallee Water Corporation (WMWC) has established a 107 m deep bore adjacent to Neuarpuir Track from which measurements of ground water pressure and quality are taken quarterly.

In 1985 the Victorian Government developed a plan with the Government of South Australia for the joint management of the groundwater resource which underlies the area around the border between the States. The plan calls for the Department of Natural Resources and Environment to establish piezometers to monitor this resource. It is likely that one such piezometer would be located in the Park.

#### The Wimmera River

The Wimmera River in the planning area forms part of the Wimmera Heritage River corridor, which extends from Polkemmet to the River's termination in Wyperfeld National Park. The heritage corridor extends about 200 m from both banks.

The section of the Wimmera River within the planning area extends from south to north defining the eastern boundary of the Park.

The LCC (1991) identified as significant values the River Red Gum open forests-woodlands, significant water bird habitat, scenic landscapes, recreational opportunities and cultural heritage associations, including many archaeological sites.

#### Water quality and quantity

Stream flow in the Wimmera River, managed by WMWC, has been greatly modified by upstream impoundment of water and subsequent water diversion through the Wimmera-Mallee Domestic and Stock Supply System. Reduced water flow through the section of River in the planning area is a concern for both recreation and conservation. The operation of Dimboola Weir (north-west of the Park) is critical to the maintenance of water flow in this section of River (section 7.2).

Water quality in the section of the Wimmera River within the planning area is poor as a result of past and present activities upstream and within the River catchment. The major water quality problems are high and increasing levels of salinity, high turbidity and high nutrient load (the latter including nutrients contained in sediments).

This section of River is likely to suffer from increased levels of salinity within the next ten years (CNR 1992). This is likely to affect conservation and landscape values.

Maintenance of high levels of water in the Dimboola weir may assist in minimising local entrance of saline groundwater (section 7.2). Otherwise the salinity problems in the River are beyond the scope of this Plan; they are dealt with in the Wimmera Catchment Salinity Management Plan (CNR 1992).

#### **Aim**

- Protect and enhance the conservation and recreation values of the Wimmera River and its environs.

#### **Management strategies**

- *Co-operate with other bodies which have management responsibilities for water production, the River environment and associated activities.*
- *Ensure that all management activities are compatible with the Heritage Rivers Act.*
- *As far as practical, ensure that the provisions of the management plan for the Wimmera Heritage River are consistent with this Plan.*

### **3.3 Vegetation**

The floristic and structural diversity of the vegetation of the Park and the rare or colourful nature of many species give the area great floristic significance and interest.

A total of 631 native vascular plant species have been recorded in the planning area.

Following a brief survey, Ashwell (1989) tentatively identified seven vegetation communities in the Park. The predominant

vegetation communities in the planning area are heathlands, Mallee-Broombush and allied communities, Mallee, Yellow Gum and allied communities, Blackbox and Desert Stringybark woodlands, and open forest (refer to figure 4, DCE 1991a).

The distribution of the various vegetation communities in the Park is influenced by soil type and rainfall. These factors vary across the three blocks of the Park and consequently different vegetation communities predominate in each block.

Carr (1984) noted that features of special interest include the importance of the Park in conserving orchid species, and the floristically intact understoreys of the Yellow Gum communities.

The riparian vegetation within the planning area is essentially unmodified and significant on a regional level (Kunert & Macmillan 1988). These authors emphasised the importance of the relatively undisturbed River Red Gum communities along the River, and their native grass understoreys, and vegetation transitions to Desert Stringybark woodland to the east and open heathland to the west. Frood and Calder (1987) identified riverine communities of Red Gum and Black Box as having a 'high priority for further conservation measures'.

While there is some knowledge of community distribution, as in Carr (1984) and Howard (1974), there is a lack of detailed knowledge about the ecology and floristic composition of these communities.

Of the 631 native species recorded in the planning area, seven are endangered in Victoria, 17 vulnerable, 12 rare and six depleted (appendix 1). Seven species are listed under the Flora and Fauna Guarantee Act.

A number of rare and threatened species occur on relatively small patches of heavier soil such as along the River, in swamps and soaks, and on some sections of the planning area boundary. These areas have a high potential for pest plant invasion. The boundary areas are subject to regular fuel reduction burning and associated access requirements. The River, swamps and soaks are also subject to relatively high recreational use.

McGuckin (1994) stated general recommendations for the management of a number of rare or threatened species, and specific recommendations regarding fire and apiculture.

The LCC (1986) and Carr (1984) noted the presence of a number of rare and threatened species on the boundaries of the western block. Management of the adjoining road reserves and the perimeter fire break will require special care in this block.

### **Response of vegetation to fire**

Despite the lack of detailed ecological information on the vegetation of the Park, some general conclusions about vegetation management in relation to fire can be drawn.

Fire frequency, intensity and season of occurrence are probably the major determinants of plant species richness and diversity in the Little Desert (Frood & Calder 1987).

Although it may be true that periodic fire promotes species richness and diversity in particular vegetation communities, some plant species and vegetation communities only thrive with infrequent fire or long-term fire exclusion. Consideration of appropriate fire regimes is particularly important where the species or community in question is rare or confined to small areas. It is also important to provide for a range of age-classes within community types and in a mosaic pattern.

### **Other management issues**

Firewood collection can cause considerable disturbance to the understorey. Such disturbance may be detrimental to significant species and aid the introduction of pest plants.

Management actions such as track maintenance, repair and relocation may also affect the vegetation. Relocation of tracks is a particular concern as some species are vulnerable to such disturbance and do not regenerate readily on former tracks (section 5.2.1).

Areas along the River, particularly at Horseshoe, Ackle and Big Bends and at Dago and Crowhurst Flats, require active intervention to encourage tree regeneration or re-

establishment of ground cover. At Horseshoe and Ackle Bends, unrestricted vehicle access is degrading the environment. NRE has recently erected vehicle barriers at Ackle Bend to help address this problem. At Dago and Crowhurst Flats there is evidence that rabbits and relatively high populations of kangaroos are limiting tree regeneration.

Mistletoe is a natural component of the ecology of the planning area. However, the density of infestation in some areas, particularly where tree numbers are limited, is of concern.

### **Aims**

- Maintain and protect the structural and floristic diversity of the vegetation.
- Provide special protection for plant species and communities that are rare or threatened or of special significance.
- Increase knowledge of the distribution and management of plant species communities and habitats.
- Restore degraded areas.

### **Management strategies**

- *Encourage surveys of vegetation with the aim of developing accurate floristic and structural descriptions of the various communities present.*
- *Develop fire management prescriptions for the maintenance of individual plant communities and species (e.g. McGuckin 1994).*
- *Prepare and implement management prescriptions for significant plant species (e.g. McGuckin 1994) and plant communities.*
- *Continue to map the locations of rare and threatened plant species. As a priority, survey the perimeter firebreak.*
- *Encourage research into the ecology of plant communities and species, in particular into the ecology of species that are rare or threatened or communities of special significance.*

- *Monitor the effects of wildfire and fire protection works on plant communities and species.*
- *Protect the vegetation by measures described elsewhere in this Plan, including:*
  - *implementation of the zoning plan, particularly the concentration of visitor facilities at a limited number of sites;*
  - *enforcement of the Land Conservation (Vehicle Control) Regulations 1972;*
  - *appropriate pest plant and animal control (section 4.2);*
  - *ensuring that road-making materials are obtained only from defined gravel pits in the Park.*
- *Encourage the revegetation of degraded areas by natural regeneration where possible.*
- *Ensure that any seed or plant material used for revegetation is obtained from appropriate species of local provenance.*
- *Protect the River Red Gum and Black Box communities along the River by:*
  - *excluding vehicle-based dispersed camping from the public purposes reserve;*
  - *rationalising vehicle tracks;*
  - *maintaining existing low barriers, and installing additional low barriers as required, to delineate vehicle access;*
  - *protecting trees regenerating naturally with tree guards;*
  - *monitoring the impacts of recreation and taking appropriate management action.*

### 3.4 Fauna

Over 280 native species have been recorded in the Park, but little detailed information is available on its fauna.

Maintaining diverse habitats in the Park is essential to the survival of the fauna, and detailed information is required before definitive management strategies for its conservation can be determined.

### Mammals

Nineteen native mammal species have been recorded in the Park. Common native species include the Western Pygmy-possum, Western Grey Kangaroo and Silky Mouse (LCC 1985).

None of the recorded species is considered rare or threatened in Victoria, although the populations of some species may be locally reduced.

The Swamp Wallaby, however, appears to be extending its range. The few recorded sightings have been in the last two years.

The Platypus was once common in the Wimmera River system but its distribution is now restricted, with only very occasional sightings in the planning area. The Water Rat is also found along the River.

Unconfirmed sightings in the western block of mammal species not recorded elsewhere in the Park suggest this block should be a priority for survey work.

### Birds

A total of 229 native bird species have been recorded in the Park. This diversity is a significant feature of the Park. Characteristic species include the Painted Button-quail, Variegated Fairy-wren, Crested Bellbird, Spotted Nightjar, Southern Scrub-robin, Rufous Calamanthus and Shy Hylacola (LCC 1985).

Of the 229 species, five are endangered, three vulnerable, nine rare and 12 listed under the Flora and Fauna Guarantee Act (appendix 2).

The Australian Bustard has been recorded several times in the last 10 years, usually on sites which have been recently burnt. The Little Desert is at the southern end of its range.

The Regent Honeyeater has only been recorded once, in 1900, and is presumed no longer to occur in the planning area.

The Red-tailed Black-Cockatoo's principal habitat is south of the Little Desert, but the Park may be important when food is scarce elsewhere.

Bush Stone-curlews are vulnerable as a result of land clearance, predation by foxes and feral

cats, and the removal of groundcover by grazing and firewood collection (LCC 1986).

Conservation of the Malleefowl was the principal reason for the declaration of the Kiata Lowan Sanctuary in 1955. Malleefowl breed in mature stands of Mallee-Broombush (LCC 1986). Land clearance, high fire frequency and predation by foxes and feral cats have contributed to the decline of this species (Garnett 1992). Predation is a significant concern within the planning area. NRE has trialed an intensive fox control program in the Sanctuary and is continuing to monitor the results of this program. Community concern for the local survival of the Malleefowl is very high.

Factors responsible for the decline of some of the other species are not clear, although fire frequency and clearing of native vegetation on adjacent private land are undoubtedly major influences.

The Red Gum Swamp in the central block, and pockets of woodland throughout the planning area, are particularly important breeding habitats for birds. The River environs are also a significant habitat, being important as a corridor for the movement of migratory and nomadic species and as extensive breeding habitat for waterbirds after inundation (LCC 1986).

The extensive heathlands of the eastern and central blocks provide important habitat for a number of significant species, including the Slender-billed Thornbill (LCC 1986).

## **Reptiles and amphibians**

A total of 22 species of lizard, three snakes, one tortoise and nine amphibians have been recorded in the Park. Widespread species in the Park include the Sand Monitor, Common Scaly-foot, Bearded Dragon, Jacky Lizard, Shingle-back and a skink (LCC 1985).

Within the LCC Wimmera Study Area, River Red Gum woodlands were found to support the greatest number of reptile species (14). The other common Little Desert vegetation communities support 10 to 12 species.

The Park represents the south-eastern limit of the Western Blue-tongue Lizard and the Bardick, and supports an isolated population of the Delicate Skink (LCC 1986).

## **Fish**

The majority of the fish species in the Wimmera River are either exotic species (seven) or native species which have been introduced to the River (four species). Only two indigenous species, Australian Smelt and Flat-headed Gudgeon, remain in the section of the Wimmera River within the planning area. It is presumed that other native species have been displaced by the introduced fish.

There are a number of 'potentially threatening processes' listed under the Flora and Fauna Guarantee Act relating to management of aquatic habitat and fish populations. Of particular relevance are the listed processes 'removal of wood debris from Victorian streams' and 'introduction of live fish into waters outside their natural range within a Victorian River catchment'.

Of particular concern to fish habitat are water quality and quantity problems in the River, especially the current and expected future elevated salinity levels (CNR 1992).

## **Invertebrates**

The invertebrates of the Park are not well known, but are considered important for pollination and seed dispersal, and as a source of food for birds, reptiles and mammals.

A number of butterflies and moths which have been recorded in the general area are considered rare or threatened, mainly as a result of

depletion of food plants for their larvae. Hill tops and dune crests are known to be important breeding sites for some species.

### Response of fauna to fire

There is very little detailed information about the responses of individual species to fire. However, it is known that some species require a specific fire regime for their continued survival. Sufficient general information is also available to guide the management of some other species and also to indicate species which require further study in terms of appropriate fire regimes.

### Other management issues

The clearing of native vegetation from surrounding private land has largely isolated the planning area. Such isolation may have long-term negative effects on the fauna.

Potentially threatening processes which relate to fauna management include loss of hollow-bearing trees and predation by foxes.

There are concerns regarding the effects of firewood collection near popular visitor areas.

### Aims

- Protect and conserve native fauna, particularly rare, threatened and locally significant species.
- Maintain diversity.
- Increase knowledge of the distribution and management of fauna.

### Management strategies

- *Encourage survey and research into the distribution, status and ecology of the fauna of the Park, particularly into the rare and threatened bird species and into the fauna of the western block.*
- *Develop fire management prescriptions for the maintenance of individual species.*
- *Prepare and implement management prescriptions for significant fauna.*
- *Implement the following measures at protect Malleefowl:*

- *survey and record the location of Malleefowl mounds in the Park;*
- *continue the intensive fox control program in the Sanctuary, and implement elsewhere if monitoring indicates that it is necessary;*
- *install Malleefowl warning signs on the Kiata South Road;*
- *support and encourage the 'Friends of the Malleefowl' Nhill group;*
- *collate all existing information relating to research and records of Malleefowl in the Park;*
- *support programs to protect the breeding potential of Malleefowl in the Park (e.g. pest animal control) in preference to captive breeding and release;*
- *survey for Malleefowl and Malleefowl mounds all areas proposed for fuel reduction, and modify proposed burning as appropriate;*
- *ensure that the requirements of Malleefowl, such as food sources, are a major consideration in the planning of any prescribed burning.*

- *Monitor the effects of wildfire and fire protection works on fauna.*
- *Monitor kangaroo and Emu numbers within the Park. Where numbers are deemed to be adversely affecting the Park ecology (as defined in NPS guideline 2.1.1P), action to restore the balance may be authorised.*
- *Continue to prohibit dogs in the Park.*
- *Support the development of wildlife corridors connecting the Park to large public land blocks to the north and south.*
- *Protect the fauna in zones 1 and 2 from the impact of feral Honey Bees by control of feral hives.*
- *Protect the fauna through appropriate control of foxes and feral cats (section 4.2).*
- *Protect hilltops and dune crests (habitat for moths and butterflies) from erosion.*

### 3.5 Landscape

Although the relatively flat terrain of the Park does not score highly on the usual landscape evaluation scales (e.g. Leonard & Hammond 1984), the open, expansive and essentially undisturbed nature of the landscape is attractive to many visitors. To many people, this is the main attraction of the Park.

The Wimmera River, with its enclosed views of reed-lined water bordered by River Red Gums, is an important and popular landscape feature of regional significance. These landscape values depend on maintaining healthy ecosystems.

A scenic assessment of Victoria's Rivers (Anson, Sweatman & Sandford 1987) found that this section of the Wimmera River was the only section of River within the Murray Basin Plains, other than the Murray itself, with a high visual quality. The LCC (1991a) recommended the protection of these landscape values.

The major relief feature of the planning area is the sandstone ridge around the 'Crater' in the central block of the Park. This and other high points on dunes and sandstone rises give extensive views of both bushland and cleared farmland - for example from Mount Turner, Pomponderoo Hill, Mount Moffat and Sister Hills. Low points in the landscape, soaks, swamps and salt pans are also attractive to visitors. Some of the above-mentioned sites have suffered from erosion caused by relatively minor disturbance of fragile environments. Works have recently been carried out at Pomponderoo Hill and Sister Hills to address this problem.

On a smaller scale, the contrast between vegetation types contributes to the attractiveness of the landscape. Small patches of Yellow Gum or River Red Gum away from the River, including Red Gum Swamp, Broughtons Waterhole and Eagle Swamp, are focal landscape features for walkers and four wheel drivers.

Landscape values are sensitive to a range of management actions including track maintenance and repair, activities associated with fuel reduction burning and provision of visitor facilities. Works need to be carried out

in a sensitive manner to avoid damage to landscape values. The type, location and design of visitor facilities require careful consideration to ensure that such facilities are not visually intrusive.

#### Aims

- Protect landscape values, particularly the extensive undeveloped landscapes of the Little Desert Remote and Natural Area and the recognised significant landscapes along the Wimmera River.
- Minimise the impacts of management and visitor activities, and visitor facilities, on the landscape.
- Enhance landscape values by removing undesirable visual intrusions.

#### Management strategies

- *In consultation with landscape architects, prepare site plans for zone 4 areas.*
- *Remove old rubbish dumps and fence lines which do not have historic significance.*
- *Ensure that all management activities, visitor facilities and any other permitted developments are planned to minimise impact on landscape values.*
- *Protect the relatively unmodified landscapes of zones 1, 2 and 3 by limiting developments.*

### 3.6 Cultural heritage

#### Aboriginal culture

At the time of European settlement, the Wergaia tribe occupied the area from the Wimmera River to the Richardson River and north into Pine Plains in the Mallee (LCC 1985). The oldest carbon-dated site in the Wimmera (5170 years) is at Mt Talbot, some 50 km south of the planning area (Bird 1987).

Settlement or occupation centred on sites of fresh water – lakes and swamps, and along the Wimmera River – where food resources were rich and water readily available.



A preliminary survey of Aboriginal cultural sites has been carried out along the section of the Wimmera River within the planning area (Russell 1992). Knowledge of site distribution and significance elsewhere in the planning area is poor, although other sites are known to exist. Aboriginal Affairs Victoria advises that outside the Wimmera River corridor, the distribution of recorded sites is patchy and highly clustered.

Localities along the Wimmera River and pockets of Yellow Gum and Red Gum woodland within the planning area are presumed to contain the majority of Aboriginal cultural sites. Potential for conflict between conservation of Aboriginal cultural sites and recreational use of the planning area is high, as these same areas are popular with visitors.

Many Aboriginal cultural sites in the planning area have been damaged through ignorance of their presence and significance.

All Aboriginal cultural sites are protected under the *Archaeological and Aboriginal Relics Act 1972* (Vic.) and the *Aboriginal and Torres Strait Islander Heritage Protection Act 1986* (Cwlth).

Currently there is no interpretation of Aboriginal cultural sites in the planning area. The Goolum Goolum Aboriginal Co-operative has expertise in the accurate interpretation of sites.

Aboriginal cultural sites in the planning area include scarred trees, mounds, surface scatters, middens, and some waterholes and rock outcrops. Scarred trees are found in the River Red Gum and Black Box communities adjacent to the River. These trees are threatened by fires and firewood collection and will eventually die from old age (Bird 1990).

Middens are extensive along both sides of the River in the planning area. There are conflicts between site conservation and the impacts of existing camping and picnic facilities, and of vehicle tracks located on midden sites. Accelerated bank erosion also threatens middens.

### **European history**

European history of the Little Desert commenced with a brief sojourn by Stapylton,

second-in-command to Major Thomas Mitchell, on 23 July 1836.

The areas of fertile clay soils to the north, south and east of the Little Desert were subsequently settled. The planning area was avoided because of its poor, sandy desert soils and limited water. Broughtons Waterhole is believed to have been enlarged to help address this problem.

Permanent occupation in the planning area was restricted to the Wimmera River (at Crowhurst Flat) and adjacent to the South Australian border, where there were regular and reliable sources of water. These sites are now indicated by a few relics and some fruit trees.

Routes through the Park of historic interest are the Old Nhill Road and a section of the Gold Escort Route between Mount Alexander and Adelaide. The latter route is believed to have entered the Park in the far south-east and left it in the vicinity of Matthews Track.

Eucalyptus oil distilling based on Dumosa Mallee was carried out on the perimeter of the Little Desert at several locations. One distillery, which closed in 1907, was near the present Kiata campground. The need for water in the distilling process stopped expansion of this activity.

The Little Desert was used for low intensity grazing of sheep until about 30 years ago. The vegetation was usually fired as frequently as it would burn, probably every five to eight years, to stimulate new growth and create 'green pick' for the sheep. Undoubtedly this fire regime, combined with sheep grazing, has affected the vegetation.

To provide water for stock, wells and bores were sunk and associated mills and troughs installed. Some of these bores are now used for water for fire-fighting purposes. Relics associated with grazing activities can be found at a number of locations including Stans Camp, McCabes Hut, Dahlenbergs Mill,

Uthmeyers Mill, Red Gum Swamp and Albrechts Mill.

Selective timber cutting from what is now the Park occurred after both World Wars. Most extraction was from the River Red Gum and Black Box communities along the River, and the Yellow Gum forests in the western block. At Dago Flat, timber was burnt in pits to make charcoal for local flour mills.

The Park was used for military training between 1942 and 1961, activities including gunnery and bombing. The eastern part of the Education Area was used during World War II as a RAAF bombing test range. Two concrete observation enclosures remain.

There are many other historic relics in the planning area, including stockyards, market gardens, the West Wail rifle butts and fences associated with early pastoral runs.

Introduced plants at various locations are a result of earlier European occupation. Examples include fruit trees near Crowhurst Flat and an Olive tree at Dahlenburgs Mill.

The Little Desert land clearance program and its ramifications are a major part of the area's (and the State's) history. McDonald Highway and associated mile posts remain as a tangible record of the Little Desert program.

### **Aims**

- Identify, protect and conserve Aboriginal cultural sites.
- Encourage greater Aboriginal involvement in Aboriginal cultural site management.
- Increase awareness and appreciation of local Aboriginal culture.
- Protect significant European historic sites.
- Increase community awareness and appreciation of local European history.

### **Management strategies**

- *Continue to encourage systematic survey and research into the distribution, significance and status of Aboriginal cultural sites, particularly along the River and at other sites with water.*

- *Permit the collection of traditional plant foods and plant materials by Aborigines from zone 3, for traditional purposes only, in accordance with NPS guidelines.*
- *Ensure that representatives of the Goolum Goolum Aboriginal Co-operative are consulted and/or involved in all surveys, research, planning and ongoing management of Aboriginal cultural sites.*
- *Obtain the consent of the Goolum Goolum Aboriginal Co-operative, and consult Aboriginal Affairs Victoria, before undertaking any works which would disturb Aboriginal cultural sites, including middens.*
- *Develop on-ground interpretation of selected Aboriginal cultural sites along the River.*
- *Do not publicise the location or significance of Aboriginal cultural sites without prior permission from Goolum Goolum Aboriginal Co-operative.*
- *Protect scarred trees by the annual removal of potential fire fuel from their base, and by enforcement of the Land Conservation (Vehicle Control) Regulations.*
- *Relocate tracks, picnic tables or other visitor facilities adversely affecting significant Aboriginal cultural sites.*
- *Encourage the recording of European history.*
- *Collate information on the European history of the Park.*
- *Protect and interpret as appropriate European sites of historic significance, including:*
  - *Broughtons Waterhole;*
  - *charcoal pits at Dago Flat;*
  - *remains of settlement sites, stockyards, sheep races, bores, water troughs and associated features variously present at Stans Camp, along the River including*

*Crowhurst Flat, McCabes Hut,  
Dahlenbergs Mill, Uthmeyers Mill,  
Lears Well, Red Gum Swamp and  
Albrechts Mill;*

- *non-invasive and deliberately planted introduced trees associated with significant sites;*
- *the former distillery site near Kiata campground;*

- *the cutting through the sandhill and associated channels north of Pump Jack Track;*
- *the two concrete observation enclosures in the Education Area;*
- *mile posts along McDonald Highway.*

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## 4 PARK PROTECTION

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### 4.1 Fire management

Fire management is the planning, conduct, monitoring and review of all aspects of fire prevention and fire suppression and the use of prescribed burning in land and natural resource management (Department of Primary Industries and Energy 1990).

Climatic conditions and vegetation types in the planning area combine to produce conditions that support wildfires, particularly in late spring and summer.

The Park has a long recorded history of fire. Over the last decade a number of large wildfires have occurred, including one in February 1989 which burnt 7 200 ha in the western and central blocks, and another in October 1987 which burnt 5 600 ha in the central block.

#### The Horsham Region Fire Protection Plan

The Horsham Region Fire Protection Plan (DCE 1989) sets out a strategy and guidelines for fire protection of the public land within the region. The Fire Protection Plan was approved following wide consultation with individuals and organisations with an interest in fire protection. Details of proposed burning operations are included in a rolling three-year operations plan which is developed annually.

#### Code of Practice

NRE has developed a Code of Practice for Fire Management on Public Land (CNR 1995a) to:

- promote the efficient, effective and integrated management of fire and fire related activities on public land;
- lay down minimum statewide standards for fire management on public land.

Any public land management plan, including the Regional Fire Protection Plan, must be consistent with the Code.

### Effects of fire on flora and fauna

Fire is a natural and necessary component of ecological processes in most, if not all, of the vegetation communities in the planning area.

Prescribed burning, wildfires and wildfire suppression methods may alter the composition and structure of vegetation communities and their associated faunal assemblages (sections 3.3 and 3.4).

It is essential to assess the distribution and abundance of significant flora and fauna and the effects of fire on such species. As knowledge increases, the prescribed use of fire for ecological purposes will need to be refined. Development of a fire management plan which incorporates prescribed burning (or exclusion of fire) for ecological purposes is required.

#### Aim

- Consistent with the Horsham Region Fire Protection Plan, and where appropriate, use prescribed fire to:
  - protect life, property and Park values from wildfire;
  - conserve and protect natural features, particularly significant communities and rare or threatened flora and fauna;
  - maintain diversity within vegetation communities.

#### Management strategies

- *Develop and implement a fire management plan for the Park which incorporates the Horsham Region Fire Protection Plan and specifies the following consistent with this Plan:*
  - *monitoring and assessment of the impact of fire on ecosystems and the distribution and abundance of significant species;*
  - *identification of appropriate fire regimes to conserve communities and species, in particular for significant communities and species and those dependent on the exclusion of fire;*
  - *procedures to protect conservation, landscape and heritage values in all*

*prescribed burning and fire suppression operations.*

- *Re-assess the need for existing dams in zone 2, taking into account the objectives of the zones; construct no new dams and rehabilitate unwanted or ineffective dams.*
- *Encourage scientific research and survey into the impact of fire on the flora and fauna.*
- *Implement the Horsham Region Fire Protection Plan pending development of a fire management plan for the Park. As part of the Fire Protection Plan, continue to maintain a perimeter firebreak.*
- *Maintain fire history maps.*
- *Ensure that all prescribed fires are subject to prior assessment or survey for significant species and vegetation communities, and consideration of impact on wilderness and landscape values.*
- *Ensure that the least damaging fire suppression techniques are adopted where possible, and that use of fire retardant and fireline construction is undertaken only where the required protection cannot be achieved with more conservative techniques.*
- *Other than in extreme circumstances, use of machinery and fire retardant for fire suppression will not be carried out within Reference Areas.*
- *Continue to participate in the South Australian-Victorian Border Liaison Committee regarding fire protection and suppression issues.*
- *Protect significant species and features by modifying of the perimeter firebreak where required.*
- *Continue to organise and participate in annual fire conferences between NRE, rural brigades, local landholders and other groups involved in fire protection and*

*suppression in and adjacent to the planning area.*

## **4.2 Pest plants and animals, and diseases**

### **Pest plants and pathogens**

Pest plant invasion is limited by the low fertility of the sandy soils which dominate much of the planning area, and the low rainfall. However, the small areas of clay soils within the planning area have a higher potential for pest plant invasion, and pest plants are widely established on the more fertile and moister clay soils along the Wimmera River. Over 100 introduced plant species have been recorded in the planning area.

A major factor which leads to pest plant invasion within the planning area is soil disturbance. This has serious implications for management, particularly vehicle access and off-road vehicle and machinery use.

Exposure of soils through frequent fuel reduction burning and the former practice of grazing sheep may also contribute to the current distribution and potential spread of pest plants. A variety of recreational pursuits can also lead to soil disturbance and require careful management.

The use of phosphate-based fire retardant has potential to possibly increase pest plant establishment and survival in areas where the low fertility of the sands is currently a limiting factor in the survival of such species.

The Horsham Region Weed Control Strategy (DCE 1991b) sets out guidelines for the planning and implementation of pest plant control works in the region.

Pathogens such as Cinnamon Fungus have not been identified in the planning area.

The risk of spread of pest plants and pathogens can be minimised by avoiding the entry of contaminated vehicles into 'clean' areas, and by the routine washing of vehicles and machinery to remove dirt and seeds before transferring the equipment to other areas.

The Horsham Region has developed procedures for vehicle and machinery hygiene (DCE 1991c). These procedures apply to the planning area.

### **Noxious weeds**

Under the *Catchment and Land Protection Act 1994* (Vic.), NRE is required to eradicate State and regionally prohibited weeds and effect control of regionally controlled weeds.

Horehound, Stinkwort and Boneseed are the main noxious weeds in the planning area. Horehound and Stinkwort are relatively common on clay soils along the River and on clay flats where the ground surface has been disturbed. Boneseed is found mainly in the Yellow Gum communities but also occasionally along the River, and has considerable potential to spread throughout the planning area without soil disturbance.

Other noxious weeds in the planning area are Slender Thistle, Soldier Thistle, Spear Thistle, Saffron Thistle, Patersons Curse and African Daisy.

NRE has invested considerable effort in controlling these noxious weeds. Continued control is essential to the maintenance of the conservation values of the planning area. Early control of all isolated occurrences of Boneseed and African Daisy is essential if spread within the planning area is to be prevented.

### **Environmental weeds**

Environmental weeds are introduced species which are not noxious weeds but nevertheless have considerable potential to impact adversely on conservation values.

Perennial Veldt Grass, used to stabilise dunes and provide stock fodder on private land, is an environmental weed within the planning area. This species thrives on nutrient-poor sands and has the potential to replace native plants over large areas. At present it is mainly confined to the boundary of the planning area, where it is suspected that regular fuel reduction burning or other disturbance to the native vegetation is a factor in its establishment.

Many annual environmental weeds are widespread and well established in the planning

area. Such species include Smooth Cat's Ear, clovers and various introduced grasses, particularly on the heavier clay soils. These species replace native plants, particularly annuals such as lilies, daisies and orchids. Soil disturbance aids the establishment of these species.

Along the River, Olive Asparagus, Radiata Pine, Early Black Wattle and particularly Bridal Creeper are serious and spreading pest plants. These species appear to be able to establish without soil disturbance. Isolated individuals of Bridal Creeper can also be found throughout the planning area. Eradication of these isolated individuals within the planning area is of strategic importance.

Dense growth of Common Reed and Cumbungi is considered a nuisance where the plants have spread across the River bed from bank to bank in a mat which severely restricts water flow.

### **Pest animals**

Over 13 species of pest animals have been recorded in the planning area, where they are widespread. They are of concern because of their capacity to obtain a competitive advantage over native species, and to reduce populations and distribution of some native species.

Artificial water-points aid the establishment and survival of some pest animals.

The Horsham Region Pest Animal Management Strategy (DCE 1991d) gives guidelines for planning and implementing pest animal control works in the region.

Under the *Catchment and Land Protection Act 1994*, NRE is required to control prohibited, controlled, regulated or established pest animals.

Rabbits occur mainly along the boundary with private land and along the River, where their selective grazing has a significant impact on many native plant species. Joint control programs between NRE and adjacent landholders are required for effective rabbit control (section 6.2).

In general, fumigation of warrens is the preferred control method within the planning

area as it tends to have the least impact on conservation values.

Hares are animals of open country and may shelter on the boundary areas, but they do not extend far into the planning area.

Foxes are widespread in the planning area and may be a contributing factor in the decline of the Malleefowl (Garnett 1992). A major fox control program using buried baits was started in 1994.

Goats live in groups of up to 20 in the central and western blocks of the Park. They browse on native vegetation and may limit the regeneration of certain species. The breeding potential of this species suggests that control should be undertaken while numbers are still low.

Feral cats are widespread in the planning area with a significant number of sightings in the western block of the Park. Cats may be a contributing factor in the decline of the Malleefowl (Garnett 1992) and negatively affect other species including the Silky Mouse.

Sheep live in small groups in the central and western blocks of the Park. Like goats, they browse on native vegetation and may limit the regeneration of certain plant species.

Feral European Honey Bees are widespread in the planning area and are particularly common in areas dominated by Yellow Gum and River Red Gum. They have been known to construct hives in hollows previously used by native fauna as nest sites. Some control of feral European Honey Bees is currently undertaken.

### **Aims**

- Protect conservation values through appropriate control of pest plants, animals and pathogens.
- Avoid the introduction and spread of pest plants and animals, and pathogens.
- Develop more effective pest animal control strategies.

### **Management strategies**

- *Consistent with the Horsham Region Weed Control Strategy and this Plan, detail and*

*implement pest plant control prescriptions for the Park.*

- *Investigate and develop techniques for control of Perennial Veldt-Grass in the Park which would not affect this species on adjacent private land.*
- *Eradicate feral goats and feral sheep.*
- *Encourage the development of improved methods of fox, feral cat and feral bee control.*
- *Reduce soil disturbance to the minimum necessary to carry out any task.*
- *Attempt to reduce fox and feral cat numbers. Use 1080 poison for fox control in accordance with NPS Guidelines and Procedures, and the Horsham Region Pest Animal Management Strategy.*
- *Monitor, and if found to be effective continue, the intensive fox control program in the Sanctuary aimed at protection of Malleefowl.*
- *Control rabbits in accordance with NPS Guidelines and Procedures, the Horsham Region Pest Animal Management Strategy and this Plan. Use fumigation of warrens as the preferred method for control, particularly for isolated populations. Use explosives and 1080 poison in appropriate circumstances, but avoid ripping.*
- *Control feral bees at recreation sites and other key visitor areas or install warning signs.*
- *Apply appropriate hygiene measures, as outlined in the Horsham Region hygiene procedure (DCE 1991c), to minimise the risk of introduction or spread of pest plants or fungal pathogens from vehicles and machinery.*
- *Identify pest plant and pathogen free areas to be given special consideration in the prescription of hygiene measures.*

- *Record all pest plant infestations using the Pest Management Information System (PMIS). Using PMIS, monitor pest plant and animal populations, their impact on Park values and the effectiveness of control techniques.*
- *Continue to control, and eradicate where possible, pest plant populations, giving priority to Bridal Creeper, Boneseed, African Daisy, Asparagus, Olive and Horehound.*
- *Control pest plants in the most lightly infested locations first, moving progressively towards heavier infestations.*
- *Ensure that pest plant control methods do not have a harmful effect on significant native species.*

### **4.3 Soil conservation**

The sandy surface soils of the Park are highly susceptible to wind erosion, particularly on exposed areas such as ridge crests.

Maintenance of vegetation cover is essential in preventing any significant wind erosion. Activities that remove or disturb vegetation or soils include road and track construction, burning, slashing and use of vehicles off-road.

Erosion along the River is occurring at a rate higher than is desirable and natural. A certain level of erosion is natural and indeed contributes to the diversity of habitat types in the River environs. Peak River flows have always been a cause of erosion, but the weakening of the banks by the factors discussed below worsens the effects of peak flows.

Among the factors contributing to the current accelerated levels of erosion are wash from motorised boats, inappropriate recreational access to the River (including boat launching and swimming sites), compaction of banks by off-road vehicle use, and the presence of inappropriately located tracks on the River banks and associated compaction and water run-off problems. The presence of excessive instream vegetation, particularly Common Reed, is also a contributing factor.

#### **Aims**

- Prevent and control soil erosion resulting from visitor and management activities.
- Revegetate disturbed areas with indigenous species.

#### **Management strategies**

- *In the planning and undertaking of all management activities, minimise disturbance to vegetation and soils.*
- *Rehabilitate disturbed areas.*
- *Manage boating on the Wimmera River to minimise bank erosion (section 5.2.6).*



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## 5 THE PARK VISIT

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### 5.1 The Park visitor

Tourism and recreation in the planning area are concentrated at a few well known locations. In the planning area, camping is predominantly in the Kiata campground and at Horseshoe, Big and Ackle Bends. Broughtons Waterhole is a popular camping area for four wheel drivers. The Sanctuary and the Wimmera River are popular picnicking locations. Walking tracks in the eastern block are also well used.

Visitor days for 1994-95 were over 27 000. The annual number of day visitors to the Sanctuary picnic area has fluctuated around 7000 per year in recent years. Most day visits are made in spring and to a lesser degree in autumn, mostly around Easter.

For the Kiata and Horseshoe Bend campgrounds combined, the annual number of camper nights is approximately 4000, with peak periods during spring, Easter and the May school holidays.

#### Providing for the visitor

The main competitive strengths for tourism in the planning area are the extensive unmodified landscapes of the Park, the presence of Malleefowl and the attractive setting of the Wimmera River. These competitive strengths can easily be degraded through inappropriate use and require very careful management. There is also potential to attract tourists travelling on the Western Highway to various walking tracks and picnic areas.

The Park will continue to provide for a range of recreation opportunities with quality facilities in semi-developed settings (the campgrounds and picnic areas) and essentially undeveloped remote settings elsewhere.

Managed for generally low visitor densities, developed day visitor and camping facilities will be provided at a small number of locations with extensive areas available for dispersed and unserviced recreation and tourism.

The latter are a major feature of the Park area, and careful consideration will be given to

protecting these settings while enhancing associated recreational opportunities.

Significant developments will include:

- new and enhanced facilities at campgrounds and picnic areas;
- additions to the walking track network;
- evaluation of visitor needs to determine future visitor services and facilities;
- a well maintained network of (preferred access) roads and tracks;
- enhanced interpretation, information and signposting;
- improved access and facilities for visitors with limited mobility;
- provision of alternatives to the use of firewood (e.g. gas barbecues).

The Wimmera River is a major focus of recreational activity in the planning area. Careful consideration also needs to be given to maximising recreation opportunities along the River which are compatible with the protection of heritage river and other conservation values.

#### Aim

- Provide for visitors in accordance with the above overview of future management for visitors.

#### Management strategies

- *Permit recreational activities in accordance with table 2.*
- *Provide facilities and services which highlight, but are in keeping with, the area's distinctive character (sections 5.2, 5.3, and tables 3 and 4).*
- *Apply NPS market research findings and conduct on-site visitor surveys to assess visitor numbers, profiles, patterns of behaviour, expectations and preferences.*

**TABLE 2 SUMMARY OF RECREATION ACTIVITIES**

| ACTIVITY                             | ZONE |     |                  |     |     |
|--------------------------------------|------|-----|------------------|-----|-----|
|                                      | 1    | 2   | 3                | 4   | 5   |
| Four wheel driving                   | No   | YC  | YC               | YC  | YC  |
| Trail bike riding                    | No   | YC  | YC               | YC  | YC  |
| Bicycling                            | No   | YC  | YC               | YC  | YC  |
| Vehicle-based picnicking             | No   | Yes | Yes              | Yes | Yes |
| Camping - intensive                  | No   | No  | No               | Yes | No  |
| Camping -<br>vehicle-based dispersed | No   | Yes | Yes              | N/A | Yes |
| Camping -<br>walk-in dispersed       | No   | Yes | Yes              | N/A | Yes |
| Walking/picnicking                   | No   | Yes | Yes              | Yes | Yes |
| Horse riding                         | No   | No  | YC <sub>P</sub>  | No  | No  |
| Speed boating (> 8 kph)              | N/A  | N/A | Yes <sub>P</sub> | N/A | N/A |
| Motor boating(< 8 kph)               | N/A  | N/A | Yes <sub>P</sub> | N/A | N/A |
| Canoeing                             | N/A  | N/A | Yes <sub>P</sub> | N/A | N/A |
| Water-skiing                         | N/A  | N/A | Yes <sub>P</sub> | N/A | N/A |
| Orienteering/rogaining               | No   | No  | Yes              | No  | No  |
| Rock climbing/Abseiling              | N/A  | N/A | N/A <sub>P</sub> | N/A | N/A |
| Dogs                                 | No   | No  | Yes <sub>P</sub> | No  | No  |
| Hunting of declared game species     | No   | No  | Yes              | No  | No  |
| Fishing/yabbing                      | N/A  | Yes | Yes <sub>P</sub> | Yes | Yes |
| Generators                           | No   | No  | Yes <sub>P</sub> | No  | No  |
| Chainsaws                            | No   | No  | Yes <sub>P</sub> | No  | No  |
| Firewood collection                  | No   | No  | Yes              | No  | No  |

|   |                             |              |  |
|---|-----------------------------|--------------|--|
| 1 | Reference Area              | Yes          | permitted or available                               |
| 2 | Conservation                | No           | Not permitted  |
| 3 | Conservation and Recreation | YC           | conditional; refer to specific sections of the Plan. |
| 4 | Recreation Development      | <sup>P</sup> | Public Purposes Reserve only.                        |
| 5 | Education                   | N/A          | not applicable                                       |

- *Encourage all visitors to adopt minimum impact techniques and to adhere to Codes of Conduct appropriate to their activity.*
- *Monitor visitor use to ensure adequate provision of facilities, consistent with appropriate types and levels of use.*
- *Encourage surveys of, and scientific research into the impact of, recreational activities.*

## 5.2 Visitor recreation activities and facilities

### 5.2.1 Vehicle access

There are 57 external public access points to the Park (figures 2 and 3). Many access roads are unformed, suitable only for 4WD vehicles and unsuitable for increased volumes of traffic. The Shires of West Wimmera and Hindmarsh, and the Rural City of Horsham, are responsible for the maintenance of these access roads.

Most tracks in the planning area were not designed or built for recreational access. The

existing track network is mainly a result of ad hoc development for pastoral, subdivisional, local traffic or fire access purposes. Much of this track network is maintained principally for fire access.

Sections of track are subject to seasonal closure between mid June and the end of October as the tracks are vulnerable to damage in wet conditions.

Track maintenance involves slashing track margins and minor patching and grading. Repair of sections of deep sandy tracks and sections of track that have become rutted through use in wet weather is costly.

### Four wheel driving

Visitors have access to about 800 km of vehicular tracks in the Park, most of which are unsuitable for 2WD use. Visitors in 4WD vehicles can travel the length of the Park on 4WD tracks with only short sections between the major blocks on bitumen road.

Popular routes for 4WD enthusiasts include an east-west crossing of the eastern and central blocks and a loop in the western block.

Sandy tracks receiving most use are frequently damaged by vehicles and subsequent erosion, and in summer such tracks often become almost impassable. Tracks on clay soils become boggy in winter and most become deeply rutted from use in wet weather. Unauthorised by-pass tracks are often formed where tracks become impassable or deeply rutted. This has significant impacts on conservation and landscape values.

### Two wheel driving

There are tracks suitable for 2WD vehicles leading to the main visitor facilities including Horseshoe Bend, Ackle Bend, Sanctuary picnic area, Kiata campground and the existing interpreted nature walks.

Sections of track along both sides of the River are rough but passable to 2WD in dry conditions. Use of these tracks when they are wet causes damage. Opportunities for two wheel driving in the Park are very limited. There is no 2WD access to the planning area west of the Nhill-Harrow Road, apart from the

Kaniva-Edenhope Road which runs along two very short lengths of the Park boundary.

The current limited extent of 2WD access has been a major factor in the protection of the conservation values and unmodified landscapes of the planning area.

### Trail bike riding

Trail bike riding by licensed riders on registered bikes is permitted on roads and tracks open to the public. Individuals and small groups occasionally ride trail bikes in the planning area.

Trail bike noise can substantially lessen the enjoyment of other visitors.

### Aims

- Provide 2WD tracks to zone 4 areas and the start of interpreted nature walks.
- Provide 4WD tracks which enable touring in each block of the Park, including access to selected features.
- Restrict vehicular access to areas of particular conservation or heritage significance which may be adversely affected by vehicles.
- Maintain a track network for fire protection and suppression and other emergency purposes.
- Minimise the damage caused to tracks in wet weather.
- Contain costs associated with track maintenance and repair.
- Minimise the impact of track maintenance, repair and relocation on conservation, landscape and heritage values.
- Control the use of vehicles off-road.

### Management strategies

- *Manage and permit use of the vehicle roads and tracks in the planning area in accordance with table 3.*
- *Upgrade NRE maps, including the Park visitor brochure, to show preferred routes*

**TABLE 3 ROAD AND TRACK MANAGEMENT**

| ROAD/TRACK NAME      | CLASS | MAIN USES | STATUS | FUTURE MANAGEMENT/COMMENT      |
|----------------------|-------|-----------|--------|--------------------------------|
| <i>Western block</i> |       |           |        |                                |
| Border               | 2     | F R P U   | O      |                                |
| Blackboy             | 2     | F R       | O      |                                |
| Mt Moffat            | 2     | F R U     | O,S    | Preferred public access route. |
| Tallageira           | 2     | F R       | O,S    |                                |
| Elliots              | 2     | F R       | O      | MVO (part)                     |
| East West            | 2     | F R       | O,S    | Preferred public access route. |
| Laidlaws Dam         | 2     | F R       | O,S    | Preferred public access route. |
| Neuarpurr            | 2     | F U       | O      | MVO                            |
| Lillimur             | 2     | F         | O      | MVO                            |
| Jacobs               | 2     | F R       | O      |                                |
| <i>Central block</i> |       |           |        |                                |
| McDonald Highway     | 2     | F R       | O,S    | Preferred public access route. |
| Mortat               | 2     | F R       | O      |                                |
| Sambells             | 2     | F R       | O      |                                |
| Lawloit              | 2     | F R       | O,S    |                                |
| Sister Hills         | 2     | F R       | O      |                                |
| Miram South          | 2     | F R       | O      | Preferred public access route. |
| Broughtons           | 2     | F R       | O      |                                |
| Fenceline            | 2     | F         | O      | MVO                            |
| Koonik               | 2     | F         | O      | MVO                            |
| Brooks               | 2     | F R       | O      |                                |
| Browns Dam           | 2     | F R       | O      |                                |
| Stans Camp           | 2     | F R       | O      |                                |
| Whimpeys             | 2     | F R       | O      |                                |
| Phillips             | 2     | F R       | O      |                                |
| Old Nhill            | 2     | F R       | O,S    |                                |
| Crater               | 2     | F R       | O      |                                |
| Red Gum              | 2     | F R       | O      |                                |
| Lost Flat            | 2     | F         | O      | MVO                            |
| <i>Eastern block</i> |       |           |        |                                |
| Beekeepers           | 2     | F R       | O      |                                |
| Jungkum              | 2     | F         | O      | MVO                            |
| Link                 | 2     | F         | O      | MVO                            |
| Dahlenbergs Mill     | 2     | F R       | O,S    | Preferred public access route. |
| Two Dam              | 2     | F R       | O      |                                |
| Matthews             | 2     | F R       | O      |                                |
| Salt Lake            | 2     | F R       | O      | Preferred public access route. |
| Campground           | 1     | F R       | O      | Preferred public access route. |
| Centre               | 2     | F         | O      | MVO                            |
| Warners              | 2     | F R       | O      |                                |
| Pump Jack            | 2     | F R       | O      |                                |
| McCabes Hut          | 2     | F R       | O      |                                |
| Mallee               | 2     | F R       | O      |                                |

Table 3 (cont.)

| ROAD/TRACK NAME | CLASS | MAIN USES | STATUS | FUTURE MANAGEMENT/COMMENT      |
|-----------------|-------|-----------|--------|--------------------------------|
| Dry Well        | 2     | F         | O      | MVO                            |
| Eagle Swamp     | 2     | F R       | O      |                                |
| One Tree Hill   | 2     | F R       | O      |                                |
| River           | 1     | F R       | O      | Preferred public access route. |
| Stringybark     | 2     | F R       | O      |                                |
| Unnamed         | 2     | F R       | O      |                                |

|        |   |                                |           |   |                         |
|--------|---|--------------------------------|-----------|---|-------------------------|
| Class  | 1 | All vehicle - dry weather only | Main uses | F | Fire protection         |
|        | 2 | 4WD - dry weather only         |           | R | Recreation              |
| Status | O | Open to public vehicles        |           | P | Private property access |
|        | S | Seasonal road closure          |           | U | Utility access          |

## Future management/comment

MVO Management vehicles only

- (figure 2), other public vehicular access tracks and track status.
- Establish and maintain direction signs on tracks.
  - Modify signposting of vehicle tracks to show preferred routes (figure 2).
  - Temporarily close tracks that are impassable or would be significantly damaged by vehicular traffic.
  - Monitor track conditions and use. If the cost of maintaining any particular track is beyond the resources of NRE, it may be closed to public vehicles. Any proposed alteration to the status of tracks as shown on figures 2 and 3 will be discussed with the Victoria Association of Four Wheel Drive Clubs.
  - Relocate tracks to protect conservation, landscape or heritage values, or where there is a problem (e.g. deep sand, boggy conditions) that cannot be satisfactorily overcome by temporary closure. Generally provide wet weather diversions on the preferred routes only.
  - Ensure that an environmental assessment is undertaken before any relocation of tracks or construction of wet weather diversions.
  - Maintain tracks according to the following guidelines:
    - give priority to the maintenance of 2WD tracks and the preferred routes as shown on figure 2;
    - obtain materials for track repair from within the Park only from existing NRE gravel pits.
  - Encourage visitors to:
    - check on track conditions, including the locations of any temporary track closures, with a local NRE office, before entering the Park;
    - use the preferred routes;
    - keep off the internal tracks associated with the perimeter fire break (these tracks are provided for fire protection purposes only);
    - comply with the 4WD code of ethics.
  - Ensure that NRE activities do not significantly damage tracks.
  - Continue not to permit car rallying.

- *Maintain tracks additional to those shown on figures 2 and 3 only where required as part of the perimeter firebreak system, or for access to apiary sites, NRE gravel extraction pits, picnic sites, water points or other appropriate use.*

### 5.2.2 Bicycling

The sandy tracks of the planning area are not well suited to bicycle riding. However, the firmer clay tracks near the River are suitable when dry.

Bicycle use in natural areas has increased in recent years as a result of increased sales of mountain bikes. The Mountain Bike Code developed by NRE gives guidelines for mountain bike use.

Bicycle riding on walking tracks can conflict with the safety and enjoyment of walkers.

#### Aim

- Permit cycling where consistent with other objectives.

#### Management strategies

- *Permit cycling on vehicle tracks including management vehicle only tracks. Bicycles are not permitted on seasonally or temporarily closed tracks, on walking tracks or off-road.*
- *Encourage cyclists to comply with the Mountain Bike Code.*

### 5.2.3 Picnicking and camping

Picnicking is popular, particularly in the Sanctuary picnic area and at various sites along both sides of the Wimmera River. Tables, barbecues and rubbish bins have been installed at a number of sites. Servicing rubbish bins is costly, and inappropriate siting of some facilities along the River is resulting in bank erosion.

Most camping occurs in the formal campgrounds at Kiata, and Horseshoe, Big and Ackle Bends. Tables, barbecues and rubbish bins, limited fresh water and picnic shelters are

available at these locations and fees are charged.

Vehicle-based dispersed camping<sup>1</sup> is currently permitted in the western and central blocks of the Park. The most popular locations are along the River (particularly at Big Bend) and at Broughtons Waterhole in the central block of the Park where tables, fireplaces and rubbish bins are provided. Elsewhere the current level of vehicle-based dispersed camping is low.

Off-road vehicle use associated with vehicle-based dispersed camping has caused some damage to conservation and landscape values. There is concern that expansion of vehicle-based dispersed camping in the Park may result in further environmental degradation.

The level of walk-in dispersed camping<sup>2</sup> is low, because of the lack of drinking water. However, interest in walk-in dispersed camping in the planning area is growing.

Although most campers collect and use firewood for camp-fires in a responsible fashion, habitat in the vicinity of popular camping areas, particularly adjacent to the Park campgrounds, is becoming degraded through depletion of the limited quantity of dry fallen timber that is available.

Disposal of human wastes along the River has often been inadequate. The provision of pit toilets at Ackle Bend has partially addressed this problem.

#### Aims

- Provide opportunities for picnicking and camping in a range of settings, ranging from developed sites with facilities to informal settings without facilities.
- Provide good quality facilities for picnicking and camping.

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<sup>1</sup> Defined as camping outside designated campgrounds where access is provided by a vehicle or a vehicle is used to transport the camping gear. Generally the campsite is within 200 m of the vehicle and dependent on the location of the vehicle.

<sup>2</sup> Defined as camping where the camping gear is carried in a backpack and the campsite is remote from, and not dependent on the location of, a vehicle.

- Minimise the potential impacts of camping and picnicking on conservation and landscape values.

### Management strategies

- *Permit picnicking in all zones other than in the Reference Areas (zone 1).*
- *Maintain picnic areas at the Sanctuary and Ackle Bend (zone 4).*
- *Provide campgrounds in zone 4 at Horseshoe Bend (30 sites), Ackle Bend (10 sites), Kiata campground (50 sites), Broughtons Waterhole and Kaniva-Edenhope Road.*
- *Manage picnicking and camping in the eastern block as follows:*
  - *allow walk-in dispersed camping;*
  - *allow vehicle-based camping in zone 4 campgrounds only;*
  - *provide picnic facilities in campgrounds and at the other locations as shown in figures 2 and 3;*
  - *prepare and implement site plans for zone 4 areas; base plans on the survey and assessment of the natural and cultural features and values of sites;*
  - *collect camping fees, via a self-service system;*
  - *investigate relocation and improvement of the toilets at Horseshoe Bend away from the River;*
  - *upgrade facilities to a standard suitable for visitors with limited mobility when existing facilities require replacement;*
  - *investigate providing gas barbecues at campgrounds to reduce the demand for firewood;*
  - *install low vehicle barriers to manage vehicle access as required;*
  - *install and maintain fireplaces and picnic tables at selected locations (figures 2 and 3);*
  - *monitor the impact of walk-in dispersed camping, and restrict the activity if problems develop.*
- *Permit vehicle-based dispersed camping and picnicking in the central and western*

*blocks; monitor impacts and restrict if significant degradation occurs.*

- *Permit walk-in dispersed camping in all zones other than in the Reference Areas and within 300 m of Salt Lake.*
- *Permit fires in fireplaces only in the eastern block, and at Broughtons Waterhole, Red Gum Swamp and the campground to be established near the Kaniva-Edenhope Road.*
- *In the remainder of the central and western blocks, permit fires in accordance with the Fire Protection Regulations.*
- *Encourage the use of portable gas or liquid fuel stoves, particularly by walk-in dispersed campers.*
- *Permit the collection of dead fallen firewood from zones 2, 3, and 4 only for use in campfires in the planning area.*
- *Investigate the provision of firewood by a commercial operator to visitor areas in zone 4.*
- *Enhance visitors' experience by prohibiting the use of chainsaws in the Park.*
- *Restrict firewood collection where necessary to protect environmental values.*
- *Enhance visitors' experience by not permitting the use of generators in the Park.*

### 5.2.4 Bushwalking

Many visitors go for short walks from the developed campgrounds and picnic areas (table 4). Interpreted nature walks at Kiata campground, Sanctuary picnic area, the Nhill-Gymbowen Road and Pomponderoo Hill (figure 2) are popular (section 5.3).

Substantial numbers of visitors walk the circuit from Kiata campground to Salt Lake, some camping overnight at the small camping area east of Salt Lake. The presence of vehicles on

the return route from Salt Lake to Kiata campground affects the walking experience.

The 84 km Desert Discovery Walk was established in the Park's eastern block in 1994. This track offers walking options of one to four days duration. Logical start/finish points are at Kiata and Horseshoe Bend campgrounds, and there are two walk-in camps strategically placed along the route. A registration system applies to walkers using the Desert Discovery Walk.

The Hindmarsh Shire has recently proposed the construction of a walking track along the Wimmera River from Polkemmet (south of the planning area) to Lake Hindmarsh (north of the planning area). A section of this track would pass through the planning area.

#### **Aim**

- Provide a range of opportunities for walking.

#### **Management strategies**

- *Maintain a range of walking opportunities in accordance with table 4.*
- *Promote the circuit walks from Kiata campground.*
- *Promote and maintain the Desert Discovery Walk and associated walk-in camps.*
- *Construct a walking track with interpretation facilities at Ackle Bend.*
- *Enhance walking opportunities from Horseshoe and Ackle Bends to Eagle Swamp by closure to public vehicles of Dry Well Track.*
- *Permit walking, including off-track walking, in all zones apart from the Reference Areas (zone 1).*
- *Encourage overnight walkers to register their trip intentions with NRE.*
- *Support the Hindmarsh Shire in the development of a long distance walking*

*track to category C standard between Polkemmet and Lake Hindmarsh.*

- *Ensure the protection of conservation, landscape and heritage values in the planning of walking opportunities.*

#### **5.2.5 Horse riding**

In this Plan, horse riding also refers to the use of horse-drawn vehicles.

Horses were used for travel in the area from the days of exploration and settlement. Horse riding in the planning area at present is generally limited to occasional recreational riding. Horses have been used in re-enactments of the historic Gold Escort from Mt Alexander to Adelaide.

Horse riding on walking tracks can cause conflict with walkers.

#### **Aim**

- Permit low-intensity horse riding where consistent with Park objectives.

#### **Management strategies**

- *Permit horse riding on vehicle tracks open to the public in zone 3 only, subject to the following conditions:*
  - *no overnight camping with horses;*
  - *horse riding by individuals and small groups is encouraged;*
  - *no horses on walking tracks.*
- *Monitor horse riding use.*
- *Permit horse riding on other selected tracks as part of official historic event re-enactments (e.g. use of tracks in zone 2) in accordance with NPS guidelines.*

#### **5.2.6 Boating, water-skiing and swimming**

In this Plan, motor boating is defined as the use of any motorised vessel at speeds less than 8 km/h. Speed boating is defined as the use of any motorised vessel at speeds greater than 8 km/h.



**TABLE 4 WALKING TRACK MANAGEMENT**

| NAME                         | LENGTH<br>(ONE WAY)<br>km | CURRENT AND<br>FUTURE<br>STANDARD | COMMENTS   |
|------------------------------|---------------------------|-----------------------------------|--|
| Ackle Bend Track             | 3                         | B                                 | Fully surfaced   |
| Desert Discovery Walk        | 84                        | C                                 | Up to 4 day walk options. Registration required for overnight walkers. |
| Pomponderoo Hill Nature Walk | 1                         | C                                 | Interpretive signs to be installed                                     |
| Sanctuary Nature Walk        | 1                         | C                                 | Interpretive signs to be installed                                     |
| Kiata campground walks:      |                           |                                   | Information board to be installed                                      |
| • Red Gum Circuit            | 3                         | C                                 |  |
| • Ridge Circuit              | 3                         | C                                 |  |
| • Albrecht Mill Circuit      | 5                         | C                                 |  |
| Salt Lake Walking Track      | 11                        | C                                 |  |
| Stringybark walks:           |                           |                                   |  |
| • Stringybark Nature Walk    | 1                         | C                                 |  |
| • Stringybark Nature Loop    | 2                         | C                                 |  |
| • Lodge Loop                 | 4                         | C                                 |  |
| Sister Hills Walking Track   | 1                         | C                                 | Viewing platform and information board to be installed                 |

## Standard

Category B Track well defined, and drained and surfaced where necessary

Category C Track well defined, benched and drained where necessary.

North of Horseshoe Bend (outside the planning area), speed boating and water-skiing are permitted within a gazetted area on the River (section 7.2).

Motor boating at speeds of less than 8 km/h is currently permitted along the length of the River within the planning area. Launching of motor boats from vehicles at inappropriate locations is a contributing factor in bank erosion. There is concern that use of motorised boats (at speeds less than 8 km/h) may

contribute to accelerated erosion of River banks.

People also use canoes along this length of the River. Conflict can occur between canoeing and speed and motor boating.

The Hindmarsh Shire is the Motor Boating Authority for waters between Ackle Bend and the Dimboola weir. A Boating Authority under the Marine Act has not been appointed for the section of River within the planning area south of Ackle Bend.

Swimming in the River is popular in summer, particularly at Horseshoe and Ackle Bends.

#### **Aims**

- Provide for water-based recreation, while maximising protection for the River and its environs.
- Minimise conflicts between the various water-based activities.

#### **Management strategy**

- *Seek to make NRE the Motor Boating Authority for the section of River adjacent to the Park (by negotiating with Hindmarsh Shire and the State Boating Council).*

### **5.2.7 Fishing and yabbing**

Fishing is popular along the River, particularly in quieter reaches. A range of species is caught, including Catfish, Golden Perch and Redfin. Yabbing occurs sporadically in the River, some fire dams and Reedy Swamp in the adjacent State Forest.

Fishing from motorised boats (speed limit 8 km/h) and from the River bank are popular activities.

Driving off-road to reach fishing spots on the River occurs frequently, leading to the creation of new tracks and associated degradation of the River environs.

Some anglers collect bait from the River banks and surrounding land. Taking of bait may result in bank erosion, damage to trees, spread of pest plants and reduced landscape values.

#### **Aim**

- Permit fishing and yabbing.

#### **Management strategies**

- *Permit fishing and yabbing in accordance with the Fishing (Recreational) Regulations.*
- *Protect natural and cultural features by not permitting collection of bait within the planning area.*

### **5.2.8 Hunting**

Duck hunting takes place along the River (from the State Forest side only). The level of this activity is low. Downstream from Horsham the only section of the River in which this activity is currently not permitted is a short stretch at Jeparit.

Because of the popularity of both sides of the River and environs with campers, picnickers and other visitors, shooting along the River is a safety concern.

#### **Aim**

- Permit shooting and hunting in the Public Purposes Reserve along the east side of the Wimmera River.

#### **Management strategies**

- *Minimise conflicts between shooting and other recreational activities.*
- *Monitor shooting and hunting and take appropriate action.*

## **5.3 Visitor information, interpretation and education**

Representing a widespread Australian landscape type and presenting an outstanding range of natural values and management issues both past and present, the Little Desert is an important area for outdoor education for individuals and groups, especially school groups.

Information and interpretation help visitors to understand and appreciate the area's values and their importance. Information and interpretation services provided at present include:

- occasional talks and guided walks for school and other educational groups;
- interpreted nature walks, with accompanying notes, at Kiata campground (Campground Walks), Sanctuary picnic area (Sanctuary Nature Walk), off the Nhill-Gymbowen Road (Stringybark Walk) and at Pomponderoo Hill (Pomponderoo Hill Nature Walk);

- information boards at Kiata and Horseshoe and Ackle Bends campgrounds;
- a general brochure about, and information about flora and fauna in, Little Desert National Park.

The Park office at Wail, and NRE offices at Horsham and Nhill, receive requests for information about the Park. The Wail Nursery (which provides Park information when the Park office is not staffed) and the NRE Horsham office are open during office hours. The Park office and the NRE Nhill office are open on an irregular basis.

The Park general brochure is made available to various private tourist facilities and to local tourist information centres in Horsham, Nhill and Kaniva.

The Catiabrim Education Area, located in the central block (figure 1), was recommended by the LCC (1986) to allow for study of the environment by educational groups. Some activities not permitted in a National Park, such as vegetation sampling and experimental manipulation of the vegetation, may be permitted in Education Areas. The Education Area has not yet been established and its use is not promoted. Current usage does not differ from elsewhere in the Park.

### **Aims**

- Introduce visitors to the values and attractions of the Park through interpretive services.
- Make available, particularly through tourist outlets, general information to visitors about the facilities and features of the Park.
- Make available information and knowledge which will enable visitors to discover and appreciate the natural and cultural features of the Park.
- Use interpretation and education to minimise visitor impacts.
- Assist educational institutions and commercial operators in the preparation and delivery of educational information.
- Promote educational use of the Catiabrim Education Area (zone 5).

### **Management strategies**

- *Develop an interpretation plan for the Park. Interpretive themes will include the Park's outstanding values and features, such as vegetation diversity, Malleefowl, Aboriginal cultural sites, landscape values and the significance of the Little Desert land clearance program.*
- *Provide self-guided interpreted nature walks as listed below with information sheets and/or on-site interpretation, as per the interpretation plan:*
  - *Stringybark Walk;*
  - *Sanctuary Nature Walk;*
  - *Pomponderoo Hill Nature Walk;*
  - *along the River;*
  - *in conjunction with the proposed development of a zone 4 campground adjacent to the Kaniva-Edenhope Road;*
  - *various walks from the Kiata campground.*
- *Provide information sheets or other publications (e.g. a saleable booklet) as follows, updating or preparing as required:*
  - *update the National Park general brochure to include the preferred access routes;*
  - *prepare revised flora and fauna check-lists;*
  - *prepare information on European history;*
  - *information about the Malleefowl;*
  - *retain and update, or reformat, information sheets associated with interpreted nature walks where required.*
- *Interpret the Park through personal Ranger contact where possible, provision of general information in zone 4 areas and more detailed information on interpreted nature walks.*
- *Provide lectures and other interpretive activities subject to a fee where appropriate.*
- *Provide information boards and information on the Park in all zone 4 areas.*

- *Liaise in consultation with the relevant authorities to provide information at:*
  - *Dimboola (install an information board);*
  - *Horsham, Nhill and Kaniva Tourist Information Centres;*
  - *NRE offices at Nhill, Wail, Edenhope and Horsham;*
  - *private tourist facilities as appropriate.*
- *Provide a holiday activity program during peak visitor periods.*
- *Promote the NRE Nhill office as a public contact point for information about the Park and Wimmera River. Establish a window display and brochure box at the NRE Nhill office so that visitors can obtain some information when the office is closed.*
- *Provide information about the Park for relevant regional displays and field days.*
- *Assist and train educational groups and commercial operators, charging an appropriate fee.*
- *Encourage use of the Catiabrim Education Area (zone 5) for appropriate education activities following gazettal in accordance with the Park Regulations 1992.*
- *Prepare educational materials for use by school groups in the Education Area.*
- *Provide adequate visitor orientation information and safety messages at key visitor nodes.*
- *Establish and implement monitoring and maintenance schedules for all interpretive facilities.*
- *Undertake regular evaluation of information and interpretation programs related to the Park.*

## **5.4 Commercial tourism operations**

Commercial tour operations play an important role in facilitating access to Victoria's natural areas of public land and in promoting their values and use.

Commercial tour operations in the Park require a permit issued by NRE.

Currently nine commercial tour operators conduct tours in the Park. Most of these operators conduct 4WD tours as part of a longer tour, although two base their operations in the Park. Most tours concentrate on the eastern block and the eastern portion of the central block. Commercial tours are confined to tracks and areas normally open to the general public, and operators are required to comply with Park Regulations and the specific conditions of their permits.

Use by commercial tours contributes to the need for maintenance of tracks and facilities. The level and frequency of commercial tours needs to be managed to prevent displacement of other visitors.

### **Aim**

- Provide for commercial tourism consistent with the conservation objectives and management zoning of the Park.

### **Management strategies**

- *Encourage commercial tourism activities and monitor use of visitor facilities.*
- *Permit the operation of commercial tours, subject to appropriate permit conditions.*
- *Ensure that all commercial operators are licensed in accordance with NPS guideline 21.2PL and comply with Park Regulations and this Plan.*
- *Monitor the impacts of commercial tourism.*
- *Liaise with operators to ensure that the information they give their customers about the Park is accurate.*

- 
- *Make Rangers available to assist commercial tour operators where possible. A fee for service may apply.*

## **5.5 Public safety**

Climatic extremes in summer and a lack of landmarks for navigation present inherent dangers and risks to Park visitors.

Wildfire is a potential hazard during dry times of the year.

The Victoria Police is responsible for search and rescue operations within the Park. Such operations would usually involve NRE, the State Emergency Service and other groups under Police supervision.

### **Aims**

- Minimise risks to the safety of visitors.
- Encourage safe use of the Park.
- Co-operate with other authorities in providing for public safety.

### **Management strategies**

- *Inform visitors of particular hazards such as fire, summer heat and the danger of becoming lost.*
- *Regularly liaise with the Victoria Police and State Emergency Service concerning search and rescue preparedness and provide support when incidents arise.*
- *Monitor key visitor areas (e.g. zone 4) and undertake works necessary for visitor safety.*
- *Require walkers on the Desert Discovery Walk to register their trip intentions well in advance of their walk, and encourage other walkers to do likewise.*

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## 6 COMMUNITY AWARENESS AND INVOLVEMENT

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### 6.1 Friends and volunteers

Many Parks have volunteer Friends Groups organised under the auspices of the Victorian National Parks Association. These groups make valuable contributions to Parks through participation in projects for which funds are not available and which might not otherwise be carried out.

The Friends of Little Desert National Park, formed in 1988, has both local and Melbourne-based members. The group has been involved in rubbish collection, weed removal and other tasks of benefit to the Park.

#### Aim

- Encourage the participation of volunteers in projects to protect, conserve, maintain and develop the Park.

#### Management strategies

- *Encourage and support the Friends Group as a focus for volunteers to undertake suitable projects in the Park.*
- *Develop and evaluate a long-term volunteer strategy which incorporates the skills and interests of volunteer groups in park management activities.*
- *Provide opportunities for secondary and tertiary students to undertake work experience and research studies in the Park.*

### 6.2 Community awareness and Park neighbours

Neighbours to the Park are primarily involved in the agriculture industry, mixed cropping and grazing.

The Park and its neighbours have a mutual interest in many management issues such as fire management and pest plant and animal control. Liaison and co-operation with adjoining landholders are important. Awareness in the wider community of departmental practices and Park values is beneficial to the aims of the National Parks Service.

#### Aims

- Increase public awareness of management activities including fuel reduction burning, pest plant, 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, and as appropriate, involve them in relevant aspects of planning and managing the Park.*
- *Apply, and encourage the application of, the Good Neighbour Policy to management issues on or near the boundary of the Park; in particular, continue joint pest plant and animal control programs with adjoining landowners.*
- *Prepare regular media releases covering Park activities and features.*

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## 7 OTHER ISSUES

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### 7.1 Authorised uses

#### 7.1.1 Apiculture

The planning area is an important overwintering area for apiculture in Victoria. The winter flowering heaths, and in particular Desert Banksia, are highly valued by apiarists as they help to produce strong hives which can be readily moved to commercial crops in spring.

The LCC (1986) recommended that apiculture be permitted in the Park, except in the two Reference Areas and the Education Area. Apiary sites are prohibited within two km of Reference Areas or Wilderness Zones.

Up to 40 temporary apiary permits have been issued in the Park at any one time. Most sites in the Park are close to the perimeter or along Beekeepers Track.

In areas with no surface water, bees may be attracted to visitors' water and other liquids and become a serious nuisance and safety risk.

#### Aims

- Allow apiculture in accordance the LCC recommendations and NRE guidelines.
- Minimise the impact of apiculture on conservation and recreation values.

#### Management strategies

- *Locate all apiary sites in zone 3 in consultation with apiarists, subject to the following constraints:*
  - *sites will be on the perimeter as far as practicable;*
  - *sites will not be permitted within 2 km of the Reference Areas or the Little Desert Remote and Natural Area;*
  - *sites will not be permitted within 200 m of zone 4 areas or popular vehicle-based dispersed camping locations.*
- *Make available apiary sites, as determined by the Chief Ranger, Wimmera, in consultation with the Apiarists Association.*

- *Notify apiarists in advance of any prescribed burning which may affect their licence area.*
- *Where practicable, relocate sites on Yellow Gum flats outside these communities (McGuckin 1994).*

#### 7.1.2 Gravel, sand and soil extraction

Small borrow pits for the extraction of gravel, sand and soil are, from time to time, established adjacent to tracks for one-off maintenance works by NRE. No other extractive activities may be conducted in the Park.

#### Aims

- Continue to prohibit the extraction of gravel, sand and soil for use outside the Park.
- Provide for minor extraction of gravel for use in the Park.

#### Management strategies

- *Manage extraction pits in accordance with the Extractive Industries Development Act 1995 (Vic.).*
- *Assess the conservation and heritage significance of proposed extraction pits before any gravel extraction by NRE.*
- *Rehabilitate all exhausted extraction pits in accordance with NRE guidelines.*

#### 7.1.3 Public authorities

A number of public authorities have constructed facilities or carried out works within the planning area. Facilities within the planning area include a powerline, trigonometric stations, permanent survey marks and stream gauging equipment.

#### Electricity supply

An electricity supply line crosses the Park to the east of, and parallel with, the Kaniva-Edenhope Road. Consent for maintenance of the line is yet to be given under the provisions of Section 27 of the National Parks Act.

### Trigonometrical stations

Trigonometric stations are located at Mt Moffat, Sister Hills, Whimpeys Track north of Phillips Track, and north of Salt Lake. The LCC (1986) recommended that these stations be allowed to continue and that new stations may be permitted.

Recent developments in satellite technology have reduced the need for trigonometrical ground stations and further stations are unlikely to be required.

Construction of trigonometrical stations disturbs soils, vegetation and the landscape. A particular concern is that clearing of hill tops may interfere with the breeding sites of some significant butterfly species.

### Permanent survey marks

A number of permanent survey marks are located in the planning area.

### Water resources

A number of WMWC stream gauging stations and survey marks are located on the eastern bank of the Wimmera River.

It is likely that the South Australian Department of Agriculture, Energy and Minerals will wish to establish a piezometer in the western block to monitor groundwater resources underlying the Victorian/South Australian border region. Agreement has been reached that this facility will be permitted.

Infrastructure on Crown land associated with diversion of water from the Wimmera River requires a licence from NRE.

The WMWC is responsible for water in the River and management of the Dimboola weir (section 7.2).

### Aims

- Ensure that public authorities establish or maintain in the planning area only those facilities which are essential and cannot be located outside the Park.
- Ensure that essential utilities are established and maintained in accordance with NRE requirements.

### Management strategies

- *Arrange consent under the National Parks Act for public authorities to maintain the following facilities:*
  - *the power line which traverses the Park on the eastern side of the Kaniva - Edenhope Road;*
  - *operation of a piezometer by the WMWC in the western block.*
- *Negotiate appropriate management arrangements for the operation of:*
  - *the four existing trigonometric stations;*
  - *the existing permanent survey marks.*
- *Avoid as far as practicable the construction of further utilities including:*
  - *any additional powerlines;*
  - *any additional trigonometric stations;*
  - *any WMWC structures on the Wimmera River.*
- *Assess applications from the WMWC, or any other recognised authority, for construction of additional ground water monitoring bores, on their merits.*

#### 7.1.4 Defence Force training

In recent years training by the Defence Force has occasionally been undertaken in the Park. Many military procedures and activities, such as the use of heavy vehicles or convoys of smaller vehicles on tracks, off-road deployment of vehicles, camouflaging installations and the collection of 'bush tucker', are incompatible with conservation objectives.

The LCC (1986) recommended that military training be excluded from Reference Areas and, except under special circumstances, from Parks and other areas of recreation and conservation significance. The LCC (1986) considered military training to be inappropriate in the Park.

NRE has developed guidelines for Defence Force training on public land which allow for low-level activities carried out in a manner that does not impact on natural systems in national parks.



**Aim**

- Provide for appropriate Defence Force training in the Park.

**Management strategy**

- *Ensure that all Defence Force training is in accordance with NPS Guideline 21.1PL.*

**7.2 Boundaries and adjacent uses**

Speed boating and water skiing (section 5.2.6) to the north of the planning area have resulted in complaints from visitors. There may also be environmental impacts, but environmental degradation inside and outside the planning area has not been monitored. The LCC (1991a) recommended that NRE, in conjunction with the WMWC and in consultation with the Wimmera Catchment Co-ordination Group, should address the water skiing and speed boating issue.

The Dimboola weir, located to the north-west of Dimboola, can maintain a continuous body of water back to Dago Flat. The weir was built, and continues to be maintained, to compensate the Dimboola community for the loss of natural flow and pondage at Dimboola associated with the upstream impoundment of water. Although water is diverted from this section of the River, the operation of the weir itself does not play a role in water distribution by the WMWC.

The operation of the weir is critical to the maintenance of water within the section of River in the planning area, and therefore to a range of water-based and water-enhanced recreation activities. The weir pool is greatly appreciated by the community.

The maximum height of water that can be maintained at the weir is 2.1 m above the sill. Water flow into the weir pool is minimal in most summers and water depth significantly decreases by evaporation over summer. A committee comprising representatives of the Hindmarsh Shire, the WMWC and NRE is responsible for arriving at an agreed height to which the weir pool should be established at the start of summer. The current agreed height is 2.0 m.

A number of road reserves are surrounded by, but not included in, the Park; most do not contain roads or tracks and are not defined on the ground.

The vegetated corridor of the planning area is interrupted along the Kaniva-Edenhope Road (between the central and western blocks) where the blocks abut different sections of the Road and clearing has occurred on freehold land abutting each block. This interruption may disrupt wildlife movement.

The Public Purposes Reserve extends over the bed of the Wimmera River and 30 m on either side, except where it abuts the Park. In the latter case the western boundary of the Public Purposes Reserve is the top of the western bank of the Wimmera River. The boundary of the Public Purposes Reserve is generally not defined on the ground.

The precise location of the South Australian-Victorian border is subject to investigation. Should the correct boundary be located east of the current boundary, negotiation with the South Australian Government would be required to protect the conservation values and strategic fire protection importance of the section of land involved.

The lessee's interest in a former perpetual leasehold of 647 ha adjoining the southern boundary of the central block, Allotment 92 Parish of Koonik Koonik, has recently been purchased by the Crown and would be a valuable addition to the Park.

The 8 ha R11 Gravel Reserve (LCC 1986) adjacent to the Education Area (figure 1) is operated by the Hindmarsh Shire on the understanding that, when exhausted, it will be rehabilitated and added to the Park.

**Aim**

- Enhance conservation values through consolidation of the Park boundary.

### Management strategies

- *NRE will progressively and co-operatively implement the following provisional guidelines for speed boating and water-skiing:*
  - *all speed boaters and water-skiers on the Wimmera River at Dimboola must be members of the Dimboola Ski Club. The Dimboola Ski Club may issue visitor (temporary member) passes at its discretion;*
  - *the existing water-skiing course will be shortened by relocating the southern limit to approximately 600 m downstream from Horseshoe Bend;*
  - *the maximum number of speed boats on the River at any one time is seven;*
  - *the Dimboola Ski Club will satisfactorily complete an annual works program designed by NRE, including provision of beaching around the roots of River Red Gums;*
  - *speed boating and water-skiing are to be limited to the period from 1 November to 30 April inclusive. Commercial testing of boat repairs outside this period is subject to permission from the Ranger-in-charge;*
  - *the Dimboola Ski Club will continue to require that the exhaust pipes of speed boats are effectively muffled;*
  - *speed boating and water-skiing are limited to the hours between 8.30 am and sunset;*
- *the Hindmarsh Shire will, upon application from prospective River users, delegate days or sections of days (within the period 1 November to 30 April) for the River to be used for purposes other than speed boating and water-skiing, as has occurred in the past.*
- *Encourage the conservation covenanting of adjoining private land where appropriate.*
- *Facilitate the addition of Allotment 92, Parish of Koonik Koonik, to the Park.*
- *Investigate addition to the Park of all unused road reserves which are surrounded by the Park (refer figure 1 in DCE 1991a).*
- *Investigate inclusion of Gravel Reserve R11 in the Park when the gravel supplies are exhausted, the site to be rehabilitated by the Hindmarsh Shire as recommended by the LCC (1986).*
- *Protect conservation and strategic fire protection values of adjoining road reserves through negotiation with the West Wimmera and Hindmarsh Shires, or the Rural City of Horsham, as appropriate.*

## 8 IMPLEMENTATION

A three-year rolling implementation plan will be prepared 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 |
|---|-----------------|
| <b>Conservation</b>   |                 |
| Protect significant archaeological sites and features   | 3.6             |
| Survey, record and monitor Malleefowl mounds  | 3.4             |
| <b>Protection</b>   |                 |
| Develop a fire management plan which will integrate ecological requirements with fire protection objectives | 4.1             |
| Co-ordinate pest plant and pest animal control programs with adjacent landholders                           | 4.2, 6.2        |
| Control feral Honey Bees in priority areas  | 4.2             |
| Close and rehabilitate specified tracks   | 5.2.1           |
| Temporarily close, realign or upgrade sections of tracks where impacts are unacceptable                     | 5.2.1           |
| <b>The Park visit</b>   |                 |
| Develop new campground at Broughtons Waterhole and off the Kaniva-Edenhope Road                             | 5.2.3           |
| Promote walking opportunities on the Desert Discovery Walk  | 5.2.4           |
| Maintain/upgrade nature walks   | 5.3             |
| Provide Park information and interpretation programs  | 5.3             |
| <b>Monitoring and research</b>  |                 |
| Monitor sites of significant flora  | 3.3             |
| Monitor visitor use to minimise impacts   | 5.1, 5.2        |

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**APPENDIX 1 RARE AND THREATENED PLANTS  
OF THE LITTLE DESERT NATIONAL PARK**

| SCIENTIFIC NAME                  | COMMON NAME               | STATUS |
|----------------------------------|---------------------------|--------|
| <i>Acacia glandulicarpa</i>      | Hairy-pod Wattle          | Vv*    |
| <i>Allocasuarina luehmannii</i>  | Buloke                    | d*     |
| <i>Amyema linophyllum</i>        | Buloke Mistletoe          | v      |
| <i>Asterolasia phebalioides</i>  | Downy Star-bush           | Vv     |
| <i>Boronia filifolia</i>         | Slender Boronia           | v      |
| <i>Boronia inornata</i>          | Desert Boronia            | v      |
| <i>Brachyscome readeri</i>       | Reader's Daisy            | r      |
| <i>Caladenia lowanensis</i>      | Wimmera Spider-orchid     | Ee     |
| <i>Caladenia stricta</i> +       | Upright Spider-orchid     | v      |
| <i>Caladenia tensa</i>           | Rigid Spider-orchid       | Ee     |
| <i>Caladenia toxochila</i>       | Bow-lip Spider-orchid     | v      |
| <i>Callitris glaucophylla</i>    | White Cypress-pine        | d      |
| <i>Choretrum spicatum</i>        | Spiked Sour-bush          | r      |
| <i>Comesperma polygaloides</i>   | Small Milkwort            | v*     |
| <i>Darwinia micropetala</i>      | Small Darwinia            | v      |
| <i>Daviesia pectinata</i>        | Thorny Bitter-pea         | Rr     |
| <i>Eremophila deserti</i>        | Turkey-bush               | d      |
| <i>Eriocaulon australasicum</i>  | Southern Pipewort         | Ve     |
| <i>Eucalyptus odorata</i> s.l. # | Peppermint Box            | v      |
| <i>Eutaxia diffusa</i>           | Spreading Eutaxia         | r      |
| <i>Fimbristylis velata</i>       | Veiled Fringe-sedge       | r      |
| <i>Haloragis myriocarpa</i>      | Prickly Raspwort          | v      |
| <i>Lepidium monolocoides</i>     | Winged Pepper-cress       | Ee*    |
| <i>Maireana excavata</i>         | Bottle Bluebush           | v      |
| <i>Melaleuca halmaturorum</i>    | Salt Paperbark            | d*     |
| <i>Microtis orbicularis</i>      | Swamp Onion-orchid        | v      |
| <i>Poa crassicaudex</i>          | Thick-stem Tussock-grass  | k      |
| <i>Poa drummondiana</i>          | Knotted Poa               | r      |
| <i>Pomaderris obcordata</i>      | Pimelea Pomaderris        | v      |
| <i>Prasophyllum affine</i> #     | Heathland Leek-orchid     | k      |
| <i>Prasophyllum pallidum</i> #   | Pale Leek-orchid          | e      |
| <i>Pterostylis aff. biseta</i> # | Rustyhood                 | k      |
| <i>Ptilotus erubescens</i>       | Hairy-tails               | e*     |
| <i>Pultenaea vestita</i>         | Feather Bush-pea          | v      |
| <i>Quinetia urvillei</i>         | Quinetia                  | r      |
| <i>Santalum acuminatum</i>       | Sweet Quandong            | d      |
| <i>Senecio magnificus</i>        | Tall Yellow-top Groundsel | r      |
| <i>Spyridium bifidum</i>         | Forked Spyridium          | v      |
| <i>Stipa mundula</i>             | Neat Spear-grass          | Kr     |
| <i>Templetonia stenophylla</i>   | Leafy Templetonia         | d      |
| <i>Thelymitra azurea</i>         | Azure Sun-orchid          | v      |
| <i>Thelymitra X macmillanii</i>  | Crimson Sun-orchid        | r      |
| <i>Utricularia violacea</i>      | Violet Bladderwort        | r      |
| <i>Westringia crassifolia</i>    | Whipstick Westringia      | Ee*    |
| <i>Zieria veronicea</i>          | Pink Zieria               | r      |

Sources: FIS 1996

# Carr (1984)

+ other recognised source

Status: FIS 1996

d - depleted in Victoria

e - endangered in Victoria

k - poorly known in Victoria

r - rare in Victoria

v - vulnerable in Victoria

E - endangered in Australia

K - poorly known in Australia.

R - rare in Australia

V - vulnerable in Australia

\* listed under the Flora and Fauna Guarantee Act

**APPENDIX 2 RARE AND THREATENED BIRDS  
OF THE LITTLE DESERT NATIONAL PARK**

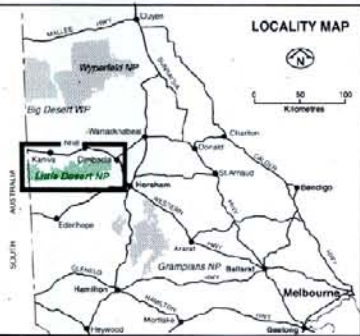
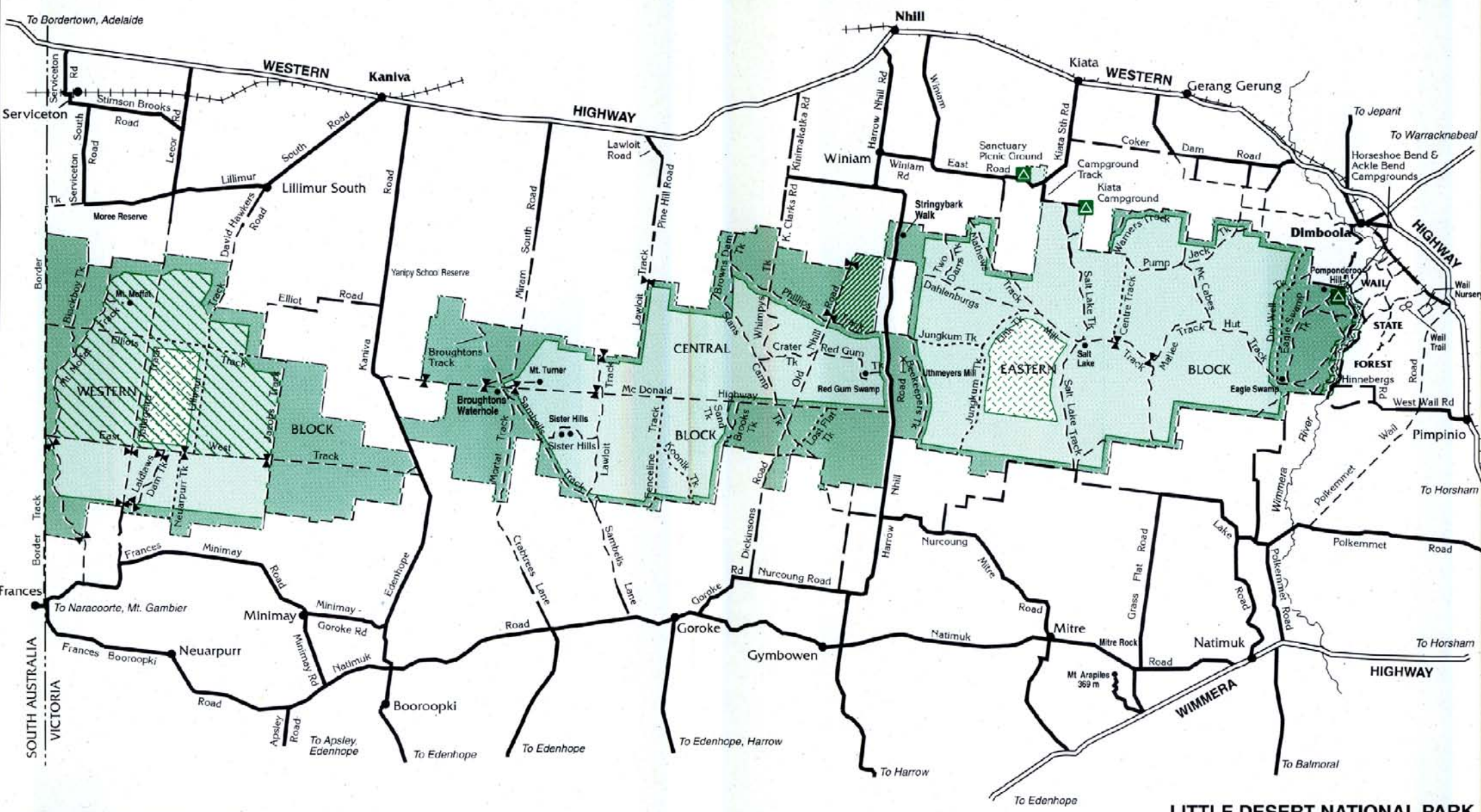
| SCIENTIFIC NAME                  | COMMON NAME               | STATUS |
|----------------------------------|---------------------------|--------|
| <i>Ardeotis australis</i>        | Australian Bustard        | e#     |
| <i>Acanthiza iredalei</i>        | Slender-billed Thornbill  | r      |
| <i>Burhinus grallarius</i>       | Bush Stone-curlew         | v#     |
| <i>Calyptrorhynchus banksii</i>  | Red-tailed Black-Cockatoo | e#     |
| <i>Cereopsis novaehollandiae</i> | Cape Barren Goose         | r      |
| <i>Falco subniger</i>            | Black Falcon              | r      |
| <i>Grantiella picta</i>          | Painted Honeyeater        | r#     |
| <i>Grus rubicunda</i>            | Brolga                    | r#     |
| <i>Haliaeetus leucogaster</i>    | White-bellied Sea-Eagle   | r#     |
| <i>Ixobrychus minutus</i>        | Little Bittern            | r      |
| <i>Lathamus discolor</i>         | Swift Parrot              | e#     |
| <i>Leipoa ocellata</i>           | Malleefowl                | v#     |
| <i>Ninox connivens</i>           | Barking Owl               | r      |
| <i>Pedionomus torquatus</i>      | Plains-wanderer           | v#     |
| <i>Pomastomus temporalis</i>     | Grey-crowned Babbler      | e#     |
| <i>Stictonetta naevosa</i>       | Freckled Duck             | r#     |
| <i>Xanthomyza phrygia</i>        | Regent Honeyeater         | e#     |

Source: Regional lists

Status (CNR 1995b):

- e endangered in Victoria
- r rare in Victoria
- v vulnerable in Victoria
- # listed under Schedule 2 of the Flora and Fauna Guarantee Act



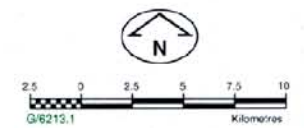


- ZONES**
- Zone 1 - Reference Area
  - Zone 2 - Conservation
  - Zone 3 - Conservation and Recreation
  - Zone 4 - Recreation Development
  - Zone 5 - Education (Catiabrim Education Area)

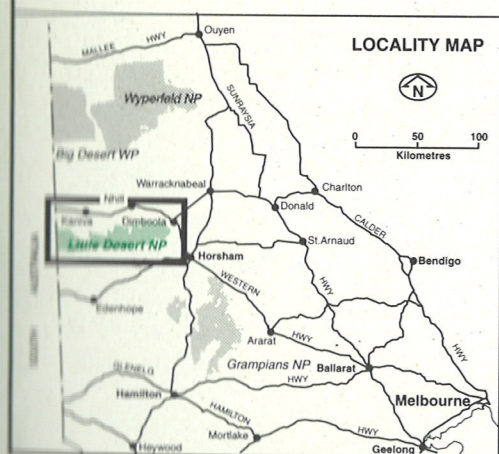
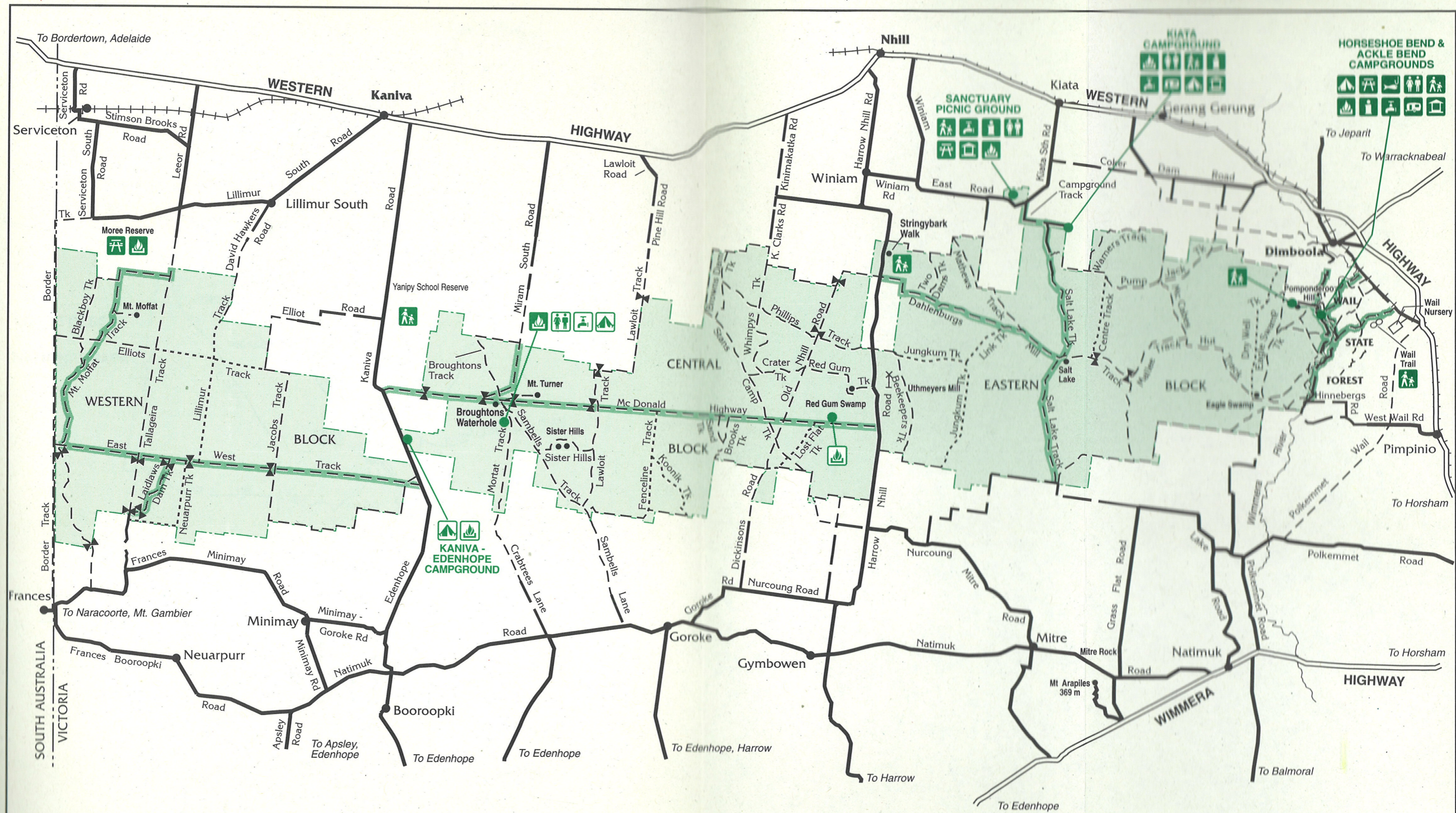
- OVERLAYS**
- Remote and Natural Area
  - Wimmera Heritage River Corridor

- Sealed road
- Surfaced Road
- Vehicle track (4WD)
- Vehicle track (Management Vehicles only)
- National Park boundary

**LITTLE DESERT NATIONAL PARK & PUBLIC PURPOSES RESERVE**  
**Figure 1**  
**MANAGEMENT ZONES**

















**EXISTING RECREATION SITES AND FACILITIES**

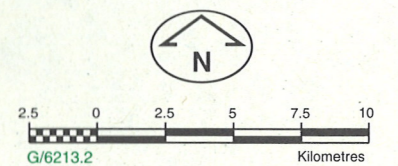
-  Campground
-  Picnic table
-  Park information
-  Family walk
-  Fishing
-  Fireplace
-  Toilet
-  Drinking water
-  Shelter shed
-  Caravans

**PROPOSED RECREATION SITES AND FACILITIES**

-  Campground
-  Toilet
-  Drinking Water
-  Fireplace
-  Preferred routes for Public Vehicle Access

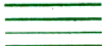

-  Sealed road
-  Surfaced Road
-  Vehicle track (4WD)
-  Vehicle track (Management Vehicles only)
-  National Park


**LITTLE DESERT NATIONAL PARK**  
**Figure 2**  
**VISITOR FACILITIES AND ACCESS**





**LEGEND**


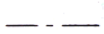
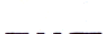

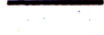
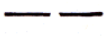
-  Speed Boat and Water Skiing Area
-  Zone 4 Camping and Picnic Areas
-  No Motorised Boating
-  Picnic Facilities as shown
-  Fireplace
-  Boat Launching Permitted
-  Table

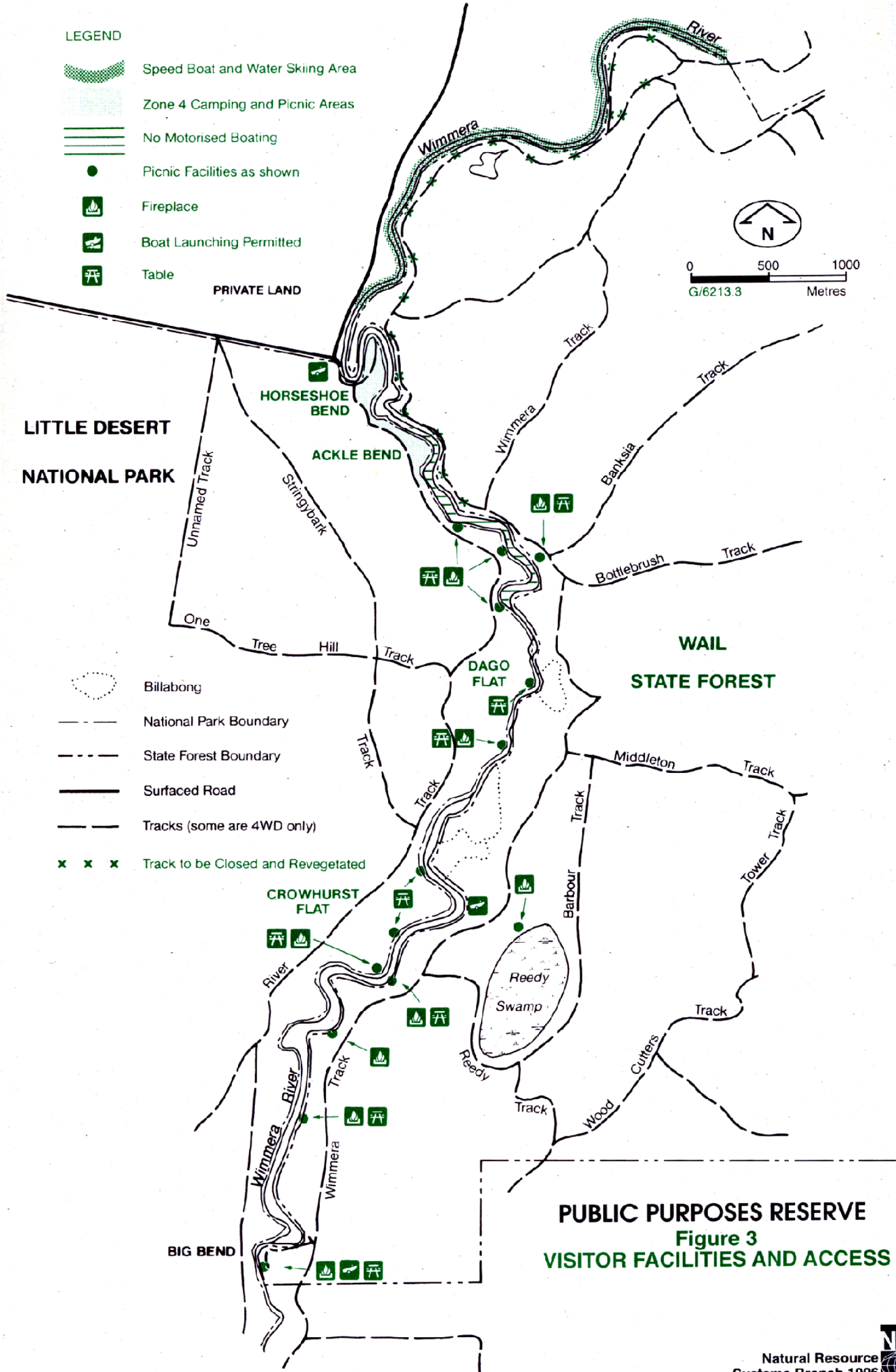
  
 0 500 1000  
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PRIVATE LAND

**LITTLE DESERT NATIONAL PARK**

**WAIL STATE FOREST**

-  Billabong
-  National Park Boundary
-  State Forest Boundary
-  Surfaced Road
-  Tracks (some are 4WD only)
-  Track to be Closed and Revegetated



**PUBLIC PURPOSES RESERVE**  
**Figure 3**  
**VISITOR FACILITIES AND ACCESS**